



## BIOLOGY

### BOOKS - NEET PREVIOUS YEAR (YEARWISE + CHAPTERWISE)

## NEET

### CHEMISTRY

1. Grass leaves curl inwards during very dry weather. Select the most appropriate reason from the following:

- A. Tyloses in vessels
- B. Closure of stomata
- C. Flaccidity of bulliform cells
- D. Shrinkage of air spaces in spongy mesophyll

**Answer: C**



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## BIOLOGY

1. What triggers activation of protoxin to active toxin of *Bacillus thuringiensis* in boll worm

- A. Acidic pH of stomach
- B. Body temperature
- C. Moist surface of midgut
- D. Alkaline pH of gut

**Answer: D**



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2. Select the correctly written scientific name Mango which was first described by Carolus Linnaeus

- A. *Mangifera Indica*
- B. *Mangifera Indica* Car. Linn.
- C. *Mangifera indica* Linn.
- D. *Mangifera indica*

**Answer: C**



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3. Cells in  $G_0$  phase :

- A. terminate the cell cycle
- B. exit the cell cycle
- C. enter the cell cycle
- D. suspend the cell cycle

**Answer: B**



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**4. Phloem in gymnosperms lacks :**

- A. Both sieve tubes and companion cells
- B. Albuminous cells and sieve cells
- C. Sieve tubes only
- D. Companion cells only

**Answer: A**



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**5. Which of the following contraceptive methods do involve a role of hormone ?**

- A. Pills, Emergency contraceptives, Barrier methods
- B. Lactational amenorrhea, Pills, Emergency contraceptives
- C. Barrier method, Lactational amenorrhoea, Pills
- D. CuT, Pills, Emergency contraceptives

**Answer: B**



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**6. Which of the following statements is incorrect**

- A. Yeasts have filamentous bodies with long thread-like hyphae.
- B. Morels and truffles are edible delicacies
- C. Claviceps is a source of many alkaloids and LSD.
- D. Conidia are produced exogenously and ascospores endogenously.

**Answer: A**



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7. It takes very long time for pineapple plants to produce flowers. Which combination of hormones can be applied to artificially induce flowering in pineapple plants throughout the year to increase yield?

- A. Cytokinin and Absciscic acid
- B. Auxin and Ethylene
- C. Gibberellin and Cytokinin
- D. Gibberellin and Absciscic acid

**Answer: B**



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8. Conversion of glucose to glucose-6-phosphate, the first irreversible reaction of glycolysis, is catalyzed by :

- A. Phosphofructokinase

B. Aldolase

C. Hexokinase

D. Enolase

**Answer: C**



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**9. Consider following features:**

- (a) Organ system level of organisation
- (b) Bilateral symmetry
- (c) True coelomates with segmentabon of body

Select the correct option of animal groups which possess all the above characteristics.

A. Annelida, Mollusca and Chordata

B. Annelida, Arthropoda and Chordata

C. Annelida, Arthropoda and Mollusca

D. Arthropoda, Mollusca and Chordata

**Answer: B**



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**10.** Which of the following muscular disorders is inherited?

A. Botulism

B. Tetany

C. Muscular dystrophy

D. Myasthenia gravis

**Answer: C**



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**11.** The Earth Summit held in Rio de Janeiro in 1992 was called :

- A. for immediate steps to discontinue use of CFCs that were damaging the ozone layer.
- B. to reduce  $CO_2$  emissions and global warming
- C. for conservation of biodiversity and sustainable utilization of its benefits.
- D. to assess threat posed to native species by invasive weed species.

**Answer: C**



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**12.** Which of the following can be used as a bio control agent in the treatment of plant disease?

- A. Lactobacillus
- B. Trichoderma
- C. Chlorella

D. Anabaena

**Answer: B**



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**13.** Extrusion of second polar body from egg occurs:

- A. simultaneously with first cleavage
- B. after entry of sperm but before fertilization
- C. after fertilization
- D. before entry of sperm into ovum

**Answer: B**



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**14.** Xylem translocates



A. Water, mineral salts, some organic nitrogen and hormones

B. Water only

C. Water and mineral salts only

D. Water, mineral salts and some organic nitrogen only

**Answer: A**



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**15.** The concept of "Omnis cellula-e cellula" regarding cell division was first proposed by :

A. Aristotle

B. Rudolf Virchow

C. Theodore Schwann

D. Schleiden

**Answer: B**

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**16.** Which of the following glucose transporters insulin-dependent?

- A. GLUT IV
- B. GLUT I
- C. GLUT II
- D. GLUT III

**Answer: A**

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**17.** Which of the following statements is correct?

- A. Cornea consists of dense matrix of collagen and is the most sensitive portion of the eye

B. Cornea is an external, transparent and protective proteinaceous covering of the eye-ball.

C. Cornea consists of dense connective tissue of elastin and can repair itself.

D. Cornea is convex, transparent layer which is highly vascularised.

**Answer: B**



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**18.** Match the following genes of the Lac operon with their respective products

- |            |       |                         |
|------------|-------|-------------------------|
| (a) i gene | (i)   | $\beta$ – galactosidase |
| (b) z gene | (ii)  | Permease                |
| (c) a gene | (iii) | Repressor               |
| (d) y gene | (iv)  | Transacetylase          |

Select the correct option.

- A.            (a)    (b)    (c)    (d)  
      (1)   (iii)   (iv)   (i)   (ii)
- B.            (a)    (b)    (c)    (d)  
      (2)   (i)    (iii)   (ii)   (iv)

- C. 

(a)	(b)	(c)	(d)
(3)	(iii)	(i)	(ii)
- D. 

(a)	(b)	(c)	(d)
(4)	(iii)	(i)	(iv)

**Answer: D**



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**19. Respiratory Quotient (RQ) value of tripalmitin is :**

- A. 0.09
- B. 0.9
- C. 0.7
- D. 0.07

**Answer: C**



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20. Which of the following statements regarding mitochondria is incorrect ?

- A. Mitochondrial matrix contains single circular DNA molecule and ribosomes.
- B. Outer membrane is permeable to monomers of carbohydrates, fats and proteins.
- C. Enzymes of electron transport are embedded in outer membrane. '
- D. Inner membrane is convoluted with infoldings.

**Answer: C**



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21. The shorter and longer arms of a submetacentric chromosome are referred to as :

- A. m-arm and n-arm respectively

- B. s-arm and l-arm respectively
- C. p-arm and q-arm respectively
- D. q-arm and p-arm respectively

**Answer: C**



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**22. Purines found both in DNA and RNA are**

- A. Cytosine and thymine
- B. Adenine and thymine
- C. Adenine and guanine
- D. Guanine and cytosin

**Answer: C**



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**23.** Which of these following methods is the suitable for disposal of nuclear waste?

- A. Bury the waste within rocks deep below Earth's surface
- B. Shoot the waste into space
- C. Bury the waste under Antarctic ice-cover
- D. Dump the waste within rocks under ocean

**Answer: A**



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**24.** The ciliated epithelial cells are required to move particles or mucus in a specific direction. In humans, these cells are mainly present in :

- A. Bronchioles and Fallopian tubes
- B. Bile duct and Bronchioles
- C. Fallopian tubes and Pancreatic duct

D. Eustachian tube and Salivary duct

**Answer: A**



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**25.** Variations caused by mutation, as proposed by Hugo de Vries, are:

- A. small and directionless
- B. random and directional
- C. random and directionless
- D. small and directional

**Answer: C**



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**26.** How does steroid hormone influence the cellular activities? ,



- A. Using aquaporin channels 'as second messenger.
- B. Changing the permeability of the cell membrane.
- C. Binding to DNA and forming a gene-hormone complex.
- D. Activating cyclic AMP located on the cell membrane

**Answer: C**



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27. In *Antirrhinum* (Snapdragon), a red flower was crossed with a white flower and in  $F_1$  generation pink flowers were obtained. When pink flower were selfed, the  $F_2$  generation showed white, red and pink flowers.

Choose the incorrect statemes from the following :

- A. Law of Segregation does not apply in this experiment
- B. This experiment does not follow the Principle of Dominance.
- C. Pink colour in  $F_1$  is due to incomplete dominance.
- D. Ratio of  $F_2$  is —  $\frac{1}{4}$  (Red) :  $\frac{2}{4}$  (Pink) :  $\frac{1}{4}$  (White)

**Answer: A**



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**28.** Placentation, in which ovules develop on the inner wall of the ovary or in peripheral part, is:

- A. Free central
- B. Basal
- C. Axile
- D. Parietal

**Answer: D**



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**29.** Select the correct group of biocontrol agents.

- A. Nostoc, Azospirillum, Nucleopolyhedrovirus
- B. Bacillus thuringiensis, Tobacco mosaic virus, Aphids
- C. Trichoderma, Baculovirus, Bacillus thuringiensis
- D. Oscillatoria, Rhizobium, Trichoderma

**Answer: C**



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**30.** The correct sequence of phases of cell cycle is :

- A.  $G_1 \rightarrow S \rightarrow G_2 \rightarrow M$
- B.  $M \rightarrow G_1 \rightarrow G_2 \rightarrow S$
- C.  $G_1 \rightarrow G_2 \rightarrow S \rightarrow M$
- D.  $S \rightarrow G_1 \rightarrow G_2 \rightarrow M$

**Answer: A**



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**31.** Which part of the brain is responsible for thermoregulation?

A. Medulla oblongata

B. Cerebrum

C. Hypothalamus

D. Corpus callosum

**Answer: C**



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**32.** Which one of the following is not a method of in situ conservation of biodiversity ?

A. Sacred Grove

B. Biosphere Reserve

C. Wildlife Sanctuary

D. Botanical Garden

**Answer: D**



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**33.** Which of the following pairs of gases is mainly responsible for green house effect?

- A. Carbon dioxide and Methane
- B. Ozone and Ammonia
- C. Oxygen and Nitrogen
- D. Nitrogen and sulphur dioxide

**Answer: A**



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**34.** Persistent nucellus in the seed is known as

- A. Tegmen
- B. Chalaza
- C. Perisperm
- D. Hilum

**Answer: C**



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**35.** Match the Column - I with Column - II

Column-I

- (a) P-wave
- (b) QRS complex
- (c) T-Wave
- (d) Reduction in the size of T-wave

Column-II

- (i) Depolarization of ventricles
- (ii) Repolarization of ventricles
- (iii) Coronary ischemia
- (iv) Depolarization of atria
- (v) Repolarization of atria

Select the correct option:

- A.            (a)    (b)    (c)    (d)  
      (1)   (ii)   (iii)   (v)   (iv)

- B.      (a)   (b)   (c)   (d)  
       (2)   (iv)   (i)   (ii)   (iii)
- C.      (a)   (b)   (c)   (d)  
       (3)   (iv)   (i)   (ii)   (v)
- D.      (a)   (b)   (c)   (d)  
       (4)   (ii)   (i)   (v)   (iii)

**Answer: B**



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**36.** Following statements describe the characteristics of the enzyme Restriction Endonuclease. Identify the incorrect statement.

- A. The enzyme recognizes a specific palindromic nucleotide sequence in the DNA
- B. The enzyme cuts DNA molecule at identical position within the DNA.
- C. The enzyme binds DNA at specific sites and cuts only one of the two strands.

D. The enzyme cuts the sugar-phosphate backbone at specific sites on each strand

**Answer: C**



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**37. Which of the 'following is true for Golden rice' ?**

- A. It has yellow grains, because of a gene introduced from a primitive variety of rice
- B. It is Vitamin A enriched, with a gene from daffodil
- C. It is pest resistant, with a gene from *Bacillus thuringiensis*
- D. It is drought tolerant, developed using *Agrobacterium* vector

**Answer: B**



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**38. Match Column -I with with Column - II.**

Column-I

Column-II

- |                |   |
|----------------|---|
| (a) Saprophyte | (i) Symbiotic association of fungi with plant roots |
| (b) Parasite   | (ii) Decomposition of dead organic materials        |
| (c) Lichens    | (iii) Living on living plants or animals            |
| (d) Mycorrhiza | (iv) Symbiotic association of algae and fungi       |

Choose the correct answer from the options given below:

- A.            (a)   (b)   (c)   (d)  
      (1)   (ii)   (iii)   (iv)   (i)
- B.            (a)   (b)   (c)   (d)  
      (2)   (i)   (ii)   (iii)   (iv)
- C.            (a)   (b)   (c)   (d)  
      (3)   (iii)   (ii)   (i)   (iv)
- D.            (a)   (b)   (c)   (d)  
      (4)   (ii)   (i)   (iii)   (iv)

**Answer: A**



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**39.** What would be the heart rate of a person if the cardiac output is 5 L, blood volume in the ventricles at the end of diastole is 100 mL and at the end of ventricular systole is 50 mL ?

A. 125 beats per minute

B. 50 beats per minute

C. 75 beats per minute

D. 100 beats per minute

**Answer: D**



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**40.** Which of the following statements is incorrect?

A. Prions consist of abnormally folded proteins

B. Viroids lack a protein coat.

C. Viruses are obligate parasites

D. Infective constituent in viruses is the protein coat

**Answer: D**



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**41.** Match the following structures with the their respective location in organs:

- |                          |                       |
|--------------------------|-----------------------|
| (a) Crypts of Lieberkuhn | (i) Pancreas          |
| (b) Glisson's Capsule    | (ii) Duodenum         |
| (c) Islets of Langerhans | (iii) Small intestine |
| (d) Brunner's Glands     | (iv) Liver            |

Select the correct option from the following

- |     |       |      |      |       |
|-----|-------|------|------|-------|
| A.  | (a)   | (b)  | (c)  | (d)   |
| (1) | (iii) | (ii) | (i)  | (iv)  |
| B.  | (a)   | (b)  | (c)  | (d)   |
| (2) | (iii) | (i)  | (ii) | (iv)  |
| C.  | (a)   | (b)  | (c)  | (d)   |
| (3) | (ii)  | (iv) | (i)  | (iii) |
| D.  | (a)   | (b)  | (c)  | (d)   |
| (4) | (iii) | (iv) | (i)  | (ii)  |

**Answer: D**



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**42.** Which of the following immune response is responsible for rejection of kidney graft ?

- A. Cell-mediated immune response
- B. Auto-immune response
- C. Humoral immune response
- D. Inflammatory immune response

**Answer: A**



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**43.** Identify the cells whose secretion protects the lining of gastrointestinal tract from various enzymes

- A. Duodenal Cells
- B. Chief Cells
- C. Goblet Cells

## D. Oxyntic Cells

**Answer: C**



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**44.** Under which of the following conditions there will be no change in the reading frame of following mRNA?

5'AACAGCGGUGCUAUU 3'

- A. Deletion of GGU from 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> positions
- B. Insertion of G at 5<sup>th</sup> position
- C. Deletion of G from 5<sup>th</sup> position
- D. Insertion of A and G at 4<sup>th</sup> and 5<sup>th</sup> position respectively

**Answer: A**



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**45.** Which of the following is a commercial blood cholesterol lowering agent?

- A. Lipases
- B. Cyclosporin A
- C. Statin
- D. Streptokinase

**Answer: C**



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**46.** Select the incorrect statement

- A. Human males have one of the sex-chromosome much shorter than other.
- B. Male fruit fly is heterogametic
- C. In male grasshoppers, 50% of sperms have no sex-chromosome.

D. In domesticated fowls, the sex of progeny depends on the type of sperm rather than egg

**Answer: D**



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47. Tidal Volume and Expiratory Reserve Volume of an athlete is 500 mL and 1000 mL respectively. What will be his Expiratory Capacity if the Residual Volume is 1200 mL?

A. 2700 mL

B. 1500 mL

C. 1700 mL

D. 2200 mL

**Answer: B**



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**48.** Select the correct sequence for transport of sperm cells in male reproductive system.

A. Testis → Epididymis → Vasa efferentia → Vas deferens → Ejaculatory duct → Inguinal canal → Urethra → Urethral meatus

B. Testis → Epididymis → Vasa efferentia → Rete testis → Inguinal canal → Urethra

C. Seminiferous tubules → Rete testis → Vasa efferentia → Epididymis → Vas deferens → Ejaculatory duct → Urethra → Urethral meatus

D. Seminiferous tubules → Vasa efferentia → Epididymis → Inguinal canal → Urethra

**Answer: C**



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**49.** Colostrum, the yellowish fluid, secreted by mother during the initial days of lactation is very essential to impart immunity to the new born infants because it contains:

- A. Immunoglobulin A
- B. Natural killer cells
- C. Monocytes
- D. Macrophages

**Answer: A**



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**50.** In some plants, the female gamete develops into embryo without fertilization. This phenomenon is known as:

- A. Parthenogenesis

B. Autogamy

C. Parthenocarpy

D. Syngamy

**Answer: A**



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**51.** Identify the correct pair representing the causative agent of typhoid fever and the confirmatory test for typhoid.

A. *Salmonella typhi* / Widal test

B. *Plasmodium vivax* / UTI test

C. *Streptococcus pneumoniae* / Widal test

D. *Salmonella typhi* / Anthrone test

**Answer: A**



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**52.** Expressed Sequence Tags (ESTs) refers to :

- A. Novel DNA sequences
- B. Genes expressed as RNA
- C. Polypeptide expression
- D. DNA polymorphism

**Answer: B**



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**53.** Match the following hormones with the respective disease:

- |                    |                         |
|--------------------|-------------------------|
| (a) Insulin        | (i) Addison's disease   |
| (b) Thyroxin       | (ii) Diabetes insipidus |
| (c) Corticoids     | (iii) Acromegaly        |
| (d) Growth Hormone | (iv) Goitre             |
|                    | (v) Diabetes mellitus   |

Select the correct option

- A. (1) (a) (b) (c) (d)  
(ii) (iv) (i) (iii)
- B. (2) (a) (b) (c) (d)  
(v) (i) (ii) (iii)
- C. (3) (a) (b) (c) (d)  
(ii) (iv) (iii) (i)
- D. (4) (a) (b) (c) (d)  
(v) (iv) (i) (iii)

**Answer: D**



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**54.** Which of the following factors is responsible for the formation of concentrated urine?

- A. Hydrostatic pressure during glomerular filtration
- B. Low levels of antidiuretic hormone.
- C. Maintaining hyperosmolarity towards internal medullary interstitium in the kidneys
- D. Secretion of erythropoietin by Juxtaglomerular complex.

**Answer: C**



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**55.** Select the hormone-releasing Intra-Uterine Devices.

- A. Lippes Loop, Multiload 375
- B. Vaults, LNG-20
- C. Multiload 375, Progestasert
- D. Progestasert, LNG-20

**Answer: D**



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**56.** Match the following organisms with respective characteristics:

- |                   |                         |
|-------------------|-------------------------|
| (a) Pila          | (i) Flame cells         |
| (b) Bombyx        | (ii) Comb plates        |
| (c) Pleurobrachia | (iii) Radula            |
| (d) Taenia        | (iv) Malpighian tubules |

- A. (a) (b) (c) (d)  
(1) (iii) (ii) (iv) (i)
- B. (a) (b) (c) (d)  
(2) (iii) (ii) (i) (iv)
- C. (a) (b) (c) (d)  
(3) (iii) (iv) (ii) (i)
- D. (a) (b) (c) (d)  
(4) (ii) (iv) (iii) (i)

**Answer: C**



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**57.** Which of the following sexually transmitted diseases is not completely curable?

- A. Chlamydiasis
- B. Gonorrhoea
- C. Genital warts
- D. Genital herpes

**Answer: D**



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**58.** Drug called 'Heroin' is synthesized by

- A. nitration of morphine
- B. methylation of morphine
- C. acetylation of morphine
- D. glycosylation of morphine

**Answer: C**



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**59.** What is the site of perception of photoperiod necessary for induction of flowering in plants?

- A. Leaves
- B. Lateral buds

C. Pulvinus

D. Shoot apex

**Answer: A**



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**60.** A gene locus has two alleles A and a. If the frequency of dominant allele A is 0.4, then what will be the frequency of homozygous dominant, heterozygous and homozygous recessive individuals in the population

A. 0.16 (M), 0.36 (Aa), 0.48 (aa)

B. 0.36 (M), 0.48 (Aa), 0.16 (aa)

C. 0.16 (M), 0.24 (Aa), 0.36 (aa)

D. 0.16 (M), 0.48 (Aa), 0.36 (aa)

**Answer: D**



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61. What map unit (Centimorgan) is adopted in the construction of genetic maps?

A. A unit of distance between genes on chromosomes, representing

50%cross over.

B. A unit of distance between two expressed genes, representing

10%cross over.

C. A unit of distance between two expressed genes, representing

100%cross over.

D. A unit of distance between genes on chromosomes, representing

1% cross over.

**Answer: D**



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**62.** Concanavalin A is :

- A. a pigment
- B. an alkaloid
- C. an essential oil
- D. a lectin

**Answer: D**



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**63.** Pinus seed cannot germinate and establish without fungal association. This is because

- A. Its seeds contain inhibitors that prevent germination.
- B. its embryo is immature.
- C. it has obligate association with mycorrhizae
- D. it has very hard seed coat.

**Answer: C**



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**64.** The frequency of recombination between gene present on the same chromosome as a measure of the distance between genes was explained by:

A. Sutton Boveri

B. T.H. Morgan

C. Gregor J.Mendel

D. Alfred Sturtevant

**Answer: D**



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**65.** In a species, the weight of newborn ranges from 2 to 5 kg. 97% of the newborn with an average weight between 3 to 3.3 kg survive whereas 99 of the infants born with weights from 2 to 2.5 or 4.5 to 5 kg die. Which type of selection process is taking place?

- A. Cyclical Selection
- B. Directional Selection
- C. Stabilizing Selection
- D. Disruptive Selection

**Answer: C**



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**66.** Match the hominids with their correct brain size:

- |                           |                 |
|---------------------------|-----------------|
| (a) Homo habilis          | (i) 900 cc      |
| (b) Homo neanderthalensis | (ii) 1350 cc    |
| (c) Homo erectus          | (iii) 650-800cc |
| (d) Homo sapiens          | (iv) 1400 cc    |

- A. (a) (b) (c) (d)  
(1) (iv) (iii) (i) (ii)
- B. (a) (b) (c) (d)  
(2) (iii) (i) (iv) (ii)
- C. (a) (b) (c) (d)  
(3) (iii) (ii) (i) (iv)
- D. (a) (b) (c) (d)  
(4) (iii) (iv) (i) (ii)

**Answer: D**



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**67.** Select the correct option.

- A. There are seven pairs of vertebrosteral, three pairs of vertebrochondral and pairs of vertebral ribs
- B. 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> pairs of ribs articulate directly with the sternum.
- C. 11<sup>th</sup> and 12<sup>th</sup> pairs of ribs are connected to sternum with the help of hyaline cartilage.

D. Each rib is a flat thin bone and all the ribs are connected dorsally to the thoracic vertebrae and ventrally to the sternum.

**Answer: A**



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**68.** What is the direction of movement of sugars in phloem?

- A. Bi-directional
- B. Non-multidirectional
- C. Upward
- D. Downward

**Answer: A**



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**69.** Polyblend, a fine powder of recycled modified plastic, has proved to be a good material for:

- A. making tubes and pipes
- B. making plastic sacks
- C. use as a fertilizer
- D. construction of roads

**Answer: D**



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**70.** Which of the following' ecological pyramids is generally inverted?

- A. Pyramid of biomass in a sea
- B. Pyramid of numbers in grassland
- C. Pyramid of energy
- D. Pyramid of biomass in a forest.

**Answer: A**



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**71.** Use of an artificial kidney during hemodialysis may result in :

Nitrogenous waste build-up in the body

Non-elimination of excess potassium ions

Reduced 'absorption of calcium ions from gastro-intestinal tract

Reduced RBC production

Which of the following options is the most appropriate ?

A. (a) and (d) are correct

B. (a) and (b) are correct

C. (b) and (c) are correct

D. (c) and (d) are correct

**Answer: D**



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**72.** Which of the following pair of organelles does not contain DNA?

- A. Nuclear envelope and Mitochondria
- B. Mitochondria and Lysosome
- C. Chloroplast and Vacuoles
- D. Lysosomes and Vacuoles

**Answer: D**



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**73.** Which of the following is the most important for animals and plants being driven to extinction

- A. Alien species invasion
- B. Habitat loss and fragmentation
- C. Drought and floods

D. Economic exploitation

**Answer: B**



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**74.** What is the fate of the male gametes discharged in the synergid ?

- A. One fuses with the egg and other fuses with central cell nuclei.
- B. One fuses with the egg, other(s) degenerate in the synergid.
- C. All fuse with the egg.
- D. One fuses with the egg, other (s) fuse (s) with synergid nucleus.

**Answer: A**



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75. Which of the following protocols did aim reducing emission of chlorofluorocarbons into atmosphere?

A. Geneva Protocol

B. Montreal Protocol

C. Kyoto Protocol

D. Gothenburg Protocol

**Answer: B**



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76. Due to increasing air-borne allergens a pollutants, many people in urban areas a suffering from respiratory disorder cause wheezing due to:

A. reduction in the secretion of surfactant, pneumocytes.

B. benign growth on mucous lining of nasal cavity.

C. inflammation of bronchi and bronchioles

D. proliferation of fibrous tissues and damage of the alveolar walls.

**Answer: C**



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77. From evolutionary point of view, retention of the female gametophyte with developing young embryo on the parent sporophyte for some time, is first observed in :

A. Gymnosperms

B. Liverworts

C. Mosses

D. Pteridophytes

**Answer: D**



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**78.** What is the genetic disorder in which an individual has an overall masculine development, gynaecomastia, and is sterile?

- A. Down's syndrome
- B. Turner's syndrome
- C. Klinefelter's syndrome
- D. Edward syndrome

**Answer: C**



**Watch Video Solution**

**79.** Which of the following features of genetic code does allow bacteria to produce human insulin by recombinant DNA technology ?

- A. Genetic code is specific
- B. Genetic code is not ambiguous
- C. Genetic code is redundant

D. Genetic code is nearly universal

Answer: D



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80. Match the following organisms with the products they produce:

- |                                     |                   |
|-------------------------------------|-------------------|
| (a) <i>Lactobacillus</i>            | (i) Cheese        |
| (b) <i>Saccharomyces cerevisiae</i> | (ii) Curd         |
| (c) <i>Aspergillus niger</i>        | (iii) Citric Acid |
| (d) <i>Acetobacter acetic</i>       | (iv) Bread        |
|                                     | (v) Acetic Acid   |

- |     |       |      |       |       |
|-----|-------|------|-------|-------|
| A.  | (a)   | (b)  | (c)   | (d)   |
| (1) | (ii)  | (i)  | (iii) | (v)   |
| B.  | (a)   | (b)  | (c)   | (d)   |
| (2) | (ii)  | (iv) | (v)   | (iii) |
| C.  | (a)   | (b)  | (c)   | (d)   |
| (3) | (ii)  | (iv) | (iii) | (v)   |
| D.  | (a)   | (b)  | (c)   | (d)   |
| (4) | (iii) | (iv) | (v)   | (i)   |

Answer: C



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**81.** DNA precipitation out of a mixture of biomolecules can be achieved by treatment with:

- A. Chilled chloroform
- B. Isopropanol
- C. Chilled ethanol
- D. Methanol at room temperature

**Answer: C**



**Watch Video Solution**

**82.** Thiobacillus is group of bacteria helpful in carrying out:

- A. Denitrification
- B. Nitrogen fixation
- C. Chemoautotrophic fixation
- D. Nitrification

**Answer: A**



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**83.** Which of the following statements is not correct

- A. Lysosomes are formed by the process of packaging in the endoplasmic reticulum
- B. Lysosomes have numerous hydrolytic enzymes.
- C. The hydrolytic enzymes of lysosomes are active under acidic pH.
- D. Lysosomes are membrane bound structures

**Answer: A**



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**84.** Select the incorrect statement.



- A. Inbreeding helps in accumulation of superior genes and elimination of undesirable genes
- B. Inbreeding increases homozygosity.
- C. Inbreeding is essential to evolve purelines, in any animal.
- D. Inbreeding selects harmful recessive gene that reduce fertility and productivity.

**Answer: D**



**Watch Video Solution**

**85.** Select the correct sequence of organs in the alimentary canal of cockroach starting from mouth:

- A. Pharynx → Oesophagus → Ileum → Crop → Gizzard → Colon → Rectum

B. Pharynx → Oesophagus → Crop → Gizzard → Ileum →

Colon → Rectum

C. Pharynx → Oesophagus → Gizzard → Crop → Ileum →

Colon → Rectum

D. Pharynx → Oesophagus → Gizzard → Ileum → Crop →

Colon → Rectum

**Answer: B**



**Watch Video Solution**

**86.** Consider the following statements:

(A) Coenzyme or metal ion that is tightly bound to enzyme protein is called prosthetic group,

(B) A complete catalytic active enzyme with its bound prosthetic group is called apoenzyme. Select the correct option

A. (A) is false but (B) is true.

B. Both (A) and (B) are true.

C. A) is true but (B) is false.

D. Both (A) and (B) are false.

**Answer: D**



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**87.** Which of the statements given below is not true about formation of Annual Rings in trees?

A. Annual rings are not prominent in trees of temperate region.

B. Annual ring is a combination of spring wood and autumn wood produced in a year.

C. Differential activity of cambium causes light and dark bands of tissue - early and late wood respectively.

D. Activity of cambium depends upon variation in climate.

**Answer: A**



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**88.** Which one of the following statements regarding post-fertilization development in flowering plants is incorrect?

- A. Ovules develop into embryo sac
- B. Ovary develops into fruit
- C. Zygote develops into embryo
- D. Central cell develops into endosperm

**Answer: A**



**Watch Video Solution**

**89.** Which one of the following equipments is essentially required for growing microbes on a large scale, for industrial production of enzymes?

- A. Bioreactor
- B. BOD incubator
- C. Sludge digester
- D. Industrial oven

**Answer: A**



**Watch Video Solution**

**90.** A competitive inhibitor of succinic dehydrogenase is

- A.  $\alpha$ -ketoglutarate
- B. malate
- C. malonate
- D. oxaloacetate

**Answer: C**



**Watch Video Solution**

91. Senescence as an active developmental cellular process in the growth and functioning of a flowering plant, is indicated in

- A. Annual plants
- B. Floral parts
- C. Vessels and tracheid differentiation
- D. Leaf abscission

**Answer: D**



**Watch Video Solution**

92. Which one of the following statement is incorrect about menstruation ?

- A. At menopause in the female, there is especially abrupt increase in gonadotropic hormones

- B. The beginning of the cycle of menstruation is called menarche
- C. During normal menstruation about 40 ml blood is lost
- D. The menstrual fluid can easily clot

**Answer: D**



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**93.** Which one of the following conditions in humans is correctly matched with its chromosomal abnormality/linkage?

- A. Erythroblastosis foetalis — X-linked
- B. Erythroblastosis foetalis — X-linked
- C. Klinefelter's syndrome — 44 autosomes + XXY
- D. Colour-blindness — Y-linked

**Answer: C**



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94. In the leaves of  $C_4$  plants, malic acid formation during  $CO_2$  fixation occurs in the cells of

- A. bundle sheath
- B. guard cells
- C. epidermal cells
- D. mesophyll cells

**Answer: D**



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95. What is true about the isolated small tribal populations ?

- A. Wrestlers who develop strong body muscles in their life time pass their character on to their progeny



- B. There is no change in population size as they have a large gene pool
- C. There is a decline in population as boys marry girls only from their own tribe
- D. Hereditary disease like colour-blindness do not spread in the isolated population

**Answer: C**



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**96.** Replum is present in the ovary of flower of

- A. sunflower
- B. pea
- C. lemon
- D. mustard

**Answer: D**



**Watch Video Solution**

**97.** Unisexuality of flowers prevents

- A. geitonogamy, but not xenogamy
- B. autogamy and geitonogamy
- C. autogamy, but not geitonogamy
- D. both geitonogamy and xenogamy

**Answer: C**



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**98.** The length of different internodes in a culm of sugarcane is variable because

- A. size of leaf lamina at the node below each internode
- B. intercalary meristem
- C. shoot apical meristem
- D. position of axillary buds

**Answer: B**



**Watch Video Solution**

**99.** Which one of the following is not observed in biodiversity hotspots

- A. Lesser inter-specific competition
- B. Species richness
- C. Endemism
- D. Accelerated species loss

**Answer: A**



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100. Which of the following is the correct percentage of the two (out of the total of 4) greenhouse gases that contribute to the total global warming?

A.  $N_2O$  6 % ,  $CO_2$  86 %

B. Methane 20 % ,  $N_2O$  18 %

C.  $CFCs$  14 % , Methane 20 %

D.  $CO_2$  40 % ,  $CFCs$  30 %

**Answer: C**



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101. The two sub-units of ribosome remain united at a critical ion level of

A. magnesium

B. calcium

C. copper

D. manganese

**Answer: A**



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**102.** Given below are four methods (a-d) and their modes of action (i-iv) in achieving contraception. Select their correct matching from the four options that follow.

Method	Mode of Action
(a) The pill	(i) Prevents sperms reaching cervix
(b) Condom	(ii) Prevents implantation
(c) Vasectomy	(iii) Prevents ovulation
(d) Copper-T	(iv) Semen contains no sperm

A. 1 = (c), 2 = (d), 3 = (a), 4 = (b)

B. 1 = (b), 2 = (c), 3 = (a), 4 = (d)

C. 1 = (c), 2 = (a), 3 = (d), 4 = (b)

D. 1 = (d), 2 = (a), 3 = (b), 4 = (c)

**Answer: C**



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**103.** The chemiosmotic coupling hypothesis of oxidative phosphorylation proposes that adenosine triphosphate (ATP) is formed because

- A. A proton gradient forms across the inner membrane
- B. There is a change in the permeability of the inner mitochondrial membrane toward Adenosine Di-Phosphate (ADP)
- C. High energy bonds are formed in mitochondrial proteins
- D. ADP is pumped out of the matrix into the intermembrane space

**Answer: A**



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**104.** The linking of antibiotic resistance gene with the plasmid vector became possible with

- A. DNA polymerase
- B. Exonucleases
- C. DNA ligase
- D. Endonucleases

**Answer: C**



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**105.** The rupture and fractionation do not usually occur in the water column in vessel/tracheids during the ascent of sap because of

- A. weak gravitational pull
- B. transpiration pull
- C. lignified thick walls

D. cohesion and adhesion

**Answer: D**



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**106.** Thorn of Bougainvillea and tendril of Cucurbita are examples of :

- A. vestigial organs
- B. retrogressive evolution
- C. analogous organs
- D. homologous organs

**Answer: D**



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**107.** Consider the following four measures (1-4) that could be taken to successfully grow chickpea in an area where bacterial blight disease is common:

- (i) Spray with Bordeaux mixture
- (ii) Control of the insect vector of the disease pathogen
- (iii) Use of only disease-free seeds
- (iv) Use of varieties resistant to the disease

A. (iii) and (iv)

B. (i) and (iv)

C. (ii) and (iii)

D. (i) and (ii)

**Answer: A**



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**108.** World Summit on Sustainable Development (2002) was held in:

A. Argentina

B. South Africa

C. Brazil

D. Sweden

**Answer: B**



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**109.** Darwin's Finches are an excellent example of

A. brood parasitism

B. connecting links

C. adaptive radiation

D. seasonal migration

**Answer: C**



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**110.** Polysome is formed by

- A. a ribosome with several subunits
- B. ribosomes attached to each other in a linear arrangement
- C. several ribosomes attached to a single mRNA
- D. many ribosomes attached to a strand of endoplasmic reticulum

**Answer: C**



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**111.** Which one of the following pairs of nitrogenous bases of nucleic acids, is wrongly matched with the category mentioned against it

- A. Guanine, Adenine — Purines
- B. Adenine, Thymine — Purines
- C. Thymine, Uracil — Pyrimidines

D. Uracil, Cytosine — Pyrimidines

**Answer: B**



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**112.** The fruit is chambered, developed from inferior ovary and has seeds with succulent testa in

A. guava

B. cucumber

C. pomegranate

D. orange

**Answer: C**



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**113.** Endosperm is consumed by developing embryo in the seed of

- A. pea
- B. maize
- C. coconut
- D. castor

**Answer: A**



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**114.** In the DNA molecule

- A. the proportion of adenine in relation to thymine varies with the organism
- B. there are two strands which run antiparallel one in  $5' \rightarrow 3'$  direction and other in  $3' \rightarrow 5'$

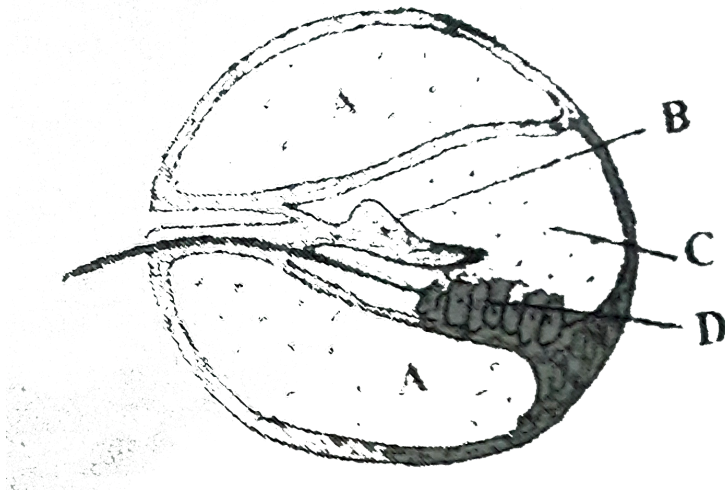
- C. the total amount of purine nucleotides and pyrimidine nucleotides is not always equal
- D. there are two strands which run parallel in the  $3' \rightarrow 5'$  direction

**Answer: B**



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**115.** Given below is a diagrammatic cross section of a single loop of human cochlea



Which one of the following options correctly represents the names of three different parts

A. D:Sensory hair cells, A:Endolymph, B:Tectorial membrane

B. A: Perilymph, B: Tectorial membrane, C: Endolymph

C. B:Tectorial membrane, C:Perilymph, D:Secretory cells

D. C:Endolymph, D:Sensory hair cells, A:Serum

**Answer: B**



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**116.** Which type of white blood cells are concerned with the release of histamine and the natural anticoagulant heparin ?

A. Eosinophils

B. Monocytes

C. Neutrophils

D. Basophils

**Answer: D**



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**117.** Thermococcus, Methanococcus and Methanobacterium exemplify:

- A. bacteria whose DNA is relaxed or positively supercoiled but which have a cytoskeleton as well as mitochondria
- B. bacteria that contain a cytoskeleton and ribosomes
- C. archaebacteria that contain protein homologous to eukaryotic core histones
- D. archaebacteria that lack any histones resembling those found in eukaryotes but whose DNA is negatively supercoiled.

**Answer: C**



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**118.** Which one of the following is being tried in India as a biofuel substitute for fossil fuels?

- A. Musa
- B. Aegilops
- C. Jatropha
- D. Azadirachta

**Answer: C**



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**119.** Dry indehiscent single-seeded fruit formed from biscarpellary syncarpous inferior ovary is

- A. berry
- B. cremocarp
- C. caryopsis

D. cypsela

**Answer: D**



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**120.** Which one of the following pairs of codons is correctly matched with their function or the signal for the particular amino acid ?

A. AUG, ACG — Start/Methionine

B. UUA, UCA — Leucine

C. GUU, GCU — Alanine

D. UAG, UGA — Stop

**Answer: D**



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**121.** Select one of the following pairs of important features distinguishing Gnetum from Cycas and Pinus and showing affinities with angiosperms

- A. perianth and two integuments
- B. embryo development and apical meristem
- C. absence of resin duct and leaf venation
- D. presence of vessel elements and absence of archegonia

**Answer: D**



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**122.** Earthworms have no skeleton but during burrowing, the anterior end becomes turgid and acts as a hydraulic skeleton. It is due to

- A. gut peristalsis
- B. setae
- C. coelomic fluid

D. blood

**Answer: C**



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**123.** Which one of the following is the true description about an animal concerned

- A. Rat - Left kidney is slightly higher in position than the right one
- B. Cockroach - 10 pairs of spiracles (2 pairs on thorax and 8 pairs on abdomen)
- C. Earthworm - The alimentary canal consists of a sequence of pharynx, oesophagus, stomach, gizzard and intestine
- D. Frog - Body divisible into three regions-head, neck and trunk

**Answer: B**



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**124.** Which extra-embryonic membrane in human prevents desiccation of the embryo inside the uterus?

- A. Yolk sac
- B. Amnion
- C. Chorion
- D. Allantois

**Answer: B**



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**125.** About 70% of total global carbon is found in

- A. Oceans
- B. Forests
- C. Grasslands

D. Agroecosystems

**Answer: A**



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**126.** Human insulin is being commercially produced from a transgenic species of

A. Rhizobium

B. Saccharomyces

C. Escherichia

D. Mycobacterium

**Answer: C**



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**127.** Vacuole in a plant cell

- A. lacks membrane and contains air
- B. Lacks membrane and contains water and excretory substances
- C. is membrane-bound and contains storage proteins and lipids
- D. is membrane-bound and contains water and excretory substances

**Answer: D**



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**128.** Quercus species is the dominant component in

- A. Scrub forests
- B. Tropical rain forests
- C. Temperate deciduous forests
- D. Alpine forests

**Answer: C**



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**129.** Vascular tissues in flowering plants develop from

- A. periblem
- B. dermatogen
- C. phellogen
- D. plerome

**Answer: D**



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**130.** Gel electrophoresis is used for

- A. construction of recombinant DNA by joining with cloning vectors



B. isolation of DNA molecule

C. cutting of DNA into fragments

D. separation of DNA fragments according to their siz

**Answer: D**



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**131.** Which one of the following pairs of organs includes only the endocrine glands

A. Thymus and testes

B. Adrenal and ovary

C. Parathyroid and adrenal

D. Pancreas and parathyroid

**Answer: C**



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**132.** Haploids are more suitable for mutation studies than the diploids.

This is because

- A. haploids are more abundant in nature than diploids
- B. all mutations, whether dominant or recessive are expressed in haploids
- C. haploids are reproductively more stable than diploids
- D. mutagens penetrate in haploids more effectively than in diploids

**Answer: B**



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**133.** Which are true about the following statements about kangaroo rats

- (a) They have dark colour, high rate of reproduction and excrete solid urine
- (b) They do not drink water, breathe at slow rate, and have their body

covered with thick hair

(c) They feed on dry seeds and do not require drinking water

(d) They excrete very concentrated urine and do not use water to regulate body temperature

A. (iii) and (i)

B. (i) and (ii)

C. (iii) and (iv)

D. (ii) and (iii)

**Answer: D**



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**134.** Which one of the following is NOT a characteristic of phylum Annelida

A. Pseudocoelom

B. Ventral nerve cord

C. Closed circulatory system

D. Segmentation

**Answer: A**



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**135.** In human adult females, oxytocin

A. stimulates pituitary to secrete vasopressin

B. causes strong uterine contractions during parturition

C. is secreted by anterior pituitary

D. stimulates growth of mammary glands

**Answer: B**



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**136.** Most active phagocytic white blood cells are

- A. eosinophils and lymphocytes
- B. neutrophils and monocytes
- C. neutrophils and eosinophils
- D. lymphocytes and macrophages

**Answer: B**



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**137.** In which one of the following male and female gametophytes do not have free living independent existence

- A. Polytrichum
- B. Cedrus
- C. Pteris
- D. Funaria

**Answer: B**



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**138.** what is vital capacity of our lungs

- A. Inspiratory reserve volume plus expiratory reserve volume
- B. Total lung capacity minus residual volume
- C. Inspiratory reserve volume plus tidal volume
- D. Total lung capacity minus expiratory reserve volume

**Answer: B**



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**139.** Which one of the following is hetero-sporous?

- A. Adiantum

B. Equisetum

C. Dryopteris

D. Salvinia

**Answer: D**



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**140.** The blood calcium level is lowered by the deficiency of

A. both calcitonin and parathormone

B. calcitonin

C. parathormone

D. thyroxine

**Answer: C**



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141. The  $C_4$  plants are photosynthesis more efficient then  $C_3$  plant because

- A. the  $CO_2$  efflux is not prevented
- B. they have more chloroplasts
- C. the  $CO_2$  compensation point is more
- D.  $CO_2$  generated during photorespiration is trapped and recycled through PEP carboxylase

**Answer: B**



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142. Which one of the following phyla is correctly matched with its two general characteristics?

- A. Echinoderamata — Pentamerous radial symmetry and mostly internal fertilization



B. Mollusca — Normally oviparous and development through a trochophore or veliger larva

C. Arthropoda — Body divided into head, thorax and abdomen and respiration by tracheae

D. Chordata — Notochord at some stage and separate anal and urinary openings to the outside

**Answer: B**



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**143.** In germinating seeds fatty acids are degraded exclusively in the

A. peroxisomes

B. mitochondria

C. proplastids

D. glyoxysomes

**Answer: D**



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**144.** Which one of the following is the correct difference between Rod Cells and cone cells of our retina

	<b>Rod Cells</b>	<b>Cone Cells</b>
(a) Overall function	Vision in poor light	Colour vision and detailed vision in bright light
(b) Distribution	More concentrated in centre of retina	Evenly distributed all over retina
(c) Visual acuity	High	Low
(d) Visual pigment contained	Iodopsin	Rhodopsin



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**145.** In the light of recent classification of living organisms into three domains of life (bacteria, archea and eukarya), which one of the following statements is true about archaea

- A. Archaea completely differ from both prokaryotes and eukaryotes
- B. Archaea completely differ from prokaryotes
- C. Archaea resemble eukarya in all respects
- D. Archaea have some novel features that are absent in other prokaryotes and eukaryotes

**Answer: D**



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**146.** Which proves to be effective biological control for nematodal pathogens of plants?

- A. *Gliocladium virens*
- B. *Paecilomyces lilacinus*
- C. *Pisolithus tinctorius*
- D. *Pseudomonas cepacia*

**Answer: B**



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**147.** A lake near a village suffered heavy mortality of fishes within a few days. Consider the following reasons for this?

- (a) Lots of urea and phosphate fertilizers were used in the crops in the vicinity.
- (b) The area was sprayed with DDT by an aircraft.
- (c) The lake water turned green and stinky.
- (d) Phytoplankton population in the lake declined initially thereby greatly reducing photosynthesis. Which two of the above were the main causes of fish mortality in the lake?

A. (i), (iii)

B. (i), (ii)

C. (ii), (iii)

D. (iii), (iv)

Answer: A



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148. The table below gives the population ( in thousands) of ten species (A-J) in four areas (a-d) consisting of the number of habitats given within brackets against each. Study the table and answer the questions which follow.

Area and No. of habitats	Species and their populations (In thousands) in the areas									
	A	B	C	D	E	F	G	H	I	J
p (11)	2.3	1.2	0.52	6.0	—	3.1	1.1	9.0	—	10.3
q (11)	10.2	—	0.62	—	1.5	3.0	—	8.2	1.1	11.2
r (13)	11.3	0.9	0.48	2.4	1.4	4.2	0.8	8.4	2.2	4.1
s (12)	3.2	10.2	11.1	4.8	0.4	3.3	0.8	7.3	11.3	2.1

Which area out of a-d shows maximum species diversity ?

- A. d
- B. a
- C. b
- D. c

Answer: A



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**149.** During the propagation of a nerve impulse, the action potential results from the movement of

- A.  $K^+$  ions from intracellular fluid to extracellular fluid
- B.  $Na^+$  ions from extracellular fluid to intracellular fluid
- C.  $K^+$  ions from extracellular fluid to intracellular fluid
- D.  $Na^+$  ions from intracellular fluid to extracellular fluid

**Answer: B**



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**150.** Consider the following statements concerning food chains

- (i) Removal of 80% tigers from an area resulted in greatly increased growth of vegetation
- (ii) Removal of most of the carnivores resulted in an increased population

of deers

(iii) The length of food chains is generally limited to 3 - 4 trophic levels due to energy loss

(iv) The length of food chains may vary from 2 to 8 trophic levels

Which two of the above statements are correct?

A. (i), (iv)

B. (i), (ii)

C. (ii), (iii)

D. (iii), (iv)

**Answer: C**



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**151.** Modern detergents contain enzyme preparations of

A. thermoacidophiles

B. thermophiles

C. acidophiles

D. alkaliphiles

**Answer: D**



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**152. what is antisense technology**

A. When a piece of RNA that is complementary in sequence is used to stop expression of a specific gene

B. RNA polymerase producing DNA

C. A cell displaying a foreign antigen used for synthesis of antigens

D. Production of somaclonal variants in tissue cultures

**Answer: A**



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**153.** Cornea transplant in humans is almost never rejected. This is because

- A. It is composed of enucleated cells
- B. It is a non-living layer
- C. Its cells are least penetrable by bacteria
- D. It has no blood supply

**Answer: D**



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**154.** Which one of the following is incorrect about the characteristic of protobionts (coacervates and microspheres) as envisaged in abiogenic origin of life ?

- A. They were partially isolated from the surrounding
- B. They could maintain an internal environment
- C. They were able to reproduce

D. They could separate combinations of molecules from the surroundings

**Answer: C**



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**155.** In humans, blood passes from the post caval to the diastolic right atrium of heart due to

- A. stimulation of the sino auricular node
- B. pressure difference between the post caval and atrium
- C. pushing open of the venous valves
- D. suction pull

**Answer: B**



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**156.** Which one of the following is resistant action

- A. Pollen exine
- B. Leaf cuticle
- C. Cork
- D. Wood fibre

**Answer: A**



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**157.** According to Central Pollution Control Board, air pollutants responsible for great harm have a size (in/mm) of

- A. 1.0 or less
- B. 5.2 – 2.5
- C. 2.5 or less
- D. 1.5 or less

**Answer: C**



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**158.** Cellulose is the major component of cell walls of

- A. Pseudomonas
- B. Saccharomyces
- C. Pythium
- D. Xanthomonas

**Answer: C**



**Watch Video Solution**

**159.** What does the filiform apparatus do at the entrance into or Function of filiform apparatus is to

- A. It brings about opening of the pollen tube
- B. It guides pollen tube from a synergid to egg
- C. It helps in the entry of pollen tube into a synergid
- D. It prevents entry of more than one pollen tube into the embryo sac

**Answer: C**



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**160.** Match the disease in Column I with the appropriate items (pathogen/prevention/treatment) in Column II:

Column-I

Column-II

- |                     |                                      |
|---------------------|--------------------------------------|
| <i>A</i> Amoebiasis | 1 <i>Treponema pallidum</i>          |
| <i>B</i> Diphtheria | 2 Use only sterilized food and water |
| <i>C</i> Cholera    | 3 DPT vaccine                        |
| <i>D</i> Syphilis   | 4 Use oral rehydration therapy       |

A. A = (ii), B = (i), C = (iii), D = (iv)

B. A = (ii), B = (iii), C = (iv), D = (i)

C. A = (i), B = (ii), C = (iii), D = (iv)

D. A = (ii), B = (iv), C = (i), D = (iii)

**Answer: B**



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**161.** Carbohydrates are commonly found as starch in plant storage organs. Which of the following five properties of starch (A-E) make it useful as a storage material

- (A) Easily translocated
- (B) Chemically non-reactive
- (C) Easily digested by animals
- (D) Osmotically inactive
- (E) Synthesized during photosynthesis

The useful properties are :

A. (1), (3) and (5)

B. (1) and (5)

C. (2) and (3)

D. (2) and (4)

**Answer: D**



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**162.** The slow rate of decomposition of fallen logs in nature is due to their

A. anaerobic environment around them

B. low cellulose content

C. low moisture content

D. poor nitrogen content

**Answer: C**



**Watch Video Solution**

**163.** Cry 1 endotoxins obtained from *Bacillus Thuringiensis* are effective against

- A. Nematodes
- B. Boll worms
- C. Mosquitoes
- D. Flies

**Answer: B**



**Watch Video Solution**

**164.** Which of the following two statements are correct ?

- (i) Medical termination of pregnancy (MTP) during first trimester is generally safe
- (ii) Generally chances of conception are nil until mother breast-feeds the infant upto two years
- (iii) Intrauterine devices like copper-T are effective contraceptives



(iv) Contraception pills may be taken upto one week after coitus to prevent conception.

- A. (i), (iii)
- B. (i), (ii)
- C. (ii), (iii)
- D. (iii), (iv)

**Answer: A**



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**165.** Bacterial leaf blight of Rice is caused by

- A. Alternaria
- B. Erwinia
- C. Xanthomonas
- D. Pseudomonas

**Answer: C**



**Watch Video Solution**

**166.** *Trichoderma harizianum* has proved to be a useful microorganism for

- A. gene transfer in higher plants
- B. biological control of soil-borne plant pathogens
- C. bioremediation of contaminated soils
- D. reclamation of wastelands

**Answer: B**



**Watch Video Solution**

**167.** Which one of the following pairs of items correctly belongs to the category of organs mentioned against it

A. Nephridia of earthworm and malpighian tubules of cockroach -

Excretory organs

B. Wings of honeybee and wings of crow - Homologous organs

C. Thorn of Bougainvillea and tendrils of Cucurbita - Analogous organs

D. Nictitating membrane and blind spot in human eye - Vestigial organs

**Answer: A**



**Watch Video Solution**

**168.** To which type of barriers under innate immunity, do the saliva in the mouth and the tears the eyes, belong?

A. Physiological barriers

B. physical barriers

C. Cytokine barriers

#### D. Cellular barriers

**Answer: A**



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**169.** Which one of the following groups of three animals each is correctly matched with their one characteristic morphological feature ?



**Watch Video Solution**

**170.** A transgenic food crop which may help in solving the problem of night blindness in developing countries is :

A. Bt. Soybean

B. Golden rice

C. Flaver Saver tomatoes

D. Starlink maize

**Answer: B**



**Watch Video Solution**

**171.** Which of the following is the correct matchin of the site of action on the given substrate, the enzyme acting state upon it and the end product

- A. Small intestine - Proteins  $\xrightarrow{\text{Pepsin}}$  Amino acids
- B. Stomach - Fats  $\xrightarrow{\text{Lipase}}$  Micelles
- C. Duodenum— Triglycerides  $\xrightarrow{\text{Trypsin}}$  Monoglycerides
- D. Small intestine— Starch  $\xrightarrow{\alpha - \text{amylase}}$  Disaccharide (Maltose)

**Answer: D**



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**172.** What will happen if the secretion of parietal cells of gastric glands is blocked with an inhibitor?

- A. In the absence of HCl secretion, inactive pepsinogen is not converted into the active enzyme pepsin
- B. Enterokinase will not be released from the duodenal mucosa and so trypsinogen is not converted to trypsin
- C. Gastric juice will be deficient in chymosin
- D. Gastric juice will be deficient in pepsinogen

**Answer: A**



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**173.** Nitrogen fixation in root nodules of *Alnus* is brought about by

- A. *Frankia*
- B. *Azorhizobium*
- C. *Bradyrhizobium*
- D. *Clostridium*

**Answer: A**



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**174.** Which one of the following is correct statement regarding the particular psychotropic drug specified?

- A. Morphine leads to delusions and disturbed emotions
- B. Barbiturates cause relaxation and temporary euphoria
- C. Hashish causes after thought perceptions and hallucinations
- D. Opium stimulates nervous system and causes hallucinations

**Answer: B**



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**175.** The energy -releasing process in which the substrate is oxidized without an external electron acceptor is called

A. aerobic respiration

B. glycolysis

C. fermentation

D. photorespiration

**Answer: C**



**Watch Video Solution**

**176.** the haemoglobin of a human foetus

A. has only 2 protein subunits instead of 4

B. has a higher affinity for oxygen than that of an adult

C. has a lower affinity for oxygen than that of an adult

D. its affinity for oxygen is the same as that of an adult

**Answer: B**



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**177.** Which one of the following pairs of plant structures has haploid number of chromosomes

- A. Nucellus and antipodal cells
- B. Egg nucleus and secondary nucleus
- C. Megaspore mother cell and antipodal cells
- D. Egg cell and antipodal cells

**Answer: D**



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**178.** Which one of the following items gives its correct total number

- A. Types of diabetes — 3
- B. Cervical vertebrae in humans — 8
- C. Floating ribs in humans — 4

**Answer: C**



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**179.** Keeping in view the fluid mosaic model for the structure of cell membrane, which one of the following statements is correct with respect to the movement of lipids and proteins from one lipid mono layer to the other (described as flip flop movement)

- A. While proteins can flip-flop, lipids cannot
- B. neither lipids, nor proteins can flip-flop
- C. Both lipids and proteins can flip-flop
- D. While lipids can rarely flip-flop proteins cannot

**Answer: D**



**Watch Video Solution**

**180.** Which is linked to discovery of Bordeaux mixture as fungicide ?

- A. Loose smut of wheat
- B. Black rust of wheat
- C. Bacterial leaf blight of rice
- D. Downy mildew of grapes

**Answer: D**



**Watch Video Solution**

**181.** Main objective of production of herbicide resistant GM crops is to

- A. encourage eco-friendly herbicides
- B. reduce herbicide accumulation in food articles for health safety
- C. eliminate weeds from the field without the use of manual labour
- D. eliminate weeds from the field without the use of herbicides

**Answer: C**



**Watch Video Solution**

**182.** Which one of the following in birds, indicated their reptilian ancestry

- A. Two special chambers crop and gizzard in their digestive tract
- B. Eggs with a calcareous shell
- C. Scales on their hind limbs
- D. Four-chambered heart

**Answer: C**



**Watch Video Solution**

**183.** Consider the following statements about biomedical technologies,

- (i) During open heart surgery blood is circulated in the heart-lung machine

(ii) Blockage in coronary arteries is removed by angiography

(iii) Computerised Axial Tomography (CAT) shows detailed internal structure as seen in a section of body.

(iv) X-ray provides clear and detailed images of organs like prostate glands and lungs

Which two of the above statements are correct?

A. (i) and (iii)

B. (i) and (ii)

C. (ii) and (iv)

D. (iii) and (iv)

**Answer: A**



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**184.** Ascaris is characterized by

A. presence of true coelom but absence of metamerism

- B. presence of true coelom and metamerism (metamerisation)
- C. absence of true coelom but presence of metamerism
- D. presence of neither true coelom nor metamerism

**Answer: D**



**Watch Video Solution**

**185.** In humans, at the end of the first meiotic division, the male germ cells differentiate into the

- A. spermatids
- B. spermatogonia
- C. primary spermatocytes
- D. secondary spermatocytes

**Answer: D**



**Watch Video Solution**

**186.** Electrons from excited chlorophyll molecule of photosystem II are accepted first by

- A. Quinone
- B. Ferredoxin
- C. Cytochrome-b
- D. Cytochrome-f

**Answer: A**



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**187.** Importance of day length in flowering of plants was first shown in

- A. Cotton
- B. Petunia
- C. Lemna

D. Tobacco

**Answer: D**



**Watch Video Solution**

**188.** The fleshy receptacle of syconus of fig encloses a number of

A. berries

B. mericarps

C. achenes

D. samaras

**Answer: C**



**Watch Video Solution**



**189.** Which one of the following scientist's name is correctly matched with the theory put forth by him?

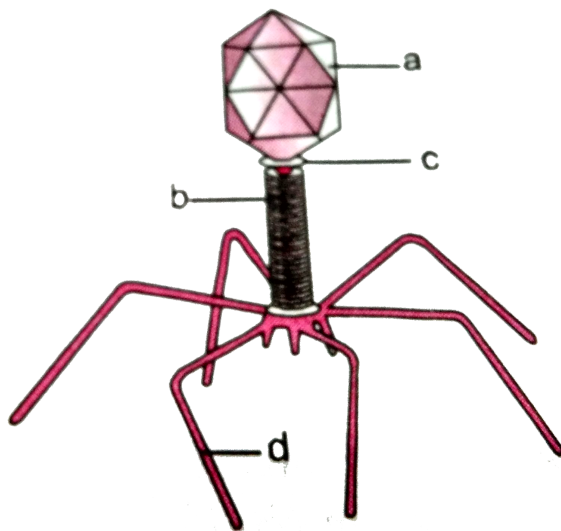
- A. deVries — Natural selection
- B. Mendel — Theory of pangenesis
- C. Weismann — Theory of continuity of germplasm
- D. Pasteur — Inheritance of acquired characters

**Answer: C**



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**190.** Given is a diagram of a bacteriophage in which one of the options all the four parts, a, b, c, and d are correct.



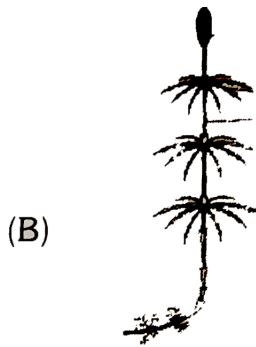
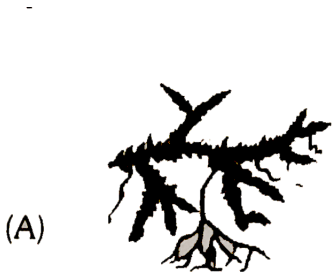
- A.      A          B          C          D  
 Sheath   Collar   Head   Tail fibres
- B.      A          B          C          D  
 Head   Sheath   Collar   Tail fibres
- C.      A          B          C          D  
 Collar   Tail fibres   Head   Sheath
- D.      A          B          C          D  
 Tail fibres   Head   Sheath   Collar

**Answer: B**



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**191.** Examine the figure A,B,C and D. In which one of the four options all the items A,B,C and D are correct



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**192.** In eukaryotic cell transcription, RNA splicing and RNA capping take place inside the

OR

Messenger RNA is produced in

A. Nucleus

B. Dictyosomes

C. ER

D. Ribosomes

**Answer: A**



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**193.** An elaborate network of filamentous proteinaceous structures present in the cytoplasm which helps in the maintenance of cell shape is called

A. Endoplasmic Reticulum

B. Plasmalemma

C. Cytoskeleton

D. Thylakoid

**Answer: C**



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**194.** In *Antirrhinum* two plants with pink flowers were hybridized. The  $F_1$  plants produced red, pink and white flowers in the proportion of 1 red, 2 pink and 1 white. What could be the genotype of the two plants used for hybridization. Red flower colour is determined by RR, and white rr genes

A. RR

B. Rr

C. rr

D. rrr

**Answer: B**



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**195.** The lac operon consists of

A. One regulatory gene and three structural genes

- B. Two regulatory genes and two structural genes
- C. Three regulatory genes and three structure genes
- D. Four regulatory genes only

**Answer: A**



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**196.** A cross in which an organism showing a dominant phenotype is crossed with the recessive parent in order to know its genotype is called:

- A. Back cross
- B. Test cross
- C. Dihybrid cross
- D. Monohybrid cross

**Answer: B**



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**197.** Transport of food material in higher plants takes place through

- A. Transfusion tissue
- B. Tracheids
- C. Sieve elements
- D. Companion cells

**Answer: C**



**Watch Video Solution**

**198.** Kranz anatomy is one of the characteristics of the leaves of

- A. Wheat
- B. Sugarcane
- C. Mustard
- D. Potato

Answer: B

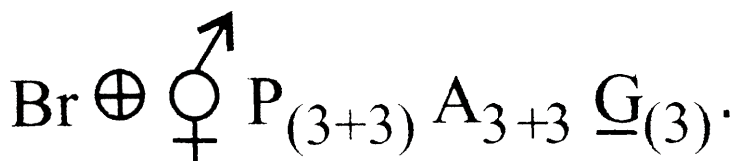


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**199.** Consider the following four statements (i),(ii),(iii) and (iv)

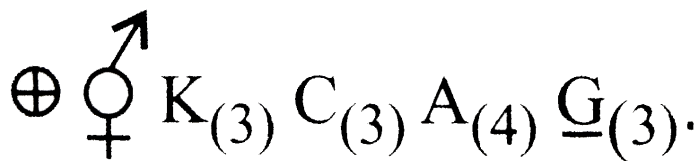
(i) In vexillary aestivation, the large posterior petal is called standard, two lateral ones are called wings and two small anterior petals are termed as keel

(ii) The floral formula for Liliaceae is



(iii) In pea flower, the stamens are monadelphous

(iv) The floral formula for Solanceae is



The correct statement are



A. A and B

B. B and C

C. C and D

D. A and C

**Answer: A**



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**200.** Vegetative propagation in Pistia occurs by

A. offset

B. Runner

C. Sucker

D. Stolon

**Answer: A**



**Watch Video Solution**

201. Which one of the following plants is monoecious

- A. Cycas
- B. Pinus
- C. Date palm
- D. Marchantia

Answer: B



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202. The correct floral formula of soyabean is :-

- A.  $(1) \% \overset{\nearrow}{\phi} K_{(5)} C_1 + (2) + 2 A_{(9)+1} \underline{G}_1$
- B.  $(2) \% \overset{\nearrow}{\phi} K_{(5)} C_1 + 2 + (2) A_{(9)+1} \underline{G}_1$
- C.  $(3) \% \overset{\nearrow}{\phi} K_{(5)} C_1 + 2 + (2) A_{1+(9)} \underline{G}_1$

D.  $(4) \% \phi K_{(5)} C_1 + (2) + 2 A_{(9)+1} \bar{G}_1$

Answer: B



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203. Aestivation of petals in the flower of cotton is correctly shown in

(1)



A.

(2)



B.

(3)



C.

(4)

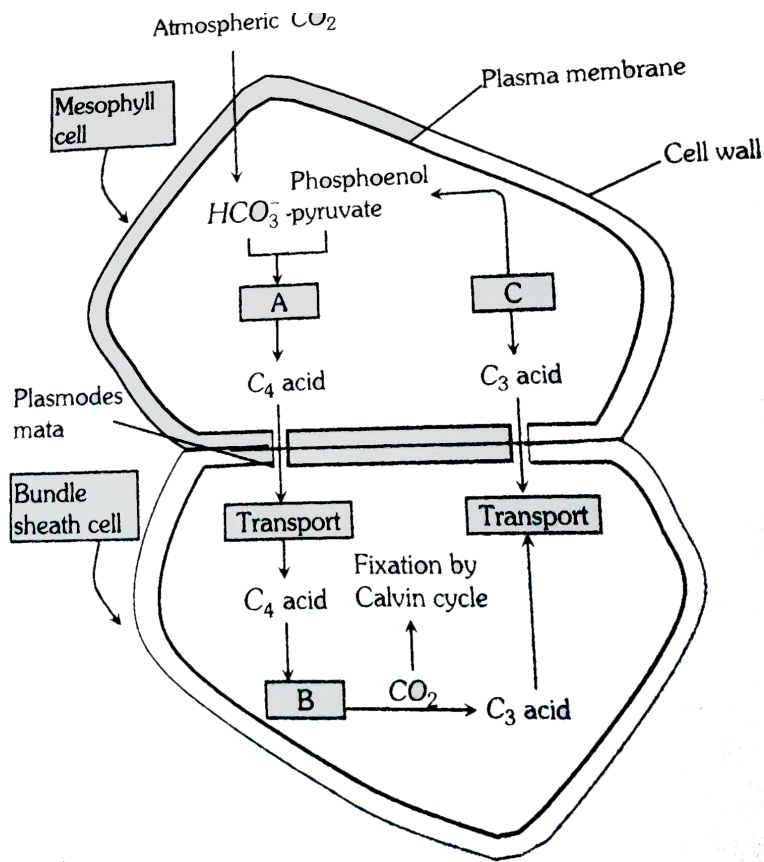


D.

Answer: C



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204. In which of the following option correct words for all the three blanks A, B

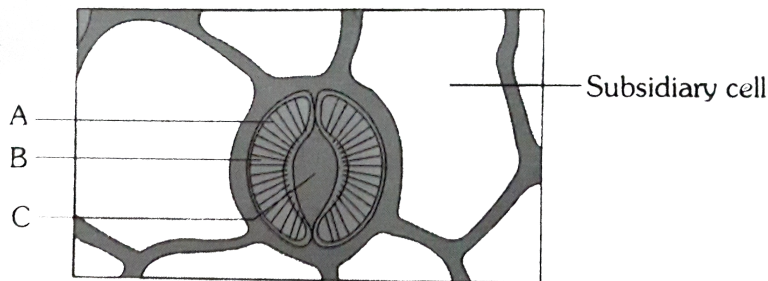
and C are indicated

	<b>A</b>	<b>B</b>	<b>C</b>
(a)	Decarboxylation	Reduction	Regeneration
(b)	Fixation	Transamination	Regeneration
(c)	Fixation	Decarboxylation	Regeneration
(d)	Carboxylation	Decarboxylation	Reduction



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**205.** Observe the diagram of stomatal apparatus. In which of the following all the three parts labelled as A, B and C are correctly identified



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**206.** Read the following four statement A,B,C and D and select the right option having both correct statements.

statements

(a) Z scheme of light reaction takes place in presence of PS I only .

(B ) Only PS I is functional in cyclic photosporylation

(c ) Cyclic photophosphorylation results into synthesis of ATP and  $NADPH_2$

(D ) Stroma lamllae lack PSII as welll as NADP

A. A and B

B. B and C

C. C and D

D. B and D

**Answer: D**



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**207.** One of the commonly used plant growth hormone in tea plantations is

- A. Absciscic acid
- B. Zeatin
- C. Indole - 3 - acetic acid
- D. Ethylene

**Answer: C**



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**208.** Root development is promoted by

- A. Auxin
- B. Gibberellin
- C. Ethylene
- D. Absciscic acid

**Answer: A**



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**209.** Which of the following representations shows the pyramid of numbers in a forest ecosystem?

A. A

B. B

C. C

D. D

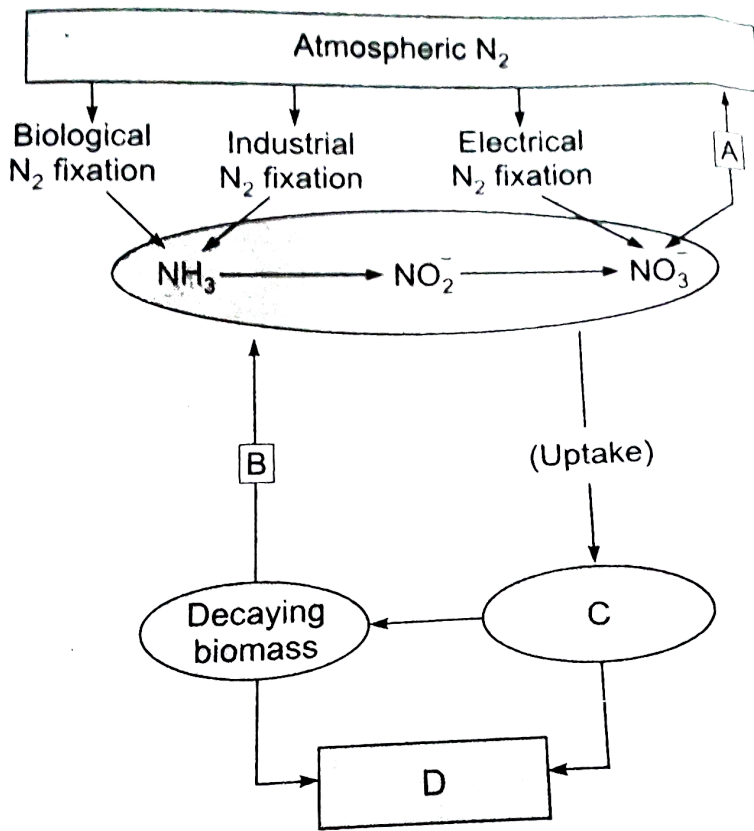
**Answer: B**



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**210.** Study the cycle shown in Fig. 12.7 and select the option which gives correct words for all the four blanks A, B, C, and D.





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**211.** Which one of the following is a xerophytic plant in which the stem is modified into the flat green and succulent structure

Or

Phylloclade is found in

A. Casurina

B. Hydrilla

C. Acacia

D. Opuntia

**Answer: D**



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**212.** An example of endomycorrhiza is

A. Glomus

B. Agaricus

C. Rhizobium

D. Nostoc

**Answer: A**



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**213.** Leguminous plants are able to fix atmospheric nitrogen through the process of symbiotic nitrogen fixation. Which one of the following statements is not correct for this process of nitrogen fixation ?

- A. Nodules act as sites for nitrogen fixation
- B. The enzyme nitrogenase catalyses the conversion of atmospheric  $N_2$  to  $NH_3$
- C. Nitrogen is insensitive to oxygen
- D. Leghaemoglobin scavenges oxygen and is pinkish in colour

**Answer: C**



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**214.** Black rust of wheat is caused by

- A. *Ustilago nuda*

B. *Puccinia graminis*

C. *Xanthomonas oryzae*

D. *Alternaria solani*

**Answer: B**



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**215. Which is used in gene cloning**

A. Lomasomes

B. Mesosomes

C. Plasmids

D. Nucleoids

**Answer: C**



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**216.** Which one of the following can not be used for preparation of vaccines against plague

- A. Avirulent live bacteria
- B. Synthetic capsular polysaccharide material
- C. Heat-killed suspensions of virulent bacteria
- D. Formalin-inactivated suspensions of virulent bacteria

**Answer: C**



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**217.** Which one of the following is now being commercially produced by biotechnological procedures -

- A. Morphine
- B. Quinine
- C. Insulin

D. Nicotine

**Answer: C**



**View Text Solution**

**218.** Crocodile and penguin are similar to whale and Dogfish in which one of the following features

- A. Lay eggs and guard them till they hatch
- B. Possess bony skeleton
- C. Have gill slits at some stage
- D. Possess a solid single stranded central nervous system

**Answer: C**



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**219.** Select the correct combination of the statement of the statement (A – D) regarding the characteristics of certain organisms

(A) Methanogens are Archaeobacteria which produce methane in marshy areas

(B) Nostoc is a filamentous blue-green algae which fixes atmospheric nitrogen

(C) Chemosynthetic autotrophic bacteria synthesize cellulose from glucose

(D) Mycoplasma lack a cell and can survive without oxygen

The correct statement are

A. (a), (b), (c )

B. (b), (c ), (d)

C. (a), (d), (d)

D. (b), (c )

**Answer: C**



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**220.** Identify the components labelled A, B, C and D in the diagram below from the list (i) to (vii) given along with

Components :

- (i) Cristae of mitochondria
- (ii) Inner membrane of mitochondria
- (iii) Cytoplasm
- (iv) Smooth endoplasmic reticulum
- (v) Rough endoplasmic
- (vi) Mitochondrial matrix
- (vii) Cell vacuole
- (viii) Nucleus



The correct components are



- A.    A    B    C    D  
      (i)   (iv)   (viii)   (vi)
- B.    A    B    C    D  
      (vi)   (v)   (iv)   (vii)

- |    |     |      |        |       |
|----|-----|------|--------|-------|
|    | A   | B    | C      | D     |
| C. | (v) | (i)  | (iii)  | (ii)  |
|    | A   | B    | C      | D     |
| D. | (v) | (iv) | (viii) | (iii) |

**Answer: D**



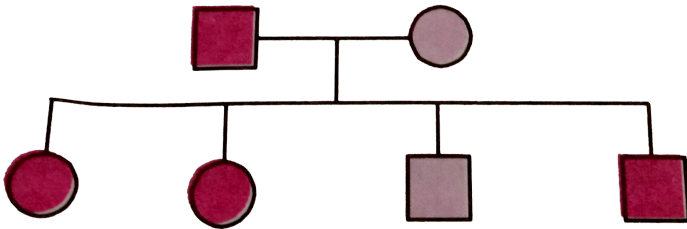
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**221.** Three of the following statements about enzymes are correct and one is wrong. Which one is wrong

- A. Enzymes are denatured at high temperature but in certain exceptional organisms they are effective even at temperatures  $80^{\circ} - 90^{\circ} C$
- B. Enzymes are highly specific
- C. Most enzymes are proteins but some are lipids
- D. Enzymes require optimum pH for maximal activity

**Answer: C**

222. Study the pedigree chart of certain family given here and select the correct conclusion



- A. The parents could not have had a normal daughter for this character
- B. The trait under study could not be colour- blindness
- C. The male parent is homozygous dominant
- D. The female parent is heterozygous

**Answer: D**

**223.** The most apparent change during the evolutionary history of Homo-sapients is traced in

- A. Walking upright
- B. Shortening of the jaws
- C. Remarkable increase in the brain size
- D. Loss of body hair

**Answer: C**



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**224.** Given below are four statements (A-D) each with one or two blanks.

Select the option which correctly fills up the blanks in two statements.

(A) Wings of butterfly and birds look alike and are the results of i evolution.

(B) Miller showed that  $CH_4$ ,  $H_2$ ,  $NH_3$  and i when exposed to electric discharge in a flask resulted in formation of ii

(C) Vermiform appendix is a i organ and an ii evidence of evolution.

(D) According to Darwin, evolution took place due to i and ii or the fittest.

A. (A) - (i) convergent, (B) - (ii) oxygen, (ii) nucleosides

B. (B) - (i) water vapour, (ii) amino acids, (C) - (i) rudimentary (ii) anatomical

C. (C) - (i) vestigial, (ii) anatomical, (D) - (i) mutations, (ii) multiplication

D. (D) - (i) small variations, (ii) survival, (A) - (i) convergent

**Answer: D**



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**225.** Fastest distribution of some injectible material / medicine and with no risk of any kind can be achieved by injecting it into the

A. arteries

B. veins

C. lymph vessels

D. muscles

**Answer: B**



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**226.** Select the answer with correct matching of the structure, its location and function

	<b>Structure</b>	<b>Location</b>	<b>Function</b>
(a)	Eustachian tube	Anterior part of internal ear	Equalizes air pressure on either sides of tympanic membrane
(b)	Cerebellum	Mid brain	Controls respiration and gastric secretions
(c)	Hypothalamus	Fore brain	Controls body temperature, urge for eating and drinking
(d)	Blind spot	Near the place where optic nerve leaves the eye	Rods and cones are present but inactive here



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**227.** ABO blood grouping is controlled by gene I which has three alleles and show co-dominance. There are six genotypes: How many phenotypes in all are responsible

- A. three
- B. four
- C. five
- D. six

**Answer: B**



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**228.** Which one of the following is correct description of a certain part of a normal human skeleton ?

- A. First vertebra is axis which articulates with the occipital condyles
- B. The 9th and 10th pairs of ribs are called the floating ribs

- C. Glenoid cavity is a depression to which the thigh bone articulates
- D. Parietal bone and the temporal bone of the skull are joined by fibrous joint

**Answer: D**



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**229.** In which of the following organisms, the excretory organs are correctly stated?

- A. Earthworm - Pharyngeal, integumentary and septal nephridia
- B. Cockroach - Malpighian tubules and entire caeca
- C. Frog - Kidneys, skin and buccal epithelium
- D. Humans - Kidney, sebaceous glands and fear glands

**Answer: A**



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**230.** Select the correct matching of hormone, its source and function.

<b>Hormone</b>	<b>Source</b>	<b>Function</b>
(A) Vasopressin	Posterior pituitary	Increases loss of water through urine
(B) Norepine- Phrine	Adrenal medulla	Increases heartbeat, alertness and respiration
(C) Glucagon	$\beta$ -cells of islet of Langerhans	Stimulates glycogenolysis
(D) Prolactin	Posterior pituitary	Regulates growth of mammary glands and milk formation in females



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**231.** Given below are four statements (A-D) regarding human blood circulatory system

- (A) Arteries are thick-walled and have narrow lumen as compared to veins
- (B) Angina is acute chest pain when the blood circulation to the brain is reduced
- (C) Persons with blood group AB can donate blood to any person with

any blood group under ABO system

(D) Calcium ions play a very important role in blood clotting

A. (a) and (b)

B. (b) and (c )

C. (c ) and (d)

D. (a) and (d)

**Answer: D**



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**232.** Which one of the following statement about the particular entity is true ?

A. The gene for producing insulin is present in every body cell

B. Nucleosome is formed of nucleotides

C. DNA consists of a core of eight histones

D. Centromere is found in animals cells, which produces aster during cell division

**Answer: A**



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**233.** Which one of the following pairs of structures is correctly matched with their correct description



**Watch Video Solution**

**234.** If the some reason the parietal cells of the gut epithelium become partially non-functional, what is likely to happen

A. The pH of stomach will fall abruptly

B. Steapsin will be more effective

- C. Proteins will not be adequately hydrolysed by pepsin into proteoses and peptones
- D. The pancreatic enzymes and specially the trypsin and lipase will not work efficiently

**Answer: C**



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**235.** In human female the blastocyst:

- A. gets implanted into uterus 3 days after ovulation
- B. gets nutrition from uterine endometrial secretion only after implanatation
- C. gets implanted in endometrium by the trophoblast cells
- D. forms placenta even before implantation

**Answer: C**



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**236.** Secretions from which one of the following are rich in fructose, calcium and some enzymes?

- A. Liver
- B. Pancreas
- C. Salivary glands
- D. Male accessory glands

**Answer: D**



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**237.** When domestic sewage mixes with river water

- A. The increased microbial activity releases micro-nutrients such as iron

- B. The increased microbial activity uses up dissolved oxygen
- C. The river water is still suitable for drinking as impurities are only about 0.1%
- D. Small animals like rats will die after drinking river water

**Answer: B**



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**238.** Which one of the following is most appropriately defined?

- A. Amensalism is a relationship in which one species is benefited where as the other is unaffected
- B. Predator is an organism that catches and kills other organism for food.
- C. Parasite is an organism which always lives inside the body of other organism and may kill it.

D. Host is an organism which provides food to another organism.

**Answer: B**



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**239.** Jaundice is a disorder of :

A. Skin and eyes

B. Digestive system

C. Circulatory system

D. Excretory system

**Answer: B**



**Watch Video Solution**

**240.** A person suffering from a disease caused by Plasmodium, experiences recurring chill and fever at the time when

- A. the trophozoites reach maximum growth and give out certain toxins
- B. the parasite after its rapid multiplication inside RBCs ruptures them, releasing the stage to enter fresh RBCs.
- C. the microgametocytes and megagametocytes are being destroyed by the WBCs.
- D. the sporozoites released from RBCs are being rapidly killed and broken down inside spleen

**Answer: B**



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**241.** Which one of the following techniques is safest for the detection of cancers ?

- A. Radiography (X-ray)
- B. Computed tomography (CT)
- C. Histopathological studies
- D. Magnetic resonance imaging (MRI)

**Answer: D**



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**242.** The 3'-5' phosphodiester linkages inside a polynucleotide chain serve to join -

- A. One nucleoside with another nucleoside
- B. One nucleotide with another nucleotide
- C. One nitrogenous base with pentose sugar

D. One DNA strand with the other DNA strand

**Answer: B**



**Watch Video Solution**

**243.** In genetic engineering, a DNA segment (gene) of interest, is translated to the host cell through a vector. Consider the following four agents (A-D) in this regard and select the correct option about which one or more of these can be used as a vector/vectors

Statement

(A) A bacterium (B) Plasmid

(C) Plasmodium (D) Bacteriophage

A. (A) only

B. (A) and (C) only

C. (B) and (D) only

D. (A), (B) and (D) only

**Answer: C**



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**244.** The fruit fly *Drosophila melanogaster* was found to be very suitable for experimental verification of chromosomal theory on inheritance by Morgan and his colleagues because

- A. a single mating produces two young flies
- B. smaller female is easily recognisable from large male
- C. it completes life cycle in about two weeks
- D. it reproduces parthenogenetically

**Answer: C**



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**245.** Signals from the fully developed foetus and placenta ultimately lead to parturition which requires the release of

- A. Oxytocin from maternal pituitary
- B. Oxytocin from foetal pituitary
- C. Relaxin from placenta
- D. Estrogen from placenta

**Answer: A**



**Watch Video Solution**

**246.** The Indian rhinoceros is a natural inhabitant of which one of the Indian states ?

- A. Uttar Pradesh
- B. Himachal Pradesh
- C. Assam

D. Uttarakhand

**Answer: C**



**Watch Video Solution**

**247.** The haemoglobin content per 100 ml of blood of normal healthy human adult is

A. 25-30 g

B. 17-20 g

C. 12-16 g

D. 5 – 11

**Answer: C**



**Watch Video Solution**

**248.** Read statements  $a - d$ .

- (a) In transcription, adenosine pairs with uracil
- (b) Regulation of lac operon by repressor is positive regulation
- (c) Human genome has approximate 50,000 genes
- (d) Haemophilia is sex-linked recessive disease

How many of above statement are correct ?

- A. Three
- B. Four
- C. One
- D. Two

**Answer: D**



**Watch Video Solution**

**249.** How many organism in the list given below are autotrophs  
Lactobacillus, Nostoc, Chara, Nitrosomonas, Nitrobacter, Streptomyces,

Sacharomyces, Trypanosoma, Porphyra, Wolfia

- A. Five
- B. Six
- C. Three
- D. Four

**Answer: B**



**Watch Video Solution**

**250.** How many plants in the list given below have marginal placentation :

Mustard, Gram, Tulip, Asparagus, Arhar, Sun hemp, Chilli, Chochicine, onion, Moong, Pea, Tobacco, Lupin

- A. Five
- B. Six
- C. Three

D. Four

**Answer: B**



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**251.** as compared to a dicot root, a monocot root has

- A. Many xylem bundles
- B. Inconspicuous annual rings
- C. Relatively thicker periderm
- D. More abundant secondary xylem

**Answer: A**



**Watch Video Solution**

**252.** A test cross is carried out:



- A. Predict whether two traits are linked
- B. Assess the number of alleles of a gene
- C. Determine whether two species or varieties will breed successfully
- D. Determine the genotype of a plant at  $F_2$

**Answer: D**



**Watch Video Solution**

**253.** Which one of the following categories of animals, is correctly described with no single exception in it ?

- A. All bony fishes have four pairs of gills and an operculum on each side
- B. All sponges are marine and have collared cells
- C. All mammals are viviparous and possess diaphragm for breathing

D. All reptiles possess scales, have a three chambered heart and are cold blood (poikilothermal)

**Answer: A**



**Watch Video Solution**

**254.** The rate of formation of new organic matter by rabbit in a grassland, is called.

- A. Secondary productivity
- B. Net primary productivity
- C. Gross primary productivity
- D. Net productivity

**Answer: A**



**Watch Video Solution**

**255.** In genetic engineering, the antibiotics are used

- A. To select healthy vectors
- B. As sequences from where replication starts
- C. To keep the cultures free of infection
- D. As selectable markers

**Answer: D**



**Watch Video Solution**

**256.** The secretory phase in the human menstrual cycle is also called:

- A. Follicular phase lasting for about 6 days
- B. Luteal phase and lasts for about 13 days
- C. Follicular phase and lasts for about 13 days
- D. Luteal phase and lasts for about 6 days

**Answer: B**



**Watch Video Solution**

**257.** In gobar gas, the maximum amount is that of

- A. Methane
- B. Propane
- C. Carbon dioxide
- D. Butane

**Answer: A**



**Watch Video Solution**

**258.** Through their effect on plant growth regulators, what do the temperature and light control in the plants

- A. Flowering
- B. Closure of stomata
- C. Fruit elongation
- D. Apical dominance

**Answer: A**



**Watch Video Solution**

**259.** Which one of the following is the main graveyard of RBC : —

- A. Kidney
- B. Spleen
- C. Liver
- D. Gall bladder

**Answer: B**



**Watch Video Solution**

**260.** Which one of the following pairs of animals are similar to each other pertaining to the feature stated against them

- A. Garden lizard and Crocodile - Three chambered heart
- B. Ascaris and Ancylostoma - Metameric segmentation
- C. Sea horse and Flying fish - Cold blooded (poikilothermal)
- D. Pteropus and Ornithorhyncus - Viviparity

**Answer: C**



**Watch Video Solution**

**261.** The idea of mutations was brought forth by

- A. Gregor Mendol, who worked on Pisum sativum
- B. Hardy Weinberg, who worked on allele frequencies in a population

- C. Charles Darwin, who observed a wide variety of organisms during sea voyage
- D. Hugo do Vries, who worked on evening primrose

**Answer: D**



**Watch Video Solution**

**262.** Select the correct statement about biodiversity

- A. Large scale planting of Bt cotton has no adverse effect on biodiversity
- B. Western Ghats have a very high degree of species richness and endemism
- C. Conservation of biodiversity is just a fad pursued by the developed countries

D. The desert areas of Rajasthan and Gujarat have a very high level of desert animal species as well as numerous rare animals

**Answer: B**



**Watch Video Solution**

**263.** Plants with ovaries having only one ore a few ovules are generally pollinated by

A. Butterflies

B. Birds

C. Wind

D. Bees

**Answer: C**



**Watch Video Solution**



**264.** Consider the following four statement (1-4) and select the option which includes all the correct ones only

- (1) Single cell *Spirulina* can produce large quantities of food rich in protein, minerals, vitamins etc
- (2) Body weight-wise the microorganism *Methylophilus methylotrophus* may be able to produce several times more proteins than the cows pe day
- (3) Common button mushrooms are a very rich source of vitamin C
- (4) A rich variety has been developed which is very rich in calcium

A. Statements (a), (c) and (d)

B. Statements (b), (c) and (d)

C. Statements (a), (b)

D. Statements (c), (d)

**Answer: C**



**Watch Video Solution**

**265.** Which one of the following biomolecules is correctly characterised

- A. Palmitic acid - an unsaturated fatty acid with 18 carbon atoms
- B. Adenylic acid - adenosine with a glucose phosphate molecule
- C. Alanine amino acid - Contains an amino group and an acidic group anywhere in the molecule
- D. Lecithin - a phosphorylated glyceride found in cell membrane

**Answer: D**



**Watch Video Solution**

**266.** For its action, nitrogenase requires

- A. Light
- B.  $Mn^{2+}$
- C. Super oxygen radicals

D. High input of energy

**Answer: D**



**Watch Video Solution**

**267.** Tobacco plants resistant to a nematode have been developed by the introduction of DNA that produced (in the host cells):

- A. A particular hormone
- B. An antifeedant
- C. A toxic protein
- D. Both sense and anti-sense RNA

**Answer: D**



**Watch Video Solution**

**268.** Where do certain symbiotic microorganisms normally occur in human body

- A. Oral lining and tongue surface
- B. Vermiform appendix and rectum
- C. Duodenum
- D. Caecum

**Answer: D**



**Watch Video Solution**

**269.** Identify the meiotic stage in which the homologous chromosomes separate while the sister chromatids remain associated at their centromeres. Or In which stage of meiosis homologous chromosomes are segregated

- A. Metaphase-II

B. Anaphase-I

C. Anaphase-II

D. Metaphase-I

**Answer: B**



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**270.** Which one of the following cellular parts is correctly described

A. Centrioles - sites for active RNA synthesis

B. Ribosomes - those on chloroplasts are larger (80s) while those in the cytoplasm are smaller (70s)

C. Lysosomes - optimally active at a pH of about 8.5

D. Thylakoids - flattened membranous sacs forming the grana of chloroplasts

**Answer: D**



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**271.** Cuscuta is an example of

- A. Brood parasitism
- B. Predation
- C. Endoparasitism
- D. Ectoparasitism

**Answer: D**



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**272.** Supportive skeletal structures in the human external ears and nose tip are of

- A. Areolar tissue
- B. Bone

C. Cartilage

D. Ligament

**Answer: C**



**Watch Video Solution**

**273.** Read the following five statements (A-E) and answer as asked next to them

(A) In Equisetum the female gametophyte is retained on the parent sporophyte

(A) In Equisetum the female gametophyte is retained on the parent sporophyte

(B) In ginkgo male gametophyte is not independent

(C) Sexual reproduction in Volvox is isogamous

(E) The spores of slime moulds lack cell walls

How many of the above statements are correct

A. Three

B. Four

C. One

D. Two

**Answer: C**



**Watch Video Solution**

**274.** The figure below shows three steps (A, B, C) of Polymerase Chain Reaction (PCR). Select the option giving correct identification together with what it represents ?



A. A - Denaturation at a temperature of about  $50^{\circ}C$

B. C - Extension in the presence of heat stable DNA polymerase

C. A - Annealing with two sets of primers

D. B - Denaturation at a temperature of about  $98^{\circ}C$  separating the two DNA strands



**Answer: B**



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**275.** Identify the likely organisms (a), (b), (c) and (d) in the food web shown below :



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**276.** Which one of the following pairs of chemical substances, is correctly categorised ?

- A. Pepsin and prolactin - Two digestive enzymes secreted in stomach
- B. Troponin and myosin - Complex proteins in striated muscles
- C. Secretin and rhodopsin - Polypeptide hormones
- D. Calcitonin and thymosin - Thyroid hormones

**Answer: B**



**Watch Video Solution**

**277.** Vernalization stimulates flowering in

A. Turmeric

B. Carrot

C. Ginger

D. Zamikand Ans

**Answer: B**



**Watch Video Solution**

**278.** Green revolution in India occurred during

A. 1970's

B. 1980's

C. 1950's

D. 1960's

**Answer: D**



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**279.** A fall in glomerular filtration rate (GFR) activates

A. Adrenal cortex to release aldosterone

B. Adrenal medulla to release adrenaline

C. Posterior pituitary to release vasopressin

D. Juxta glomerular cells to release renin

**Answer: D**



**Watch Video Solution**

**280.** What is the function of germ pore

- A. Absorption of water for seed germination
- B. Initiation of pollen tube
- C. Release of male gametes
- D. Emergence of radicle

**Answer: B**



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**281.** Which one of the following option gives the correct categorization of six animals according to the type of nitrogenous wastes (A, B, C,), they give out ?



**View Text Solution**

**282.** Which one of the following sets of items in the option 1 – 4 are correctly categorized with one exception in it ?



**View Text Solution**

**283.** Which one of the following generally acts as an antagonist to gibberellins

A. Ethylene

B. ABA

C. IAA

D. Zeatin

**Answer: B**



**Watch Video Solution**

**284.** Which one of the following organisms is scientifically correctly named. Corretly printed according to the International Rules, of Nomenclature, and correctly described

- A. Plasmodium falciparum – a protozoan pathogen causing the most serious type of malaria
- B. Felis tigris – The Indian tiger, well protected in Gir forests.
- C. E.Coli – Full name Entamoeba coli, a commonly occurring bacterium in human intestine
- D. Musca domestica – The common house lizards, a reptile

**Answer: A**



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**285.** Read the following four statements (A-D)

(a) Colostrum is recommended for the new born because it is rich in

antigens

- (b) Chikengunya is caused by a Gram negative bacterium
- (c) Tissue culture has proved useful in obtaining virus-free plants
- (d) Beer is manufactured by distillation of fermented grape juice

How many of the above Statements are wrong

- A. Three
- B. Four
- C. One
- D. Two

**Answer: A**



**Watch Video Solution**

**286.** Which one of the following organisms is correctly matched with its three characteristics

- A. Tomato : Twisted aestivation, Axile placentation, Berry

B. Onion : Bulb, Imbricate aestivation, Axile placentation

C. Maize :  $C_3$  pathway, Closed vascular bundles, Scutellum

D. Pea :  $C_3$  pathway, Endospermic seed, Vaxillary aestivation

**Answer: B**



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**287.** The second stage of hydrosere is occupied by plants like

A. Typha

B. Salix

C. Vallisneria

D. Azolla

**Answer: C**



**Watch Video Solution**



**288.** Which one of the following statements is correct with respect of immunity ?

- A. The antibodies against small pox pathogen are produced by T-lymphocytes
- B. Antibodies are protein molecules each of which has four light chains
- C. Rejection of a kidney graft is the function of B-lymphocytes
- D. Preformed antibodies need to be injected to treat the bite by a viper snake

**Answer: D**



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**289.** Which one of the following represents a palindromic sequence in DNA ?

A. 5'-CCAATG-3'

3'-GAATCC-5'

B. 5'-CATTAG-3'

3'-GATAAC-5'

C. 5'-GATACC-3'

3'-CCTAAG-5'

D. 5'-GAATTC-3'

3'-CTTAAG-5'

**Answer: D**



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**290.** For its activity, carboxypeptidase requires

A. Iron

B. Niacin

C. Copper

D. Zinc

**Answer: D**



**Watch Video Solution**

**291.** Given below is the diagrammatic sketch of a certain type of connective tissue. identify the parts labeled A, B, C and D and select the right option about them



- |    | Part-A     | Part-B          | Part-C          | Part-D          |
|----|------------|-----------------|-----------------|-----------------|
| A. | Mast cell  | Marcophage      | Fibroblast      | Collagen fibers |
| B. | Part-A     | Part-B          | Part-C          | Part-D          |
|    | Marcophage | Collagen fibers | Fibroblast      | Mast cell       |
| C. | Part-A     | Part-B          | Part-C          | Part-D          |
|    | Mast cell  | Collagen fibers | Fibroblast      | Mast cell       |
| D. | Part-A     | Part-B          | Part-C          | Part-D          |
|    | Macrophage | Fibroblast      | Collagen fibres | Mast cell       |

**Answer: D**



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**292.** In the five - kingdom classification Chlamydomonas and Chlorella have been included in

- A. Algae
- B. Plantae
- C. Monera
- D. Protista

**Answer: D**



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**293.** Read the following four statements (A-D)

- (A) Both, photophosphorylation and oxidative phosphorylation involve uphill transport of protons across the membrane
- (B) In dicot stems, a new cambium originates from the cells of pericycle at

trhe time of secondary growth

(C ) Stamens in flowers of Gloriosa and Petunia are polyandrous

Symbiotic nitrogen-fixers occur in the free-living state also in soil

How many of the above statements are right

A. Three

B. Four

C. One

D. Two

**Answer: D**



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**294.** The domestic sewage in large cities

A. is processed by aerobic and then anaerobic bacteria in the  
secondary treatment in Sewage Treatment Plant (STPs)

- B. When treated in STPs does not really require the aeration step as the sewage contains adequate oxygen
- C. has very high amounts of suspended solids and dissolved salts
- D. has a high BOD as it contains both aerobic and anaerobic bacteria.

**Answer: A**



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**295.** Which one of the following pairs is wrongly matched

- A. Salvinia - Prothallus
- B. Viroids – RNA
- C. Mustard-Synergids
- D. Ginkgo-Archegonia

**Answer: A**



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**296.** What is it that forms the basis of DNA Fingerprinting

- A. The relative difference in the DNA occurrence in blood, skin and saliva
- B. The relative amount of DNA in the ridges and grooves of the fingerprints
- C. Satellite DNA occurring as highly repeated short DNA segments
- D. The relative proportions of purines and pyrimidines in DNA

**Answer: C**



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**297.** What is common between humans and adult Frog

- A. Internal fertilization

- B. Nucleated RBCs
- C. Ureotelic mode of excretion
- D. Four – chambered heart

**Answer: C**



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**298.** Represented below is the inheritance pattern of the certain type of traits in humans. Which one of the following conditions could be an example of this pattern ?



- A. Sickel cell anaemia
- B. Haemophilia
- C. Thalassemia
- D. Phenylketonuria



Answer: B



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299. The four sketches (A, B, C and D) given below, represent four different types of animal tissues. Which one of these is correctly identified in the options given, along with its correct location and function ?



A.

	Tissue	Location	Function
(C)	Collagen fibres	Cartilage	Attach skeletal muscles to bones

B.

	Tissue	Location	Function
(D)	Smooth muscle tissue	Heart	Heart contraction

C.

	Tissue	Location	Function
(A)	Columnar epithelium	Nephron	secretion and absorption

D.

	Tissue	Location	Function
(B)	Glandular epithelium	Intestine	secretion

Answer: D



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**300.** Which one of the following structures is an organelle within an organelle

" " Or

Which of the following cell organelle lacks DNA and bounding membrane

- A. Peroxisome
- B. ER
- C. Mesosome
- D. Ribosome

**Answer: D**



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**301.** The first clinical gene therapy was given for treating :

- A. Chicken pox
- B. Rheumatoid arthritis

C. Adenosine deaminase deficiency

D. Diabetes mellitus

**Answer: C**



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**302.** Sacred groves are specially useful in

A. preventing soil erosion

B. year-round flow of water in rivers

C. conserving rare and threatened species

D. generating environmental awareness

**Answer: C**



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**303.** Which one of the following is a wrong statement regarding mutations

- A. Cancer cells commonly show chromosomal aberrations
- B. UV and Gamma rays are mutagens
- C. Change in a single base pair of DNA does not cause mutation
- D. Deletion and insertion of base pairs cause frame-shift mutations

**Answer: C**



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**304.** Biolistics (gene-gun) is suitable for

- A. Transformation of plant cells
- B. Constructing recombinant DNA by joining with vectors
- C. DNA finger printing
- D. Disarming pathogen vectors

**Answer: A**



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**305.** Which one of the following statements is wrong

- A. Vegetative cell is larger than generative cell
- B. Pollen grains in some plants remain viable for months
- C. Intine is made up of cellulose and pectin
- D. When pollen is shed at two-celled stage, double fertilization does not take place

**Answer: D**



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**306.** Identify the human development stage shown below as well as the related right place of its occurrence in a normal pregnant women and

select the right option for the two together -



- |    |                     |                                  |
|----|---------------------|----------------------------------|
| A. | Developmental stage | Site of occurrence               |
|    | Blastula            | End part of Fallopian tube       |
| B. | Developmental stage | Site of occurrence               |
|    | Blastocyst          | Uterine well                     |
| C. | Developmental stage | Site of occurrence               |
|    | 8-celled morula     | Starting point of Fallopian tube |
| D. | Developmental stage | Site of occurrence               |
|    | Late morula         | Middle part of Fallopian tube    |

**Answer: B**



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## Exercise

1. Oxygen is not produced during photosynthesis by

- A. Cycas
- B. Nostoc

C. Green sulphur bacteria

D. Chara

**Answer: C**



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2. Double fertilisation is

A. fusion of two male gametes with one egg

B. fusion of one male gamete with two polar nuclei

C. fusion of two male gametes of pollen tube with two different eggs

D. syngamy and triple fusion

**Answer: D**



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3. Which one of the following plants shows a very close relationship with a species of moth, where none of the two can complete its life cycle without the other

A. Banana

B. Yucca

C. Hydrilla

D. Viola

**Answer: B**



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4. Pollen grains can be stored for several years in liquid nitrogen having a temperature of

A.  $-196^{\circ}C$

B.  $-80^{\circ}C$



C.  $-120^{\circ}C$

D.  $-160^{\circ}C$

**Answer: A**



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5. Which of the following elements is responsible for maintaining turgor in cells

A. Potassium

B. Sodium

C. Magnesium

D. Calcium

**Answer: A**



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6. What is the role of  $NAD^+$  in cellular respiration ?

- A. It is a nucleotide source of ATP synthesis
- B. It functions as an electron carrier
- C. It functions as an enzyme
- D. It is the final electron acceptor for anaerobic respiration

**Answer: B**



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7. In which of the following forms is iron absorbed by plants

- A. Free element
- B. Ferrous
- C. Ferric
- D. Both ferric acid and ferrous

**Answer: C**



**Watch Video Solution**

**8.** Which of the following is commonly used as a vector for introducing a DNA fragment in human lymphocytes ?

- A.  $\lambda$  phage
- B. Ti-plasmid
- C. Retrovirus
- D. pBR 322

**Answer: C**



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**9.** Use of bioresources by multinational companies and organisations with out authorisation from the concerned country and its people is

called

- A. biodegradation
- B. biopiracy
- C. bio-infringement
- D. bioexploitation

**Answer: B**



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**10.** In India , the organisation responsible for assessing the safety of introducing genetically modified organisation for public use is

- A. Research Committee on Genetic Manipulation (RCGM)
- B. Council for Scientific and Industrial Research (CSIR)
- C. Indian Council of Medical Research (ICMR)
- D. Genetic Engineering Appraisal Committee (GEAC)

**Answer: D**



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**11.** The correct order of steps in Polymerase Chain Reaction (PCR) is

- A. Denaturation , Extension , Annealing
- B. Annealing , Extension , Denaturation
- C. Extension , Denaturation , Annealing
- D. Denaturation , Annealing , Extension

**Answer: D**



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**12.** Select the correct match

- A. TH Morgan - Transduction

B.  $F_2 \times$  Recessive parent - Dihybrid cross

C. Ribozymes - Nucleic acid

D. G. Mendel - Transformation

**Answer: C**



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**13.** A 'new variety of rice was patented by a foreign company though such varieties have been present in India for a long time. This is related to

A. Lerma Rojo

B. Sharbati Sonora

C. Co-667

D. Basmati

**Answer: D**



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14. Which one of the following pairs is wrongly matched ?

- A. XO type sex-determination - Grasshopper
- B. ABO blood grouping - Codominance
- C. Strach synthesis in pea - Multiple alleles
- D. TH Morgan - Linkage

**Answer: C**



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15. Select the correct statement

- A. Spliceosomes take part in translation
- B. Punnett square was developed by a British scientist
- C. Franklin Stahl coined the term 'linkage'
- D. Transduction was discovered by S. Altman

**Answer: B**



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**16.** The experimental proof for semiconservative replication of DNA was first shown in a

- A. plant
- B. bacterium
- C. fungus
- D. virus

**Answer: B**



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**17.** Which of the following organisms breeds only once in lifetime ?



- A. Mango
- B. Jackfruit
- C. Bamboo species
- D. Papaya

**Answer: C**



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**18. Offsets are produced by**

- A. parthenocarpy
- B. mitotic divisions
- C. meiotic divisions
- D. parthenogenesis

**Answer: B**



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19. Select the correct match.

- A. (a) Matthew Meselson and : *Pisum sativum* F. Stahl
- B. (b) Alfred Hershey and : *TMV* Martha Chase
- C. (c) Alec Jeffreys : *Streptococcus pneumoniae*
- D. (d) Francois Jacob and Jacques Monod : Lac operon

**Answer: D**



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20. Which of the following has proved helpful in preserving pollen of fossils

- A. Oil content
- B. Cellulosic intine
- C. Pollen kit

D. Sporopollenin

**Answer: D**



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**21. Natality refers to**

A. number of individuals leaving the habitat

B. birth rate

C. death rate

D. number of individuals entering a habitat

**Answer: B**



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**22. World Ozone Day is celebrated on**

A. 16th September

B. 21st April

C. 5th June

D. 22nd April

**Answer: A**



**Watch Video Solution**

**23.** Which of the following is a secondary pollutant ?

A.  $SO_2$

B.  $CO_2$

C.  $CO$

D.  $O_3$

**Answer: D**



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**24. Niche is**

- A. the range of temperature that the organism needs to live
- B. the physical space where an organism lives
- C. all the biological factors in the organism's environment
- D. the functional role played by an organism where it lives

**Answer: D**



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**25. What type of ecological pyramid would be obtained with the following data ?**

Secondary consumer : 120 g

Primary consumer : 60 g

Primary producer : 10 g

A. Upright pyramid of numbers

B. Pyramid of energy

C. Inverted pyramid of biomass

D. Upright pyramid of biomass

**Answer: C**



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**26.** In stratosphere , which one of the following elements acts as a catalyst in degradation of ozone and release of molecular oxygen ?

A. Fe

B. Cl

C. Carbon

D. Oxygen

**Answer: B**



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**27.** The two functional groups characteristic of sugars are

- A. Carbonyl and phosphate
- B. Carbonyl and methyl
- C. Hydroxyl and methyl
- D. Carbonyl and hydroxyl

**Answer: D**



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**28.** Which among the following is not a prokaryote

- A. Nostoc
- B. Mycobacterium
- C. Saccharomyces

D. Oscillatoria

**Answer: A**



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**29.** The Golgi complex participates in

- A. respiration in bacteria
- B. formation of secretory vesicles
- C. fatty acid breakdown
- D. activation of amino acid

**Answer: B**



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30. Which of the following is not a product of light reaction of photosynthesis

A. NADPH

B. NADH

C. ATP

D. Oxygen

**Answer: B**



**Watch Video Solution**

31. Which of the following is true for nucleolus ?

A. It takes part in spindle formation

B. It is a membrane-bound structure

C. Larger nucleoli are present in dividing cells

D. It is a site for active ribosomal RNA synthesis

**Answer: D**



**Watch Video Solution**

**32.** Stomatal movement is not affected by

A.  $O_2$  concentration

B. Light

C. Temperature

D.  $CO_2$  concentration

**Answer: A**



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**33.** The stage during which separation of the paired homologous chromosomes begin is

A. diakinesis

B. diplotene

C. pachytene

D. zygotene

**Answer: B**



**Watch Video Solution**

**34. Stomata in grass leaf are**

A. rectangular

B. kidney-shaped

C. dumb-bell-shaped

D. barrel-shaped

**Answer: C**



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**35.** Secondary xylem and phloem in dicot stem are produced by

- A. phellogen
- B. vascular cambium
- C. apical meristems
- D. axillary meristems

**Answer: B**



**Watch Video Solution**

**36.** Pneumatophores occur in

- A. carnivorous plants
- B. free-floating hydrophytes
- C. halophytes

D. submerged hydrophytes



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**37.** Casparian strips are present in the \_\_\_\_\_ of the root

A. cortex

B. pericycle

C. epidermis

D. endodermis

**Answer: D**



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**38.** Plants having little or no secondary growth are

- A. conifers
- B. deciduous angiosperms
- C. grasses
- D. cycads

**Answer: C**



**Watch Video Solution**

**39. Sweet potato is a modified**

- A. tap root
- B. adventitious root
- C. stem
- D. rhizome

**Answer: B**



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**40.** Which one of the following statements is correct ?

- A. Horsetails are gymnosperms
- B. Selaginella is heterosporous, while Salvinia is homosporous
- C. Ovules are not enclosed by ovary wall in gymnosperms
- D. Stems are usually unbranched in both Cycas and Cedrus.

**Answer: C**



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**41.** Select the wrong statement.

- A. Pseudopodia are locomotory and feeding structures in sporozoans
- B. Mushrooms belong to Basidiomycetes
- C. Cell wall is present in members of Fungi and Plantae

D. Mitochondria are the powerhouse of the cell in all kingdoms except

Monera

**Answer: A**



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42. After karyogamy followed by meiosis, spores are produced exogenously in

A. Agaricus

B. Alternaria

C. Neurospora

D. Saccharomyces

**Answer: A**



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43. Match the items given in Column I with those in Column II and select the correct option given below

Column-I	Column-II
1. Herbarium	i. It is a place having a collection of preserved plants and animals.
2. Key	ii. A list that enumerates methodically all the species found in an area with brief description aiding identification.
3. Museum	iii. It is a place where dried and pressed plant specimens mounted on sheets are kept.
4. Catalogue	iv. A booklet containing a list of characters and their alternates which are helpful in identification of various taxa.

- A. 1 2 3 4  
ii iv iii i
- B. 1 2 3 4  
iii ii i iv
- C. 1 2 3 4  
i iv iii ii
- D. 1 2 3 4  
iii iv i ii

**Answer: D**



**Watch Video Solution**

**44.** Winged pollen grains are present in

A. Mango

B. Cycas

C. Mustard

D. Pinus

**Answer: D**



**Watch Video Solution**

**45.** Which one is wrongly matched

A. Gemma cups - Marchantia

B. Biflagellate zoospores - Brown algae

C. Uniflagellate gametes - Polysiphonia

D. Unicellular organism - Chlorella

**Answer: C**



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**46.** Which of the following options correctly represents the lung conditions in asthma and emphysema, respectively

A. Increased respiratory surface , Inflammation of bronchioles

B. Increased number of bronchioles , Increased respiratory surface

C. Inflammation of bronchioles , Decreased respiratory surface

D. Decreased respiratory surface , Inflammation of bronchioles

**Answer: C**



**Watch Video Solution**

47. Match the items given in Column I with those in Column II and select the correct option given below

Column I	Column II
1. Tricuspid valve	i. Between left atrium and left ventricle
2. Bicuspid valve	ii. Between right ventricle and pulmonary artery
3. Semilunar valve	iii. Between right atrium and right ventricle

- A. 1 2 3  
i ii iii
- B. 1 2 3  
i iii ii
- C. 1 2 3  
iii i ii
- D. 1 2 3  
ii i iii

Answer: C



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**48.** Match the items given in Column I with those in Column II and select the correct option given below

Column I	Column II
1. Tidal volume	i. 2500–3000 mL
2. Inspiratory reserve volume	ii. 1100–1200 mL
3. Expiratory reserve volume	iii. 500–550 mL
4. Residual volume	iv. 1000–1100 mL

A. 1 2 3 4  
i iv ii iii

B. 1 2 3 4  
iii i iv ii

C. 1 2 3 4  
iii ii i iv

D. 1 2 3 4  
iv iii ii i



**View Text Solution**

**49.** The transparent lens in the human eye is held in its place by

- A. smooth muscles attached to the iris
- B. ligaments attached to the iris
- C. ligaments attached to the ciliary body
- D. smooth muscles attached to the ciliary body

**Answer: D**



**Watch Video Solution**

**50. Which of the following is an amino acid derived hormone ?**

- A. Estradiol
- B. Ecdysone
- C. Epinephrine
- D. Estriol

**Answer: C**



**Watch Video Solution**

51. Which of the following hormones can play a significant role in osteoporosis

- A. Estrogen and parathyroid hormone
- B. Progesterone and aldosterone
- C. Aldosterone and prolactin
- D. Parathyroid hormone and prolactin



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52. Which of the following structures or region is incorrectly paired with its function ?

A.

(a) Hypothalamus    Production of releasing hormones and regulation

B.

(b) Limbic system Consists of fibre tracts that interconnect different

C.

(c) Medulla oblongata Controls respiration and cardiovascular reflexes

D.

(d) Corpus callosum Band of fibres connecting left and right cerebral hemispheres

**Answer: B**



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**53.** The amnion of mammalian embryo is derived from

A. mesoderm and trophoblast

B. endoderm and mesoderm

C. ectoderm and mesoderm

D. ectoderm and endoderm



**Answer: C**



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**54.** Hormones secreted by the placenta to maintain pregnancy are

- A. hCG , hPL , progestogens , estrogens
- B. hCG , hPL , estrogens , relaxin , oxytocin
- C. hCG , hPL , progestogens , prolactin
- D. hCG , progestogens , estrogens , glucocorticoids

**Answer: A**



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**55.** The difference between spermiogenesis and spermiation is

A. In spermiogenesis , spermatozoa from Sertoli cells are released into the cavity of seminiferous tubules , while in spermiation spermatozoa are formed

B. In spermiogenesis , spermatozoa are formed , while in spermiation spermatids are formed

C. In spermiogenesis , spermatids are formed while in spermiation spermatids are formed

D. In spermiogenesis , spermatozoa are formed while in spermiation spermatozoa are released from Sertoli cells into the cavity of seminiferous tubules



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**56.** The contraceptive 'SAHELI'

A. is an IUD

- B. increases the concentration of estrogen and prevents ovulation in females
- C. blocks estrogen receptors in the uterus preventing eggs from getting implanted
- D. is a post-coital contraceptive

**Answer: C**



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**57. Ciliates differ from all other protozoans in**

- A. using pseudopodia for capturing prey
- B. having a contractile vacuole for removing excess water
- C. using flagella for locomotion
- D. having two types of nuclei

**Answer: D**



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**58.** Identify the vertebrate group of animals characterised by crop and gizzard in its digestive system

- A. Aves
- B. Reptilia
- C. Amphibia
- D. Osteichthyes

**Answer: A**



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**59.** Which of the following features is used to identify a male cockroach from a female cockroach ?

- A. Forewings with darker tegmina

B. Presence of caudal styles

C. Presence of a boat-shaped sternum on the 9th abdominal segment

D. Presence of anal cerci

**Answer: B**



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**60.** Which one of these animals is not a homeotherm ?

A. Camelus

B. Chelone

C. Macropus

D. Psittacula

**Answer: B**



**Watch Video Solution**

**61.** Which of the following animals does not undergo metamorphosis

- A. Moth
- B. Tunicate
- C. Earthworm
- D. Starfish

**Answer: C**



**Watch Video Solution**

**62.** Which of the following organisms are known as chief producers in the oceans ?

- A. Cyanobacteria
- B. Diatoms
- C. Dinoflagellates
- D. Euglenoids

**Answer: B**



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**63.** Which one of the following population interaction is widely used in medical science for the production of antibiotics ?

- A. Parasitism
- B. Mutualism
- C. Commensalism
- D. Amensalism

**Answer: D**



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**64.** All of the following are included in ex-situ conservation except

- A. botanical gardens
- B. sacred groves
- C. wildlife safari parks
- D. seed banks

**Answer: B**



**Watch Video Solution**

**65.** Match the items given in Column I with those in Column II and select the correct option given below .

Column-I	Column-II
1. Eutrophication	i. UV-B radiation
2. Sanitary landfill	ii. Deforestation
3. Snow blindness	iii. Nutrient enrichment
4. Jhum cultivation	iv. Waste disposal

- A. 1    2    3    4  
   iii iv i ii
- B. 1    2    3    4  
   i   iii iv ii



- C.    1   2   3   4  
      ii   i   i   iv
- D.    1   2   3   4  
      i   ii   iv   iii

**Answer: A**



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**66.** In a growing population of a country .

- A. reproductive and pre-reproductive individuals are equal in number
- B. reproductive individuals are less than the post-reproductive individuals
- C. pre-reproductive individuals are more than the reproductive individuals
- D. pre-reproductive individuals are less than the reproductive individuals

**Answer: C**



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**67.** Which part of poppy plant is used to obtain the drug Smack ?

- A. Roots
- B. Latex
- C. Flowers
- D. Leaves

**Answer: B**



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**68.** All of the following are parts of an operon except

- A. an enhancer
- B. structural genes
- C. an operator

D. a promoter

**Answer: A**



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**69.** A woman has an X-linked condition on one of her X chromosomes .

This chromosome can be inherited by

A. only grand children

B. only sons

C. only daughters

D. Both (b) and (c)

**Answer: D**



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70. According to Hugo de Vries, the mechanism of evolution is

- A. phenotypic variations
- B. saltation
- C. multiple step mutations
- D. minor mutations

**Answer: B**



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71. AGGTATCGCAT is a sequence from the coding strand of a gene. What will be the corresponding sequence of the transcribed mRNA?

- A. ACCUAUGCGAU
- B. UGGTUTCGCAT
- C. AGGUAUCGCAU
- D. UCCAUGCGUA

Answer: C



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72. Match the items given in Column I with those in Column II and select the correct option given below .

Column-I	Column-II
1. Proliferative phase	i. Breakdown of endometrial lining
2. Secretory phase	ii. Follicular phase
3. Menstruation	iii. Luteal phase

- A. 1 2 3  
ii iii i
- B. 1 2 3  
i iii ii
- C. 1 2 3  
iii ii i
- D. 1 2 3  
iii i ii

Answer: A



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73. Match the items given in Column I with those in Column II and select the correct option given below

Column-I	Column-II
1. Glycosuria	i. Accumulation of uric acid in joints.
2. Gout	ii. Mass of crystallised salts within the kidney.
3. Renal calculi	iii. Inflammation in glomeruli
4. Glomerular nephritis	iv. Presence of glucose in urine.

- A. 1 2 3 4  
ii iii i iv
- B. 1 2 3 4  
i ii iii iv
- C. 1 2 3 4  
iii i iv i
- D. 1 2 3 4  
iv i ii iii

Answer: D



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74. Match the items given in Column I with those in Column II and select the correct option given below

Column-I (Function)	Column-II (Part of Excretory System)
1. Ultrafiltration	i. Henle's loop
2. Concentration of urine	ii. Ureter
3. Transport of urine	iii. Urinary bladder
4. Storage of urine	iv. Malpighian corpuscle v. Proximal convoluted tubule

- A. 1 2 3 4  
v iv i ii
- B. 1 2 3 4  
iv i ii iii
- C. 1 2 3 4  
iv v ii iii
- D. 1 2 3 4  
v iv i iii

Answer: B



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75. Which of the following gastric cells indirectly help in erythropoiesis?

- A. Goblet cells
- B. Mucous cells
- C. Chief cells
- D. Parietal cells

Answer: D



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76. Match the items given in Column I with those in Column II and select the correct option given below

Column-I		Column-II
1	Fibrinogen	i. Osmotic balance
2	Globulin	ii. Blood clotting
3	Albumin	iii. Defence mechanism

- A. 

1	2	3
i	iii	ii



- 1 2 3  
B. i ii iii  
1 2 3  
C. iii ii i  
1 2 3  
D. ii iii i

**Answer: D**



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**77. Which of the following is an occupational respiratory disorder?**

- A. Botulism  
B. Silicosis  
C. Anthracis  
D. Emphysema

**Answer: B**



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**78.** Calcium is important in skeletal muscle contraction because it

- A. detaches the myosin head from the actin filament
- B. activates the myosin ATPase by binding to it
- C. binds to troponin to remove the masking of active sites on actin for myosin
- D. Prevents the formation of bonds between the myosin cross bridges and the actin filament

**Answer: C**



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**79.** Nissl bodies are mainly composed of

- A. nucleic acids and SER
- B. DNA and RNA

C. proteins and lipids

D. free ribosomes and RER

**Answer: D**



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**80.** Which one of the statements is incorrect?

A. Glycolysis operates as long as it is supplied with NAD that can pick up hydrogen atoms

B. Glycolysis occurs in cytosol

C. Enzymes of TCA cycle are present in mitochondrial matrix

D. Oxidative phosphorylation takes place in outer mitochondrial membrane

**Answer: D**



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**81.** Select the incorrect match.

- A. Submetacentric chromosomes — L-shaped chromosomes
- B. Allosomes — Sex chromosomes
- C. Lampbrush chromosomes — Diplotene bivalents
- D. Polytene chromosomes — Oocytes of amphibians

**Answer: D**



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**82.** Which of the following terms describe humans dentition?

- A. Pleurodont, Monophyodont, Homodont
- B. Thecodont, Diphyodont, Heterodont
- C. Thecodont, Diphyodont, Homodont

D. Pleurodont, Diphyodont, Heterodont

**Answer: B**



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**83.** Which of the following events does not occur in rough endoplasmic reticulum,

- A. Cleavage of signal peptide
- B. Protein glycosylation
- C. Protein folding
- D. Phospholipid synthesis

**Answer: D**



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**84.** Many ribosomes may associate with a single mRNA to form multiple copies of a polypeptide simultaneously. Such strings of ribosomes are termed as

- A. plastidome
- B. polyhedral bodies
- C. polysome
- D. nucleosome

**Answer: C**



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**85.** In which disease does mosquito transmitted pathogen cause chronic inflammation of lymphatic vessels

- A. Ringworm disease
- B. Ascariasis

C. Elephantiasis

D. Amoebiasis

**Answer: C**



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**86.** Which of the following is not an autoimmune disease?

A. Alzheimer's disease

B. Rheumatoid arthritis

C. Psoriasis

D. Vitiligo

**Answer: A**



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87. Among the following sets of examples for divergent evolution, select the incorrect option

- A. Brain of bat, man and cheetah
- B. Heart of bat, man and cheetah
- C. Forelimbs of man, bat and cheetah
- D. Eye of Octopus, bat and man

**Answer: D**



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88. Conversion of milk to curd improves its nutritional value by increasing the amount of

- A. vitamin—  $B_{12}$
- B. vitamin-A
- C. vitamin-D



D. vitamin-E

**Answer: A**



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**89.** The term for similarity in organ structure seen in great diversity is

Or

The similarity of bone structure in the forelimbs of many vertebrates is an example of

A. convergent evolution

B. analogy

C. homology

D. adaptive radiation

**Answer: C**



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**90.** Which of the following characteristics represents Inheritance of blood groups in humans ?

1. Dominance
2. Codominance
3. Multiple allele
4. Incomplete dominance
5. Polygenic inheritance

A. 2,4 and 5

B. 1, 2 and 3

C. 2, 3 and 5

D. 1, 3 and 5

**Answer: B**



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1. The first step for initiation of photosynthesis will be:

- A. Photolysis of water
- B. Excitement of chlorophyll molecule due to absorption of light
- C. ATP formation
- D. Glucose formation

**Answer: B**



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2. When the plants are grown in magnesium deficient but urea rich soil, the symptoms expressed are:

- A. Yellowish leaves
- B. Colourless petiole
- C. Dark green leaves
- D. Shoot apex die

**Answer: A**



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**3.** For the synthesis of one glucose molecule the calvin cycle operates for:

A. 2 times

B. 4 times

C. 6 times

D. 8 times

**Answer: C**



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**4.** Plants take zinc in the form of :

A.  $ZnSO_4$

B.  $Zn^{++}$

C.  $ZnO$

D.  $Zn$

**Answer: B**



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5. The bacteria generally used for genetic engineering is :

A. Agrobacterium

B. Bacillus

C. Pseudomonas

D. Clostridium

**Answer: A**



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6. For assimilation of one  $CO_2$  molecules, the energy required in form of ATP &  $NADPH_2$

A.  $2ATP \& 2NADPH_2$

B.  $5ATP \& 3NADPH_2$

C.  $3ATP \& 2NADPH_2$

D.  $18ATP \& 12NADPH_2$

**Answer: C**



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7. The first carbon dioxide acceptor in  $C_4$ -plants is

A. RuDP carboxylase

B. Phosphoric acid

C. RUBISCO

D. PEP-Carboxylase

**Answer: D**



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**8.** According to mendelism which character is showing dominance:

- A. Terminal position of flower
- B. Green colour in seed coat
- C. Wrinked seed
- D. Green pod colour

**Answer: D**



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**9.** Due to the cross between  $T Rr \times ttrr$  the resultant progenies showed how many percent plants tall, red flowered:

A. 0.5

B. 0.75

C. 0.25

D. 1

**Answer: A**



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**10. Which is showing accurate pairing**

A. Syphilis - *Treponema pallidum*

B. AIDS - *Bacillus conjugalis*

C. Gonorrhoea - *Leishmania denovani*

D. Typhoid - *Mycobacterium leprae*

**Answer: A**



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11. Which is expressing right appropriate pairing:

A. Brassicaceae - Sunflower

B. Malvaceae - Cotton

C. Papilionaceae - Catechu

D. Liliaceae - Wheat

**Answer: B**



**Watch Video Solution**

12. Enzymes are not found in:

A. Fungi

B. Algae

C. Virus

D. Cyanobacteria

**Answer: C**



**Watch Video Solution**

**13. Virus are living because:**

- A. They multiply in host cells
- B. Carry anaerobic respiration
- C. Carry metabolic activity
- D. Cause infection

**Answer: A**



**Watch Video Solution**

**14. If the apical bud has been removed, then we observe:**

- A. More lateral branches
- B. More axillary buds
- C. Plant growth stops
- D. Flowering stops

**Answer: A**



**Watch Video Solution**

**15. Which hormone is responsible for fruit ripening:**

- A. Ethylene
- B. Auxin
- C. Ethyl chloride
- D. Cytokinin

**Answer: A**



**Watch Video Solution**

**16.** Eight nucleated embryo sac is:

- A. Only monosporic
- B. Only bisporic
- C. Only tetrasporic
- D. Any of the above

**Answer: D**



**Watch Video Solution**

**17.** Which is the cause of damage to relative biological effectiveness:

- A. High temperature
- B. Pollution
- C. Radiation

D. Low temperature

**Answer: C**



**Watch Video Solution**

**18.** Which is the reason for highest biomass in aquatic ecosystem-

A. Nano plankton, blue green algae, green algae

B. sea grass, and slime molds

C. Benthic and brown algae

D. Diatoms

**Answer: C**



**Watch Video Solution**

**19.** Geocarpic fruit is

- A. Carrot
- B. Radish
- C. Groundnut
- D. Watermelon

**Answer: C**



**Watch Video Solution**

**20.** Endosperm is formed during the double fertilization by

- A. Two polar nuclei & one male gamete
- B. One polar nuclei & one male gamete
- C. Ovum and male gamete
- D. Two polar nuclei & two male gamete

**Answer: A**



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21. Which method makes the seed coat permeable and allows growth of embryo ?

- A. Scarification
- B. Stratification
- C. Vernalization
- D. All of the above

**Answer: A**



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22. What is true for Mammalia:

- A. Platypus is oviparous
- B. Bats have feather
- C. Elephant is a ovo viviparous

D. Diaphragm is absent in them

**Answer: A**



**Watch Video Solution**

**23.** Which of the following character is not found in all the chordates:

A. Diaphragm

B. Coelom

C. Pharyngeal gill slits

D. Dorsal nerve cord

**Answer: A**



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24. Hair, which are found in the inflorescence of Zea mays are the modification of:

- A. Style
- B. Stigma
- C. Spathe
- D. Filaments

**Answer: A**



**Watch Video Solution**

25. Pneumatophores are found in-

- A. The vegetation which is found in marshy and saline lake
- B. The vegetation which is found in saline soil
- C. Xerophytes
- D. Epiphytes

**Answer: A**



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**26.** Concentration of urine depends upon which organ -

- A. Bowman's capsule
- B. Length of Henle's loop
- C. P.C.T
- D. Network of capillaries arising from glomerulus

**Answer: B**



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**27.** In which point pulmonary artery is different from pulmonary vein:

- A. Its lumen is broad

- B. Its wall is thick
- C. It has valves
- D. It does not possess endothelium

**Answer: B**



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**28. Reason, why hair loss is more in old age:**

- A. Reduction of blood supply
- B. Decrease in protein synthesis
- C. Low energy synthesis
- D. Reduced storage of glycogen

**Answer: A**



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**29.** What is the work of copper-T?

- A. To inhibit ovulation
- B. To inhibit fertilization
- C. To inhibit implantation of blastocyst
- D. To inhibit gametogenesis

**Answer: B**



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**30.** What is the work of progesterone which is present in oral contraceptive pills ?

- A. To inhibit ovulation
- B. To check oogenesis
- C. To check entry of sperms in to cervix & to make them inactive
- D. To check sexual behaviour

**Answer: A**



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**31.** Conversion of ammonia to urea is done by \_\_\_\_\_.

- A. Ornithine cycle
- B. Arginine cycle
- C. Fumaric cycle
- D. Citrulline cycle

**Answer: A**



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**32.** What is the name of joint between ribs and sternum ?

- A. Cartilaginous joint

B. Angular joint

C. Gliding joint

D. Fibrous joints

**Answer: A**



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**33. Bone related to skull is**

A. Coracoid

B. Arytenoid

C. Pterygoid

D. Atlas

**Answer: C**



**Watch Video Solution**

**34.** Melatonin is secreted by:

- A. Pineal body
- B. Skin
- C. Pituitary Gland
- D. Thyroid

**Answer: A**



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**35.** MSH is secreted by

- A. Anterior lobe of pituitary
- B. Middle lobe of pituitary
- C. Posterior lobe of pituitary
- D. Endosytle

**Answer: B**



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**36.** A person is eating boiled potato. His food contains the component:

- A. Cellulose which is digested by cellulase
- B. Starch which is not digested
- C. Lactose which is not digested
- D. DNA which can be digested by pancreatic DNAase

**Answer: D**



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**37.** In mammals, milk is digested by the action of

- A. Rennin



B. Amylase

C. Intestinal bacteria

D. Invertase

**Answer: A**



**Watch Video Solution**

**38.** What happens if bone of frog is kept in dilute hydrochloric acid:

A. Will become flexible

B. Will turn black

C. Will Break in pieces

D. Will shrink

**Answer: A**



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39. Which disease, of man is similar with cattle's bovine spongy from encephalopathy:

- A. Encephalitis
- B. Jacob-crutzfeldt disease
- C. Spongiosis of cerebrum
- D. spondylitis

**Answer: B**



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40. Erythroblastosis fetalis is caused when:

- A.  $Rh^-$  female &  $Rh^+$  male
- B.  $Rh^+$  female &  $Rh^-$  male
- C.  $Rh^+$  female &  $Rh^+$  male
- D.  $Rh^-$  female &  $Rh^-$  male

**Answer: A**



**Watch Video Solution**

**41.** Depolarisation of axolemma during nerve conduction takes place because

- A. Equal amount of  $Na^+$  &  $K^+$  move out across axolma
- B.  $Na^+$  move inside and  $K^+$  move more out side
- C. More  $Na^+$  outside
- D. None

**Answer: B**



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**42.** Which statement is true for WBC?

- A. Non nucleated
- B. Its deficiency causes cancer
- C. Manufactured in thymus
- D. Can squeeze through blood capillaries

**Answer: D**



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**43. Which pair is correct?**

- A. Sweat = temperature regulation
- B. Saliva = sense of food taste
- C. Sebum = sexual attraction
- D. Humerus = Hind leg

**Answer: A**



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**44.** Which gland secretes odourous secretion in mammals:

- A. Bartholins
- B. Prostate
- C. Anal gland
- D. Liver-bile

**Answer: C**



**Watch Video Solution**

**45.** Characterstic of simple epithelium is:

- A. They are arranged indiscriminately
- B. They make a definite layer
- C. Continue to divide and help in organ function

D. none

**Answer: B**



**Watch Video Solution**

**46.** Which food should be eaten in the deficiency of rhodopsin in eyes?

A. Carrot & ripe papaya

B. Guava & banana

C. Mango & potato

D. None

**Answer: A**



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**47.** Which factor is responsible for inhibition of enzymatic process during feedback:

- A. Substrate
- B. Enzymes
- C. End product
- D. Temperature

**Answer: C**



**Watch Video Solution**

**48.** During viral infection the protein formed in host cells to resist is:

- A. Interferone
- B. Antitoxin
- C. Antibody
- D. Histone

**Answer: A**



**Watch Video Solution**

**49.** The movement of Ions against the concentration gradient will be -

- A. Active transport
- B. Osmosis
- C. Diffusion
- D. All

**Answer: A**



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**50.** Which is not a vestigial organ in man:

- A. Third molar



B. Nails

C. Segmental muscles of abdomen

D. Coccyx

**Answer: B**



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**51. Homo sapiens/Homo erectus evolved in**

A. paleocene

B. Pleistocene

C. Oligocene

D. Myocene

**Answer: B**



**Watch Video Solution**

**52.** Character which is closely related to human evolution:

- A. Disappearance of tail
- B. Reduction in size of jaws
- C. Binocular vision
- D. Flat nails

**Answer: B**



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**53.** Which evidence of evolution is related to Darwin's finches:

- A. Evidences from biogeographical distribution
- B. Evidences from comparative anatomy
- C. Evidences from embryology
- D. Evidence from paleontology

**Answer: A**



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**54. Who is directly related to man**

- A. Gorilla
- B. Rhesus
- C. Gibbon
- D. Orangutan

**Answer: A**



**View Text Solution**

**55. Lemur edri-edri is found in:**

- A. madagascar

B. Mauritius

C. India

D. Sri lanka

**Answer: A**



**Watch Video Solution**

**56. Which hormone is maximum in coconut milk ?**

A. Cytokinin

B. Auxin

C. Gibberellin

D. Ethylene

**Answer: A**



**Watch Video Solution**

57. A 'giant mouse' in the laboratory can be produced by:

- A. Gene mutation
- B. Gene synthesis
- C. Gene manipulation
- D. Gene replication

**Answer: C**



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58. Plasmid has been used as a vector because

- A. It is circular DNA which has capacity to join to eukaryotic DNA
- B. It can move between prokaryotic and eukaryotic cells
- C. Both ends show replication
- D. It has antibiotic resistance gene

**Answer: A**



**Watch Video Solution**

**59.** In *Drosophila*, during organ differentiation, one organ can be replaced by another like wings by legs. Genes responsible for it are:

- A. Double dominant gene
- B. Homeotic gene
- C. Complimentary gene
- D. Plastid

**Answer: B**



**Watch Video Solution**

**60.** The cell organelle involved in the glycosylation of proteins is

- A. Ribosome
- B. Peroxisome
- C. Endoplasmic reticulum
- D. Mitochondria

**Answer: C**



**Watch Video Solution**

**61. Similarity in DNA and RNA-**

- A. Both are polymer of nucleotides
- B. Both have similar pyrimidine
- C. Both have similar sugar
- D. Both are genetic material

**Answer: A**



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62. Aquatic fern which supports the growth of blue green algae Anabaena, and is used to increase the yield of paddy crop is :-

- A. Azolla
- B. Salvinia
- C. Marsilea
- D. Isoetes

**Answer: A**



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63. Plant group with largest ovule, largest tree, and largest gametes:

- A. Gymnosperm
- B. Angiosperm
- C. Bryophyta



D. Pteridophyta

**Answer: A**



**View Text Solution**

**64.** Meiosis occurs in ferns at the time of :

- A. Spore formation
- B. Spore germination
- C. Gamete formation
- D. Antheridia and archegonia formation

**Answer: A**



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**65.** Similarity in *Ascaris lumbricoides* and *Anopheles stephensi* is

- A. Sexual dimorphism
- B. Metamerism
- C. Anaerobic respiration
- D. endoparasitism

**Answer: A**



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**66. Length of one loop of B-DNA-**

- A. 3.4 nm.
- B. 0.34 nm
- C. 20 nm
- D. 10 nm

**Answer: A**



**Watch Video Solution**

67. Primary function of enteronephric nephridia of Pheretima is

- A. Osmoregulation
- B. Excretion of nitrogenous waste
- C. Respiration
- D. Locomotion

**Answer: B**



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68. Which statement is correct:

- A. A. indica is largest wild honey bee
- B. Wax is waste material of honey bee
- C. C.V Fritsch discovered the transmission methods is honey bee

D. Drone of honey bee is diploid

**Answer: C**



**View Text Solution**

**69. ATP is**

A. Nucleotide

B. Nucleoside

C. Nucleic acid

D. Vitamin

**Answer: A**



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**70. Essential amino acid is**

A. Phenylalanine

B. Glycine

C. Aspartic acid

D. Serine

**Answer: A**



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**71. Anticodon occur in :**

A. t-RNA

B. m-RNA

C. r-RNA

D. DNA

**Answer: A**



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72. In three dimensional view the molecule of t-RNA is

- A. L-shaped
- B. S-shaped
- C. Y-shaped
- D. E-shaped

**Answer: A**



**Watch Video Solution**

73. Saline solution is given to patients of Cholera because:

- A.  $Na^+$  prevents water loss from body
- B. NaCl function as regulatory material
- C. NaCl produces energy

D. NaCl is antibacterial

**Answer: A**



**View Text Solution**

**74.** Function of telomeres in nucleus:

- A. Pole ward movement
- B. To initiate the RNA synthesis
- C. To seal the end of Chromosome
- D. To recognize the homologous chromosome

**Answer: C**



**View Text Solution**

**75.** Spindle fibre unite with which structure of chromosomes:

A. Chromocentre

B. Chromomere

C. Kinetochore

D. Centriole

**Answer: C**



**View Text Solution**

**76.** Which of the following have carbohydrate as prosthetic group:

A. Glycoprotein

B. Chromoprotein

C. Lipoprotein

D. Nucleoprotein

**Answer: A**



**View Text Solution**



77. Viable material of endangered species can be preserved by :

- A. Gene bank
- B. Gene library
- C. Herbarium
- D. Gene pool

**Answer: A**



**View Text Solution**

78. proteoglycan in cartilages, which is part of polysaccharide, is

- A. Condriotin
- B. Ossein
- C. Cassin

D. Cartilegen

**Answer: A**



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**79.** Mangolian idiots are due to trisomy in 21<sup>st</sup> chromosome is called:

- A. Down's syndrome
- B. Turner's syndrome
- C. Klinefelters syndrome
- D. Triplex syndrome

**Answer: A**



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**80.** What happen in plants during vasculariation

- A. Differentiation of procambium, formation of primary phloem followed by formation of primary xylem
- B. Differentiation of procambium followed by the formation of primary phloem and xylem simultaneously
- C. Formation of procambium, primary phloem and xylem simultaneously
- D. Differentiation of procambium followed by the formation of secondary xylem

**Answer: B**



**View Text Solution**

**81.** Which of the following ribosomes are engaged in protein synthesis in animals cell:

- A. Ribosomes which occur on nuclear membrane and E.R

- B. Ribosomes of only cytosol
- C. Ribosomers of only nucleolus and cytosol
- D. Ribosome of only mitochondria and cytosol

**Answer: A**



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**82. First cloned animal:**

- A. Dolly sheep
- B. Polly sheep
- C. Molly sheep
- D. Dog

**Answer: A**



**View Text Solution**

**83.** Which of the following is initiation codon:

A. UAG

B. AUC

C. AUG

D. CCU

**Answer: C**



**View Text Solution**

**84.** Method of DNA replication in which two strands of DNA separates and synthesize new strands :-

A. Dispersive

B. Conservative

C. Semiconservative

D. Non conservative

**Answer: C**



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**85.** In *Drosophila* the XXY condition leads to femaleness whereas in human beings the same condition leads to Klinefelter's syndrome in male. It proves

- A. In human beings Y chromosome is active in sex determination
- B. Y chromosome is active in sex determination in both human beings and *Drosophila*
- C. In *Drosophila* Y-chromosome decides femaleness
- D. Y chromosome of man have genes for syndrome

**Answer: A**



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**86.** In which stage of cell cycle, DNA replication occurs:

- A.  $G_1$  - phase
- B. S-phase
- C.  $G_2$  - phase
- D. M-phase

**Answer: B**



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**87.** Black rust of wheat is caused by

- A. Puccinia
- B. Ustilago
- C. Albugo
- D. Phytophthora

**Answer: A**



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**88.** Which of the following animals have scattered cells with cell - tissues grade organization ?

A. Sponge

B. Hydra

C. Liver fluke

D. Ascaris

**Answer: B**



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**89.** Blastopore is the pore of :-



A. Archenteron

B. Blastocoel

C. Coelom

D. Acoelom

**Answer: A**



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**90.** Cleavage in mammals is:

A. Holoblastic equal

B. Holoblastic unequal

C. superficial

D. Discoidal

**Answer: A**



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**91.** Extranuclear DNA is found in :-

- A. Lysosome and chloroplast
- B. Chloroplast and mitochondria
- C. Mitochondria and lysosome
- D. Golgi and E.R

**Answer: B**



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**92.** Which of the following is used to manufacture ethanol from starch

- A. Penicillium
- B. Saccharomyces
- C. Azotobactor

D. Lactobacillus

**Answer: B**



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**93.** A student collected an alga and found that its cells contain both chl a and chl d as well as phycoerythrin but no chl b and flagella. The alga belongs to

- A. Phaeophyceae
- B. Rhodophyceae
- C. Chlorophyceae
- D. Bacillariophyceae

**Answer: B**



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**94.** Lysosome contains:

- A. Oxidative enzymes
- B. Hydrolytic enzymes
- C. Reductive enzymes
- D. Anabolic enzymes

**Answer: B**



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**95.** Role of enzyme in reaction

- A. Decrease activation energy
- B. Increase activation energy
- C. Inorganic catalyst
- D. None of the above

**Answer: A**



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**96.** What happens in light reaction (Photo chemical reaction)

- A. Formation of ATP and  $NADPH_2$
- B. Formation of ATP
- C. Formation of sugar
- D. Breakdown of sugar

**Answer: A**



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**97.** Most of the mutations are:

- A. harmful

B. harmful and recessive

C. Beneficial

D. Dominant

**Answer: B**



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**98. Stored food in fungi:**

A. Starch

B. Proteins

C. Glycogen

D. Chitin

**Answer: C**



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**99.** Living beings maintain continuity of life by:

- A. Adaptation
- B. DNA-replication and its transfer in next generation
- C. RNA synthesis
- D. None of the above

**Answer: B**



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**100.** What is the effect of destruction of wildlife

- A. Wild gene of disease resistance will not be obtained
- B. Soil erosion
- C. Floods
- D. Green house effect.

**Answer: A**



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**101.** Independent assortment of genes does not take place when:

- A. Genes are located on homologous chromosomes
- B. Genes are linked and located on same chromosome
- C. Genes are located on non-homologous chromosome
- D. All the above

**Answer: B**



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**102.** What is true for monoclonal antibodies : -

- A. These antibodies are obtained from one parent and for one antigen



- B. These are obtained from different parents and for one antigen
- C. These are obtained from one parent and for many antigens
- D. These are obtained from many parents and for many antigen

**Answer: A**



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**103. In negative operon**

- A. Inducer binds with repressor
- B. Co-repressor does not binds with repressor
- C. Corepressor binds with inducer
- D. CAMP have negative effect on lac operon

**Answer: A**



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**104.** What is true of plasmid

- A. Plasmids are widely used in gene transfer
- B. These are found in virus
- C. Plasmid contain gene for vital activities
- D. These are main part of chromosome

**Answer: A**



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**105.** Mendel obtained wrinkled seeds in pea due to deposition of sugars instead of starch. It was due to which enzyme :-

- A. Amylase
- B. Invertase
- C. Diastase
- D. Absence of starch branching enzyme

**Answer: D**



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**106.** Before the European invaders which vegetable was/were absent in India?

- A. Potato and Tomato
- B. Capsicum and Brinjal
- C. Maize and bottle gourd
- D. Bitter gourd

**Answer: A**



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**107.** Which of the following is the pair of biofertilizers

- A. Azolla and BGA
- B. Nostoc and legume
- C. Rhizobium and grasses
- D. Salmonella & E. coli

**Answer: A**



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**108.** Ratio of complementary genes is

- A. 9 : 3 : 4
- B. 12 : 3 : 1
- C. 9 : 3 : 3 : 4
- D. 9 : 7

**Answer: D**



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**109.** When dominant and recessive alleles express themselves together, it is called

- A. Co-dominance
- B. Dominance
- C. Amphidominance
- D. Pseudo dominance

**Answer: A**



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**110.** A and B genes are linked .what shall be genotype of progeny in a cross between AB/ab and ab/ab?

- A. AAbb and aabb
- B. AaBb and aabb

C. AABB and aabb

D. None

**Answer: B**



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**111.** Which statement is correct about center of origin of plants?

A. More diversity in varieties

B. Frequency of dominant gene is more

C. Climatic condition more favourable

D. None

**Answer: A**



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112. Probability of four son to a couple is :-

A.  $\frac{1}{4}$

B.  $\frac{1}{8}$

C.  $\frac{1}{16}$

D.  $\frac{1}{32}$

**Answer: C**



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113. Two nonallelic genes produces the new phenotype when present together but fail to do so independently then it is called : -

A. Epistasis

B. Polygene

C. Non complimentary gene

D. Complimentary gene

**Answer: D**



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**114.** Which of the following cuts the DNA from specific places :

A. Restriction endonuclease (EcoRI)

B. Ligase

C. Exonuclease

D. Alkaline phosphate

**Answer: A**



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**115.** Tetradynamous stamens are found in

A. Cruciferae



B. Malvaceae

C. Solanaceae

D. Liliaceae

**Answer: A**



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**116.** Which is correct pair for edible part ?

A. Tomato – Thalamus

B. Maize - Cotyledons

C. Guava - Mesocarp

D. Date palm - Pericarp

**Answer: D**



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**117.** Bicarpellary gynoecium and oblique ovary occurs in

- A. Mustard
- B. Banana
- C. Pisum
- D. Brinjal

**Answer: D**



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**118.** Edible part of banana is

- A. Epicarp
- B. Mesocarp and less developed endocarp
- C. Endocarp and less developed mesocarp
- D. Epicarp & mesocarp

**Answer: C**



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**119.** In Hydra, egestion of undigested food and excretion of nitrogenous wastes occur through

- A. Mouth and mouth
- B. Body wall and body wall
- C. Mouth and body wall
- D. Mouth and tentacles

**Answer: C**



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**120.** A post-anal tail is found in

- A. Earthworm
- B. Lower invertebrate
- C. Scorpion
- D. Snake

**Answer: D**



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**121. Pigment haemocyanin occurs in**

- A. Annelida
- B. Echinodermata
- C. Insecta
- D. Lower chordata

**Answer: A**



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**122.** Anemophily type of pollination is found in :

- A. Salvia
- B. Bottle brush
- C. Vallisneria
- D. Coconut

**Answer: D**



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**123.** Eye of potato is

- A. Axillary bud
- B. Accessory bud
- C. Adventitious bud

D. Apical bud

**Answer: A**



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**124.** Due to discovery of which of the following in 1980, the evolution was termed as RNA world :

- A. m-RNA, t-RNA- r-RNA synthesise proteins
- B. In some virus RNA is genetic material
- C. RNA have enzymatic property
- D. RNA is not found in all cells

**Answer: C**



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**125.** Which pair is wrong

- A.  $C_3$  – Maize
- B.  $C_4$ – Kranz anatomy
- C. Calvin cycle - PGA
- D. Hatch and Slake cycle – O.A.A.

**Answer: A**



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**126.** Which breaks dormancy of potato tuber : -

- A. Gibberellin
- B. IAA
- C. ABA
- D. Zeatin

**Answer: A**



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**127.** Hormone responsible for ageing is

- A. ABA
- B. Auxin
- C. GA
- D. Cytokinin

**Answer: A**



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**128.** Which one prevents premature fall of fruit ?

- A.  $GA_3$



B. NAA

C. Eethylene

D. Zeatin

**Answer: B**



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**129.** Loading of phloem is related to

A. Increase of sugar in phloem

B. Elongation of phloem cell

C. Separation of phloem parenchyma

D. Strengthening of phloem fiber

**Answer: A**



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**130.** Which pigment system inactivated in red drop : -

- A. PS-I and PS-II
- B. PS – I
- C. PS – II
- D. None

**Answer: C**



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**131.** Which plant is LDP: -

- A. Tobacco
- B. Glycine max
- C. Mirabilis jalapa
- D. Spinach

**Answer: D**



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**132.** What is true for photolithotrophs?

- A. Obtain energy from radiations and hydrogen from organic compounds
- B. Obtain energy from radiations and hydrogen from inorganic compounds
- C. Obtain energy from organic compounds
- D. Obtain energy from inorganic compounds

**Answer: B**



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**133.** In which of the following plant sunken stomata are found : -

A. Nerium

B. Hydrilla

C. Mango

D. Guava

**Answer: A**



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**134.** What is the best pH of the soil for cultivation of plants:-

A. 3.4 – 5.4

B. 6.5 – 7.5

C. 4.5 – 8.5

D. 5.5 – 6.5

**Answer: D**



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**135.** Which fish selectively feed on larva of mosquito: -

- A. Gambusia
- B. Rohu
- C. Clarias
- D. Exocoetus

**Answer: A**



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**136.** Which one of the following is correct match?

- A. Reserpine – Tranquillizer
- B. Cocaine – Opiatic narcotic
- C. Morphine – Hallucinogenic

D. Bhang – Analgesic

**Answer: A**



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**137. What is B.O.D.:-**

- A. The amount of  $O_2$  utilized by organisms in water
- B. The amount of  $O_2$  utilized by microorganisms for decomposition
- C. The total amount of  $O_2$  present in water
- D. All of the above

**Answer: B**



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**138.** In grass what happens in microspore mother cell for the formation of mature pollen grain

- A. One meiotic and two mitotic divisions
- B. One meiotic & one mitotic divisions
- C. One meiotic division
- D. One mitotic division

**Answer: A**



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**139.** What is the intensity of sound during normal conversation?

- A. 10 – 20 decibal
- B. 30 – 60 decibal
- C. 70 – 90 decibal
- D. 120 – 150 decibal

**Answer: B**



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**140.** Adventive embryony in Citrus is due to

- A. Nucellus
- B. Integuments
- C. Zygotic embryo
- D. Fertilized egg

**Answer: A**



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**141.** L.S.D. is : -

- A. Hallucinogenic



B. Sedative

C. Stimulant

D. Tranquiliser

**Answer: A**



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**142. Which set is similar?**

A. Corpus luteum – graffian follicles

B. Sebum-sweat

C. Bundle of his – Pace macker

D. Vita  $B_7$  - Niacin

**Answer: A**



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**143.** Salmonella is related with : -

A. Typhoid

B. Polio

C. T.B.

D. Tetanus

**Answer: A**



**Watch Video Solution**

**144.** Difference in gram  $\oplus$  and gram  $\ominus$  bacteria is due to -

A. Cell wall

B. Cell membrane

C. Ribosome

D. Cytoplasm

**Answer: A**



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**145.** What is sarcomere ?

- A. Part between two H-line
- B. Part between two A-line
- C. Part between two I-band
- D. Part between two Z-line

**Answer: D**



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**146.** Which statement is correct for muscle contraction?

- A. Length of H-zone become decrease

- B. Length of A-band remains constant
- C. Length of I-band become increase
- D. Length of two Z-line become increase

**Answer: B**



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**147.** Characteristics character of human cornea

- A. Secretd by conjuctiva and glandular
- B. It has lacrimal gland which secrete tears
- C. Blood circulation is absent in cornea
- D. In old age, it hardens and a white layer deposit on it which causes the cataract

**Answer: C**



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**148.** Which of these is most infectious disease

- A. Hepatitis -B
- B. AIDS
- C. Cough and cold
- D. Malaria

**Answer: A**



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**149.** Interferons are synthesized in response to:

- A. Mycoplasma
- B. Bacteria
- C. Viruses

D. Fungi

**Answer: C**



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**150.** Caulimo (Cauliflower Mosaic) viruses have

A. ss RNA

B. ds RNA

C. ds DNA

D. ss DNA

**Answer: C**



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**151.** Lung cancer is caused by

- A. Coal mining
- B. Calcium fluoride
- C. Cement factory
- D. Bauxite mining

**Answer: C**



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**152.** When water moves through a semipermeable membrane, which of the following is created

- A. O.P.
- B. S.P.
- C. T.P.
- D. W.P.

**Answer: A**



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**153.** Protienaceous pigment which is the centre of the activities concerned with light is

- A. Phytochrome
- B. Chlorophyll
- C. Anthocyanin
- D. Carotenoids

**Answer: A**



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**154.** Glycolate induces opening of stomata in

- A. Presence of oxygen
- B. Low  $CO_2$  conc.



C. High  $CO_2$

D.  $CO_2$  absent

**Answer: B**



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**155.** The enzyme responsible for the reduction of molecular nitrogen to the level of ammonia in leguminous root nodule is

Or

The enzyme responsible for atmospheric nitrogen fixation is

A. Nitrogenase

B. Nitroreductase

C. Transferase

D. Hydrogenase

**Answer: A**



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**156.** Maximum number of bases in plasmids is

- A. 50 kilo base
- B. 500 kilo base
- C. 5000 kilo bas
- D. 5 kilo base

**Answer: B**



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**157.** Passive absorption of minerals depends on

- A. Temperature
- B. Temperature and metabolic inhibitor
- C. Metabolic inhibitor

D. Humidity

**Answer: A**



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**158.** Half life period of  $C^{14}$  is : -

A. 500 years

B. 5000 years

C. 50 years

D.  $5 \times 10^4$  years

**Answer: B**



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**159.** Which one is correctly matched : —

A. Vit. E – Tocopherol

B. Vit. D – Riboflavin

C. Vit. B – Calciferole

D. Vit. A – Thiamine

**Answer: A**



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**160.** E. coli about to replicate was placed in a medium containing radioactive thymidine for five minutes. Then it was made to replicate in a normal medium. Which of the following observation shall be correct : -

A. Both the strands of DNA will be radioactive

B. One strand is radioactive

C. Each strand is half radioactive

D. None is radioactive

**Answer: B**



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**161.** Most abundant organic compound on earth is

A. Protein

B. Cellulose

C. Lipids

D. Steroids

**Answer: B**



**Watch Video Solution**

**162.** Male XX and female XY develop sometimes due to

A. Deletion

B. Transfer of segments between X and Y chromosomes

C. Aneuploidy

D. Hormonal imbalance

**Answer: B**



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**163.** Number of Barr bodies in XXXX female would be

A. 1

B. 2

C. 3

D. 4

**Answer: C**



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**164.** Types of RNA polymerase required in nucleus for RNA synthesis : -

A. 1

B. 2

C. 3

D. 4

**Answer: C**



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**165.** What is true for Archaeobacteria

A. All are Halophiles

B. All are photosynthetic

C. All are fossils

D. Oldest living beings

**Answer: D**



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**166.** Inheritance would be extranuclear in case of

A. Killer paramaecium

B. Killer Amoeba

C. Euglena

D. Hydra

**Answer: A**



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**167.** Extranuclear chromosomes occur in: -

A. Peroxisome and Ribosome



B. Chloroplast and Mitochondria

C. Mitochondria and Ribosome

D. Chloroplast and Lysosome

**Answer: B**



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**168.** Spoilage of oil can be detected by which fatty acid?

A. Oleic acid

B. Linolenic acid

C. Linoleic acid

D. Erucic acid

**Answer: D**



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**169.** When we move from dark to light, we fail to see for some time but soon the visibility become normal. It is

- A. Accomodation
- B. Adaptation
- C. Mutation
- D. Photoperiodism

**Answer: B**



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**170.** In plants, inulin and pectin are

- A. Reserved material
- B. Wastes
- C. Excretory material
- D. Insect attracting material

**Answer: A**



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**171.** Gene and cistron words are sometimes used synonymously because -

- A. One cistron contains many genes
- B. One gene contains many cistrons
- C. One gene contains one cistron
- D. One gene contains no cistron

**Answer: C**



**Watch Video Solution**

**172.** Element necessary for the middle lamella

- A. Ca

B. Zn

C. K

D. Cu

**Answer: A**



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**173.** Cycas has two cotyledons but it is not included under angiosperms because it has

A. Naked seeds

B. Seems like monocot

C. Circinate ptyxis

D. Compound leaves

**Answer: A**



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**174.** Plant Decomposers belongs to:-

- A. Monera and Fungi
- B. Fungi and Plants
- C. Protista and Animalia
- D. Animalia and Monera

**Answer: A**



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**175.** What is true for cyanobacteria: -

- A. Oxygenic with nitrogenase
- B. Oxygenic without nitrogenase
- C. Non-oxygenic with nitrogenase
- D. Non-oxygenic without nitrogenase

**Answer: A**



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**176.** m-RNA is synthesised on DNA template in which direction : -

A.  $5' \rightarrow 3'$

B.  $3' \rightarrow 5'$

C. Both

D. Any

**Answer: A**



**Watch Video Solution**

**177.** Cytochrome is

A. Metallo flavoprotein

B. Fe containing porphyrin pigment

C. Glycoprotein

D. Lipid

**Answer: B**



**Watch Video Solution**

**178.** Which of the following is less general in characters as compared to Genus

A. Species

B. Division

C. Class

D. Family

**Answer: A**



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**179.** Adhesive pad of fungi penetrate the host with the help of:-

- A. Mechanical pressure and enzymes
- B. Hooke and suckers
- C. Softening by enzymes
- D. Only by mechanical pressure

**Answer: A**



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**180.** Microtubules are absent in

- A. Mitochondria
- B. Flagella
- C. Spindle fibres
- D. Centriole



**Answer: A**



**Watch Video Solution**

**181.** Which aquatic fern performs nitrogen fixation :

- A. Azolla
- B. Nostoc
- C. Salvia
- D. Salvinia

**Answer: A**



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**182.** Root of which plant contains a red pigment that has affinity for oxygen ?

- A. Carrot
- B. Soyabean
- C. Mustard
- D. Radish

**Answer: B**



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**183.** Triticale is the hybrid between wheat and

- A. Oat
- B. Barley
- C. Maize
- D. Rye

**Answer: D**



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**184.** At the time of organogenesis, genes regulate the process at different levels and at different time due to :

- A. Promoter
- B. Regulator
- C. Intron
- D. Exon

**Answer: D**



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**185.** A mutant strain of  $T_4$  – Bacteriophage, R-II, fails to lyse the E-Coli but when two strains  $R - II^X$  and  $R - II^Y$  are mixed then they lyse the E.Coli. What may be the possible reason : -

- A. Bacteriophage transforms in wild

- B. It is not mutated
- C. Both strains have similar cistrons
- D. Both strains have different cistrons

**Answer: D**



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**186.** Diversity of living organisms is due to :

- A. Mutation
- B. Long term evolutionary change
- C. Gradual change
- D. Short term evolutionary change

**Answer: B**



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**187.** Sickle cell anaemia is due to : -

- A. Change of Amino Acid in  $\alpha$ -chain of Haemoglobin
- B. Change of Amino Acid in  $\beta$ -chain of Haemoglobin
- C. Change of Amino acid in both  $\alpha$  and  $\beta$  chain of Haemoglobin
- D. Change of Amino acid either  $\alpha$  or  $\beta$  chain of Haemoglobin

**Answer: B**



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**188.** Similarity in organisms with different genotypes indicates :

- A. Microevolution
- B. Macroevolution
- C. Convergent evolution
- D. Divergent evolution

**Answer: C**



**Watch Video Solution**

**189.** What is correct for blood groups O?

- A. No antigens but both a and b antibodies are present
- B. A antigen and b antibody
- C. Antigen and Antibody both absent
- D. A and B antigens and a, b, antibodies

**Answer: A**



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**190.** Which one of the following is closest relative of Man?

- A. Chimpanzee

- B. Gorilla
- C. Orangutan
- D. Gibbon

**Answer: A**



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**191.** Which of the following is correct order of the evolutionary history of man?

- A. Peking man, Homo sapiens, Neanderthal man, Cromagnon man
- B. Peking man, Neanderthal man, Homosapiens Cromagnon man
- C. Peking man, Hedalberg man, Neanderthal man, Cromagnon man
- D. Peking man, Neanderthal man, Homosapiens Hedalberg man

**Answer: C**



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**192.** Which of the following cells do not form layer and remain structurally separate ?

- A. Epithelial cells
- B. Muscle cells
- C. Nerve cells
- D. Gland cells

**Answer: C**



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**193.** During an injury, nasal septum gets damaged and for its recovery which cartilage is perfused

Or

Which of the following is a transparent tissue



- A. Elastic cartilage
- B. Hyaline cartilage
- C. Calcified cartilage
- D. Fibrous cartilage

**Answer: B**



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**194.** First life form on earth was a

- A. Cyanobacteria
- B. Chemoheterotrophs
- C. Autotrophs
- D. Photoautotrophs

**Answer: B**



**Watch Video Solution**

**195.** The frequency of an allele in an isolated population may change due to

- A. Genetic drift
- B. Gene flow
- C. Mutation
- D. Natural selection

**Answer: A**



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**196.** In Lederberg's replica what shall be used to obtain streptomycin resistant strain ?

- A. Minimal medium and streptomycin
- B. Complete medium and streptomycin

C. Only minimal medium

D. Only complete medium

**Answer: B**



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**197.** Forthcoming generation will be less adaptive than the present generation due to

A. Natural selection

B. Mutation

C. Genetic drift

D. Adaptation

**Answer: B**



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**198.** During regeneration, modification of an organ to other organ is known as : -

- A. Morphallagenesis
- B. Epimorphosis
- C. Morphallaxis
- D. Accretionary growth

**Answer: B**



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**199.** Occurrence of endemic species in South America and Australia is due to :

- A. These species has been extinct from other regions
- B. Continental separation
- C. These is no terrestrial route to these places

#### D. Retrogressive evolution

**Answer: B**



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**200.** If Darwin's theory of pangenesis shows similarity with theory of inheritance of acquired character then what shall be correct according to it

- A. Useful organs become strong and developed while useless organs become extinct. These organs help in struggle for survival
- B. Size of organs increase with aging
- C. Development of organs is due to will power
- D. There should be some physical basis of inheritance

**Answer: D**



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**201.** Which of the following is a reducing sugar

- A. Galactose
- B. Gluconic acid
- C.  $\beta$ -methyl galactoside
- D. Sucrose

**Answer: A**



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**202.** Significance of mimicry is :

- A. Attack (Offence)
- B. Protection (Defence)
- C. Both (1) & (2)
- D. Isolation

**Answer: C**



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**203.** Which of the following is correct match -

- A. Down Syndrome = 21st Chromosome
- B. Sickel cell anaemia = X – Chromosome
- C. Haemophilia = Y – Chromosome
- D. Parkinson Disease = X & Y Chromosome

**Answer: A**



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**204.** Some bacteria are able to grow in streptomycin containing medium due to :

- A. Natural selection
- B. Induced mutation
- C. Reproductive isolation
- D. Genetic drift

**Answer: A**



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**205.** In a population, unrestricted reproductive capacity is called as -

- A. Biotic potential
- B. Fertility
- C. Carring capacity
- D. Birth rate

**Answer: A**



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**206.** Change in the sequence of nucleotide in DNA is called as

- A. Mutagen
- B. Mutation
- C. Recombination
- D. Translation

**Answer: B**



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**207.** Reason of fast speciation in present day crop plant is :

- A. Mutation
- B. Isolation
- C. Polyploidy

## D. Sexual Reproduction

**Answer: C**



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**208.** Which of the following is most important for speciation?

- A. Seasonal isolation
- B. Reproductive isolation
- C. Behavioural isolation
- D. Tropical isolation

**Answer: B**



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**209.** Which of the following are homologous organs :-

- A. Wings of birds & Locust
- B. Wings of birds (Sparrow) & Pectoral fins of fish
- C. Wings of bat & Butterfly
- D. Legs of frog & Cockroach

**Answer: B**



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**210.** Genetic drift operates in :

- A. Small isolated population
- B. Large isolated population
- C. Fast reproductive population
- D. Slow reproductive population

**Answer: A**



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**211.** There is no life on moon due to the absence of :

- A.  $O_2$
- B. Water
- C. Light
- D. Temperature

**Answer: B**



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**212.** According to fossils discovered up to present time origin and evolutions of man was started from

- A. France
- B. Java
- C. Africa

D. China

**Answer: C**



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**213.** Impulse of heart beat originates from -

A. S.A. Node

B. A. V. Node

C. Vagus Nerve

D. Cardiac Nerve

**Answer: A**



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**214.** Which cartilage is present at the end of long bones?

A. Calcified cartilage

B. Hyaline cartilage

C. Elastic cartilage

D. Fibrous cartilage

**Answer: B**



**Watch Video Solution**

**215.** Melanin protects from

A. U.V. rays

B. Visible rays

C. Infrared rays

D. X-rays

**Answer: A**



**Watch Video Solution**

**216.** Continuous bleeding from an injured part of body is due to deficiency of

- A. Vitamin -A
- B. Vitamin - B
- C. Vitamin - K
- D. Vitamin - E

**Answer: C**



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**217.** What will happen if ligaments are cut or broken :-

- A. Bones will move freely at joints
- B. No movement at joint
- C. Bone will become unfix

D. Bone will become fixed

**Answer: C**



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**218.** Which of the following statement is true for Lymph

A. WBC and serum

B. All components of blood except RBCs and some proteins

C. RBCs, WBCs and Plasma

D. RBCs, Proteins and Platelets

**Answer: B**



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**219.** Choose the correct sequence of stages of growth curve for bacteria



A. Leg, Log, stationary, Decline phase

B. Leg, Log, Stationary phase

C. Stationary, Leg, Log, Decline phase

D. Decline, Leg, Log phase

**Answer: A**



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**220.** Semilog of per minutes growing bacteria is plotted against time.

What will be shape of graph?

A. Sigmoid

B. Hyperbolic

C. Ascending straight line

D. Descending straight line

**Answer: C**



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**221.** Mainly which type of hormones control the menstrual cycle in human beings : I

A. FSH

B. LH

C. FSH, LH, Estrogen

D. Progesteron

**Answer: C**



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**222.** When both ovaries are removed from a rat which hormone is decreased in blood?

A. Oxytocin

B. Prolactin

C. Estrogen

D. Gonadotrophic releasing factor

**Answer: C**



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**223.** Node of Ranvier occurs where

A. Neurilemma is discontinuous

B. Myelin sheath is discontinuous

C. Both neurilemma & Myelin sheath are discontinuous

D. Covered by myelin sheath

**Answer: B**



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224. Which of the following is used in the treatment of thyroid cancer?

A.  $I_{131}$

B.  $U_{238}$

C.  $Ra_{224}$

D.  $C_{14}$

**Answer: A**



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225. Hydrolytic enzyme which acts at low pH is

A. Protease

B.  $\alpha$ -Amylase

C. Hydrolases

D. Peroxidase

**Answer: C**



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**226.** Stool of a person is whitish grey coloured due to malfunction of which of the following organs?

A. Pancrease

B. Spleen

C. Kidney

D. Liver

**Answer: D**



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**227.** Adrenalin direct affect on : -

A. S.A. Node

B.  $\beta$ -cells of Langerhans

C. Dorsal root of spinal cord

D. Epithelial cells of stomach

**Answer: A**



**View Text Solution**

**228.** Acromegaly/Gigantism is caused by

A. Excess of S.T.H.

B. Excess of Thyroxin

C. Deficiency of Thyroxin

D. Excess of Adrenalin

**Answer: A**



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**229.** In fluid mosaic model of plasma membrane ,

- A. Upper layer is non-polar and hydrophilic
- B. Polar layer is hydrophobic
- C. Phospholipids form a bimolecular layer in middle part
- D. Proteins form a middle layer

**Answer: C**



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**230.** Organisms which obtain energy by the oxidation of reduced inorganic compounds are called

- A. Photo autotrophs
- B. Chemo autotrophs
- C. Saprozoic

D. Coproheterotrophs

**Answer: B**



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**231.** In which condition the gene ratio remains constant for any species ?

A. Sexual selection

B. Random mating

C. Mutation

D. Gene flow

**Answer: B**



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**232.** Which of the following occurs more than one and less than five in a chromosome?

- A. Chromatid
- B. Chromomere
- C. Centromere
- D. Telomere

**Answer: D**



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**233.** Ribosomes are produced in

- A. Nucleolus
- B. Cytoplasm
- C. Mitochondria
- D. Golgibody

**Answer: A**



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**234.** Mitotic spindle is mainly composed of \_\_ proteins.

- A. Actin
- B. Tubulin
- C. Actomyosin
- D. Myoglobin

**Answer: B**



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**235.** Cancerous cells can easily be destroyed by radiations due to : -

- A. Rapid cell division

- B. Lack of nutrition
- C. Fast mutation
- D. Lack of oxygen

**Answer: A**



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**236.** Which fungal disease spreads by seed and flowers?

- A. Loose smut of Wheat
- B. Corn stunt
- C. Covered smut of Barley
- D. Soft rot of Potato

**Answer: A**



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**237.** Sequence of which of the following is used to know the phylogeny ?

A. m-RNA

B. r-RNA

C. t-RNA

D. DNA

**Answer: B**



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**238.** Which of the following secretes toxins during storage condition of crop plants

A. Aspergillus

B. Penicillium

C. Fusarium

D. Colletotrichum

**Answer: A**



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**239.** Which of the following plants produces seeds but not flowers : -

A. Maize

B. Mint

C. Peepal

D. Pinus

**Answer: D**



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**240.** Best material for studying mitosis in laboratory is

A. Anther

B. Root tip

C. Leaf tip

D. Ovary

**Answer: B**



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**241.** In five kingdom system the main basis of classification is

A. Structure of nucleus

B. Nutrition

C. Structure of cell wall

D. Asexual reproduction

**Answer: B**



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**242.** Which of the following is without exception in angiosperms?

- A. Presence of vessels
- B. Double fertilisation
- C. Secondary growth
- D. Autotrophic nutrition

**Answer: B**



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**243.** Which bacteria is utilized in Gobar gas plant?

- A. Methanogens
- B. Nitrifying bacteria
- C. Ammonifying bacteria
- D. Denitrifying bacteria

**Answer: A**



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**244.** In manufacture of bread, it becomes porous due to release of  $CO_2$  by the action of

A. Yeast

B. Bacteria

C. Virus

D. Protozoans

**Answer: A**



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**245.** In Protozoa like Amoeba and Paramecium, an organelle is found for osmoregulation which is



A. Contractile vacuole

B. Mitochondria

C. Nucleus

D. Food vacuole

**Answer: A**



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**246.** Which of the following is absent in polluted water?

A. Hydrilla

B. Water hyacinth

C. Larva of stone fly

D. Blue green algae

**Answer: C**



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**247.** What is true for individuals of same species?

- A. Live in same niche
- B. Live in same habitat
- C. Interbreeding
- D. Live in different habitat

**Answer: C**



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**248.** In which era reptiles were dominated ?

- A. Coenozoic era
- B. Mesozoic era
- C. Paleozoic era

D. Archaeozoic era

**Answer: B**



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**249.** Number of wildlife is continuously decreasing . What is the main reason for this?

- A. Predation
- B. Cutting down of forest
- C. Destruction of habitat
- D. Hunting

**Answer: C**



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**250.** In Angiosperms pollen tube liberate their male gametes into the :

- A. Central cell
- B. Antipodal cells
- C. Egg cell
- D. Synergids

**Answer: D**



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**251.** Maximum green house gas released by which country:-

- A. India
- B. France
- C. U.S.A
- D. Britain

**Answer: C**



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**252.** What is the direction of micropyle in anatropous ovule

- A. Upward
- B. Downward
- C. Right
- D. Left

**Answer: B**



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**253.** Which type of association is found in between entomophilous flower and pollinating agent ?

- A. Mutualism
- B. Commonsalism
- C. Coperation
- D. Co-evolution

**Answer: A**



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**254.** in which of the following the notochord is present in embryonic stage

- A. All chordates
- B. Some chordates
- C. Vertebrates
- D. Non chordates

**Answer: A**



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**255.** In angiosperm, all 4 microspores of tetrad are covered by a layer which is formed by

A. Pectocellulose

B. Callose

C. Cellulose

D. Sporopollenin

**Answer: B**



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**256.** In which of the following animal dimorphic nucleus is found

A. *Amoeba proteus*

B. *Trypanosoma gambiens*

C. *Plasmodium vivax*

D. *Paramecium caudatum*

**Answer: D**



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**257.** Two different species cannot live for long duration in the same niche or habitat. This law is called

A. Allen's law

B. Gause's law

C. Competitive exclusion principal

D. Weiseman's theory

**Answer: B**



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**258.** Which of the following is a correct pair?

- A. *Cuscuta* – parasite
- B. *Dischidia* – insectivorous
- C. *Opuntia* – predator
- D. *Capsella* – hydrophyte

**Answer: A**



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**259.** A bamboo plant is growing in a forest. What will be its trophic level?

- A. First trophic level ( $T_1$ )
- B. Second trophic level ( $T_2$ )
- C. Third trophic level ( $T_3$ )
- D. Fourth trophic level ( $T_4$ )

**Answer: A**



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**260.** Which pigment absorbs the red and farred light

- A. Cytochrome
- B. Phytochrome
- C. Carotenoids
- D. Chlorophyll

**Answer: B**



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**261.** Opening and closing of stomata is due to

- A. Hormonal change in guard cells

B. Change in Turgor pressure of guard cells

C. Gaseous exchange

D. Respiration

**Answer: B**



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**262.** How many ATP molecules are produced by the aerobic oxidation of one molecule of glucose ?

A. 2

B. 4

C. 38

D. 34

**Answer: C**



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**263.** Choose the correct match.

Bladderwort , sundew, venus, flytrap

- A. Nepenthes, Dionea, Drosera
- B. Nepenthes, Utricularia, Vanda
- C. Utricularia, Drosera, Dionea
- D. Dionea, Trapa, Vanda

**Answer: C**



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**264.** In photosynthesis , energy from light reaction to dark reaction is transferred in the form of

- A. ADP
- B. ATP

C. RUDP

D. Chlorophyll

**Answer: B**



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**265.** Which of the following absorb light energy for photosynthesis : -

A. Chlorophyll

B. Water molecule

C.  $O_2$

D. RUBP

**Answer: A**



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**266.** Seed dormancy is due to the : -

- A. Ethylene
- B. Abscissic acid
- C. IAA
- D. Starch

**Answer: B**



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**267.** Edible part of mango is

- A. Mesocarp
- B. Epicarp
- C. Endocarp
- D. Epidermis

**Answer: A**



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**268.** What is true for cleavage : -

- A. Size of embryo increase
- B. Size of cells decrease
- C. Size of cells increase
- D. Size of embryo decrease

**Answer: B**



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**269.** Geocarpic fruit is : -

- A. Potato

B. Peanut

C. Onion

D. Garlic

**Answer: B**



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**270.** In which animal, nerve cell is present but brain is absent ?

A. Sponge

B. Earthworm

C. Cockroach

D. Hydra

**Answer: D**



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**271.** in bacteria plasmid is

- A. Extra chromosomal material
- B. Main DNA
- C. Non functional DNA
- D. Repetative gene

**Answer: A**



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**272.** Transformation experiment was first performed on which bacteria : -

- A. E. coli
- B. Diplococcus pneumoniae
- C. Salmonella
- D. Pasteurella pestis

**Answer: B**



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**273.** Which statement is correct for bacterial transduction : -

- A. Transfer of some genes from one bacteria to another bacteria through virus
- B. Transfer of some genes from one bacteria to another bacteria by conjugation
- C. Bacteria obtained its DNA directly
- D. Bacteria obtained DNA from other external source

**Answer: A**



**Watch Video Solution**

**274.** Which steroid is used for transformation ?

A. Cortisol

B. Cholesterol

C. Testosteron

D. Progesteron

**Answer: B**



**Watch Video Solution**

**275.** main funcation of lenticel is

A. Transpiration

B. Guttation

C. Gaseous exchange

D. Bleeding

**Answer: C**



**Watch Video Solution**

**276.** Which of the following is the example of sex-linked disease?

- A. AIDS
- B. Colour blindness
- C. Syphilis
- D. Gonorrhoea

**Answer: B**



**Watch Video Solution**

**277.** Vessels are found in:-

- A. All angiosperms and some gymnosperm
- B. Most of the angiosperm and few gymnosperms
- C. All angiosperms, all gymnosperms and some pteridophyta

D. All pteridophyta

**Answer: B**



**Watch Video Solution**

**278.** In E.coli during lactose metabolism, repressor binds to :

A. Regulator gene

B. Operator gene

C. Structural gene

D. Promoter gene

**Answer: B**



**Watch Video Solution**

**279.** Four radial V.B. are found in : -

- A. Dicot root
- B. Monocot root
- C. Dicot stem
- D. Monocot stem

**Answer: A**



**View Text Solution**

**280.** Which of the following is the example of pleiotropic gene , -

- A. Haemophilia
- B. Thalassemia
- C. Sickle cell anaemia
- D. Colour blindness

**Answer: C**



**Watch Video Solution**

**281.** A gene is said to be dominant, if

- A. It express it's effect only in homozygous stage
- B. It expressed only in heterozygous condition
- C. It expressed both in homozygous and heterozygous condition
- D. It never expressed in any condition

**Answer: C**



**Watch Video Solution**

**282.** Axillary bud and terminal bud are derived from the activity of

- A. Lateral meristem
- B. Intercalary meristem
- C. Apical meristem

D. Parenchyma

**Answer: C**



**Watch Video Solution**

**283.** If a diploid cell is treated with colchicine, then it becomes

A. Triploid

B. Tetraploid

C. Diploid

D. Monoploid

**Answer: B**



**Watch Video Solution**



**284.** The reason of formation of embryoid from pollen grain in a tissue culture medium is

- A. Cellular totipotency
- B. Organogenesis
- C. Double fertilization
- D. Test tube culture

**Answer: A**



**Watch Video Solution**

**285.** A plant of  $F_1$ -generation has genotype 'AABbCC'. On selfing of this plant, the phenotypic ratio in  $F_2$ -generation will be

- A. 3:1
- B. 1:1
- C. 9:3:3:1

D. 27:9:9:9:3:3:3:1

**Answer: A**



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**286.** In DNA percentage of thymine is 20, then what is the percentage of guanine ?

A. 20 %

B. 40 %

C. 30 %

D. 60 %

**Answer: C**



**Watch Video Solution**

**287.** A diseased man marries a normal woman. They get three daughters and five sons were normal. The gene of this disease is :

- A. Sex linked dominant
- B. Sex linked recessive
- C. Sex limited character
- D. Autosomal dominant

**Answer: A**



**Watch Video Solution**

**288.** Out of 64 codons, 61 codons code for 20 types of amino acid. It is called

- A. Degeneracy of genetic code
- B. Overlapping of gene
- C. Wobbling of codon

D. Universality of codons

**Answer: A**



**Watch Video Solution**

**289.** Jacob and Monod studied lactose metabolism in *E. coli* and Proposed operon concept , which is applicable for

- A. All prokaryotes
- B. All prokaryotes and some eukaryotes
- C. All prokaryotes and all eukaryotes
- D. All prokaryotes and some protozoanes

**Answer: A**



**Watch Video Solution**

**290.** Collagen is

- A. Fibrous protein
- B. Globular protein
- C. Lipid
- D. Carbohydrate

**Answer: A**



**Watch Video Solution**

**291.** Lipids are insoluble in water, because lipids molecules are

- A. Hydrophilic
- B. Hydrophobic
- C. Neutral
- D. Zwitter ions

**Answer: B**



**Watch Video Solution**

**292.** Exon part of m- RNA code for

- A. Protein
- B. Lipid
- C. Carbohydrate
- D. Phospholipid

**Answer: A**



**Watch Video Solution**

**293.** Which of the following statement is true : -

- A. Vessels are multicellular and with wide lumen

- B. Tracheids are multicellular and with narrow lumen
- C. Vessels are unicellular and with narrow lumen
- D. Tracheids are unicellular and with wide lumen

**Answer: A**



**Watch Video Solution**

**294.** Which of the following enzyme is used to join DNA fragments :

- A. Ligase
- B. Primase
- C. DNA polymerase
- D. Endonuclease

**Answer: A**



**Watch Video Solution**

**295.** which of the following crops have been brought to india from new world?

- A. Cashewnut, potato, rubber
- B. Mango, tea
- C. Tea, rubber, mango
- D. Coffee

**Answer: A**



**Watch Video Solution**

**296.** Manipulation of DNA in genetic engineering became possible due to the discovery of

- A. Restriction endonuclease
- B. DNA ligase
- C. Transcriptase



D. Primase

**Answer: A**



**Watch Video Solution**

**297.** There are three genes a, b, c, percentage of crossing over between a and b is 20%, b and c is 28% and a and c is 8%. What is the sequence of genes on chromosome?

A. b, a, c

B. a, b, c

C. a, c, b

D. None

**Answer: A**



**Watch Video Solution**

**298.** Which of the following reunites the exon segments after RNA splicing ?

- A. RNA polymerase
- B. RNA primase
- C. RNA ligase
- D. RNA proteases

**Answer: C**



**Watch Video Solution**

**299.** Introduction of food plants developed by genetic engineering is not desirable because

- A. Economy of developing countries may suffer
- B. These products are less tasty as compared to the already existing products

C. This method is costly

D. There is danger of coming viruses, allergens and toxins with introduced crop

**Answer: D**



**Watch Video Solution**

**300.** Nucleus of a donor embryonal cell/somatic cell is transferred to an enucleated egg cell. Then after the formation of organism, what shall be true :-

A. Organism will have extranuclear genes of the donor cell

B. Organism will have extra nuclear genes of recipient cell

C. Organism will have extra nuclear genes of both donor and recipient cell

D. Organism will have nuclear genes of recipient cell

**Answer: B**



**Watch Video Solution**

**301.** Cellular totipotency is demonstrated by

- A. Only gymnosperm cells
- B. All plant cells
- C. All eukaryotic cells
- D. Only bacterial cells

**Answer: B**



**Watch Video Solution**

**302.** Viruses are no more "alive" than isolated chromosomes because

- A. They require both RNA and DNA

- B. They both need food molecules
- C. They both require oxygen for respiration
- D. Both require the environment of a cell to replicate

**Answer: D**



**Watch Video Solution**

**303.** Given below are four matchings of an animal and its kind of respiratory organ.

- A. Silver fish - Trachea
- B. Scorpion - Book lung
- C. Sea squirt - Pharyngeal gill slits
- D. Dolphin - Skin

The correct matchings are

- A. A and D
- B. A, B and C
- C. B and D
- D. C and D

**Answer: B**



**Watch Video Solution**

**304.** Convergent evolution is illustrated by

- A. Rat and dog
- B. Bacterium and protozoan
- C. Starfish and cuttle fish
- D. Dogfish and whale

**Answer: D**



**Watch Video Solution**

**305.** Which one of the following sequence was proposed by Darwin and Wallace for organic evolution

- A. Overproduction, variations, constancy of population size, natural selection
- B. Variations, constancy of population size, overproduction, natural selection
- C. Overproduction, constancy of population size, variations, natural selection
- D. Variations, natural selection, overproduction, constancy of population size

**Answer: C**



**Watch Video Solution**

**306.** Random genetic drift in a population probably result from

- A. Highly genetically variable individuals
- B. Interbreeding within this population

C. Constant low mutation rate

D. Large population size

**Answer: B**



**Watch Video Solution**

**307.** Bundle of His is a network of

A. Muscle fibres distributed throughout the heart walls

B. Muscle fibres found only in the ventricle wall

C. Nerve fibres distributed in ventricles

D. Nerve fibres found throughout the heart

**Answer: B**



**Watch Video Solution**



**308.** During prolonged fasting, the sequence of organic compound used by body is

- A. First carbohydrates, next fats and lastly proteins
- B. First fats, next carbohydrates and lastly proteins
- C. First carbohydrates, next proteins and lastly lipids
- D. First proteins, next lipids and lastly carbohydrates

**Answer: A**



**Watch Video Solution**

**309.** Which one of the following contains the largest quantity of extracellular material ?

- A. Striated muscle
- B. Aerolar tissue
- C. Stratified epithelium

D. Myelinated nerve fibres

**Answer: B**



**Watch Video Solution**

**310.** If Henle's loop were absent from mammalian nephron which of the following is to be expected

- A. There will be no urine formation
- B. There will be hardly any change in the quality and quantity of urine formed
- C. The urine will be more concentrated
- D. The urine will be more dilute

**Answer: D**



**Watch Video Solution**

**311.** Which group of vertebrates comprises the highest number of endangered species

A. Mammals

B. Fishes

C. Reptiles

D. Birds

**Answer: C**



**Watch Video Solution**

**312.** Fluoride pollution mainly affects

A. Brain

B. Heart

C. Teeth

D. Kidney

**Answer: C**



**Watch Video Solution**

**313.** Two opposite forces operate in the growth and development of every population. One of them relates to the ability to reproduce at a given rate. The other force opposing is called :

- A. Morbidity
- B. Fecundity
- C. Biotic potential
- D. Environmental resistance

**Answer: D**



**Watch Video Solution**

**314.** Which one of the following bacteria has found extensive use in genetic engineering work in plants?

- A. *Clostridium septicum*
- B. *Xanthomonas citri*
- C. *Bacillus coagulans*
- D. *Agrobacterium tumefaciens*

**Answer: D**



**Watch Video Solution**

**315.** Test tube baby means a baby born when

- A. It is developed in a test tube
- B. It is developed through tissue culture method
- C. The ovum is fertilised externally and thereafter implanted in the uterus

D. It develops from a non-fertilized egg

**Answer: C**



**Watch Video Solution**

**316.** In which one of the following do the two names refer to one and the same thing

- A. Kreb's cycle and Calvin cycle
- B. Tricarboxylic acid cycle and citric acid cycle
- C. Citric acid cycle and Calvin cycle
- D. Tricarboxylic acid cycle and urea cycle

**Answer: B**



**Watch Video Solution**

**317.** Down's syndrome is caused by an extra copy of chromosome number 21. What percentage of offspring produced by an affected mother and a normal father would be affected by this disorder

A. 100 %

B. 75 %

C. 50 %

D. 25 %

**Answer: C**



**Watch Video Solution**

**318.** Maximum application of animal cell culture technology today is in the production of:

A. Insulin

B. Interferons

C. Vaccines

D. Edible proteins

**Answer: C**



**Watch Video Solution**

**319.** *Escherichia coli* is used as an indicator organism to determine pollution of water with:

A. Heavy metals

B. Faecal matter

C. Industrial effluents

D. Pollen of aquatic plants

**Answer: B**



**Watch Video Solution**



**320.** Which of the following pairs correctly matches a hormone with the disease resulting from its deficiency ?

- A. Relaxin – Gigantism
- B. Prolactin – Cretinism
- C. Parathyroid hormone – Tetany
- D. Insulin – Diabetes insipidus

**Answer: C**



**Watch Video Solution**

**321.** Carcinoma refers to:

- A. Malignant tumours of the connective tissue
- B. Malignant tumours of the skin or mucous membrane
- C. Malignant tumours of the colon
- D. Benign tumours of the connective tissue

**Answer: B**



**Watch Video Solution**

**322.** Which endangered animal is the source of the world's finest, lightest, jwarmest and most expensive wool the shahtoosh ?

A. Nilgai

B. Cheetal

C. Kashmiri goat

D. Chiru

**Answer: D**



**Watch Video Solution**

**323.** Which one of the following is a matching pair of an animal and a certain phenomenon it exhibits?

- A. Pheretima – Sexual dimorphism
- B. Musca – Complete metamorphosis
- C. Chameleon – Mimicry
- D. Taenia – Polymorphism

**Answer: B**



**Watch Video Solution**

**324.** Short-lived immunity acquired from mother to foetus across placenta or through mother's milk to the infant is categorized as:

- A. Active immunity
- B. Passive immunity
- C. Cellular immunity
- D. Innate non-specific immunity

**Answer: B**



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**325.** In recent years, DNA sequence (nucleotide sequence) of mt-DNA and Y chromosomes were considered for the study of human evolution, because

- A. They are small, and therefore, easy to study
- B. They are uniparental in origin and do not take part in recombination
- C. Their structure is known in greater detail
- D. They can be studied from the samples of fossil remains

**Answer: B**



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**326.** What is true about T-lymphocytes in mammals?

- A. There are three main types-cytotoxic T-cells, helper T-cells and suppressor T-cells
- B. These originate in lymphoid tissues
- C. They scavenge damaged cells and cellular debris
- D. These are produced in thyroid

**Answer: A**



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**327.** Industrial melanism is an example of

- A. Drug resistance
- B. Darkening of skin due to smoke from industries
- C. Protective resemblance with the surroundings
- D. Defensive adaptation of skin against ultraviolet radiations

**Answer: C**



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**328.** In a random mating population in equilibrium, which of the following brings about a change in gene frequency in a non-directional manner?

- A. Mutations
- B. Random drift
- C. Selection
- D. Migration

**Answer: A**



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**329.** Darwin in his 'Natural Selection Theory' did not believe in any role of which one of the following in organic evolution

- A. Parasites and predators as natural enemies

- B. Survival of the fittest
- C. Struggle for existence
- D. Discontinuous variations

**Answer: D**



**Watch Video Solution**

**330.** Which one of the following correctly describes the homologous structures?

- A. Organs with anatomical similarities, but performing different functions
- B. Organs with anatomical dissimilarities but performing same function
- C. Organs that have no function now, but had an important function in ancestors

D. Organs appearing only in embryonic stage and disappearing later in the adult

**Answer: A**



**Watch Video Solution**

**331.** Ommatidia serve the purpose of photoreception in

A. Cockroach

B. Frog

C. Humans

D. Sunflower

**Answer: A**



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**332.** During the life-cycle, *Fasciola hepatica* ( liver-fluke) infects its intermediate host and primary host at the following larval stages respectively.

- A. Redia and miracidium
- B. Cercaria and redia
- C. Metacercaria and cercaria
- D. Miracidium and metacercaria

**Answer: D**



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**333.** Sycon belongs to a group of animals which are best described as

- A. Unicellular or acellular
- B. Multicellular without any tissue organization
- C. Multicellular with a gastrovascular system

D. Multicellular having tissue organization, but no body cavity

**Answer: B**



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**334.** During translation initiation in prokaryotes, a GTP molecule is needed in :

- A. Formation of formyl-met-tRNA
- B. Binding of 30S subunit of ribosome with mRNA
- C. Association of 30 S-mRNA with formylmet- tRNA
- D. Association of 50 S subunit of ribosome with initiation complex

**Answer: C**



**Watch Video Solution**

**335.** In the genetic code dictionary, how many codons are used to code for all the 20 essential amino acids ?

- A. 20
- B. 64
- C. 61
- D. 60

**Answer: C**



**Watch Video Solution**

**336.** Which of the following discoveries resulted in a Nobel Prize : -

- A. X-rays induce sex-linked recessive lethal mutations
- B. Cytoplasmic inheritance
- C. Recombination of linked genes
- D. Genetic engineering

**Answer: A**



**View Text Solution**

**337.** the linkage map of X -chromosomes of fruitfly has 66 units with yellow body gene (y) at one end and bobbed hair (b) gene at the other end the recombination frequency between these two genes (y and b) should be :

- A. 60 %
- B.  $> 50 \%$
- C.  $\leq 50 \%$
- D. 100 %

**Answer: C**



**Watch Video Solution**

**338.** Genes for cytoplasmic male sterility in plants are located in

- A. Chloroplast genome
- B. Mitochondrial genome
- C. Nuclear-genome
- D. Cytosol

**Answer: B**



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**339. Systemic heart refers to**

- A. The heart that contracts under stimulation from nervous system
- B. Left auricle and left ventricle in higher vertebrates
- C. Entire heart in lower vertebrates
- D. The two ventricles together in humans

**Answer: B**



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**340.** What used to be described as Nissl granules in a nerve cell are now identified as

- A. Cell metabolites
- B. Fat granules
- C. Ribosomes
- D. Mitochondria

**Answer: C**



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**341.** chromosomes in a bacterial cell can be 1-3 in number and :

- A. Are always circular
- B. Are always linear
- C. Can be either circular or linear, but never both within the same cell

D. Can be circular as well as linear within the same cell

**Answer: A**



**Watch Video Solution**

**342.** Two crosses between the same pair of genotypes or phenotypes in which the sources of the gametes are reversed in one cross, is known as:

- A. Test cross
- B. Reciprocal cross
- C. Dihybrid cross
- D. Reverse cross

**Answer: B**



**Watch Video Solution**

**343.** What does "lac" refer to in what we call the lac operon ?

- A. Lactose
- B. Lactase
- C. Lac insect
- D. The number 1,00,000

**Answer: A**



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**344.** The genes controlling the seven pea characters studied by Mendel are now known to located on how many different chromosomes?

- A. Seven
- B. Six
- C. Five
- D. Four



**Answer: D**



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**345.** Which one of the following traits of Garden Pea studied by Mendel was a recessive feature ?

- A. Axial flower position
- B. Green seed colour
- C. Green pod colour
- D. Round seed shape

**Answer: B**



**Watch Video Solution**

**346.** Which one of the following conditions though harmful in itself ,is also a potential saviour from a mosquutio borne infectious disease?

- A. Thalassemia
- B. Sickle cell anaemia
- C. Pernicious anaemia
- D. Leukemia

**Answer: B**



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**347.** Pattern baldness, moustaches and beard in human males are examples of :

- A. Sex linked traits
- B. Sex limited traits
- C. Sex differentiating traits
- D. Sex-determining traits

**Answer: B**



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**348.** Degeneration of a genetic code is attributed to the :

- A. First member of a codon
- B. Second member of a codon
- C. Entire codon
- D. Third member of a codon

**Answer: D**



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**349.** When a cluster of genes shows linkage behaviour they

- A. Do not show a chromosome map
- B. Show recombination during meiosis
- C. Do not show independent assortment

D. Induce cell division

**Answer: C**



**Watch Video Solution**

**350.** Establishment of polarity (anterior/posterior, dorsal/ventral, medial/lateral) is called

A. Organizer phenomena

B. Axis formation

C. Anamorphosis

D. Pattern formation

**Answer: A**



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**351.** During transcription, the site of DNA molecule at which RNA polymerase binds is called

- A. Promoter
- B. Regulator
- C. Receptor
- D. Enhancer

**Answer: A**



**Watch Video Solution**

**352.** Christmas disease' is another name for :

- A. Haemophilia B
- B. Hepatitis B
- C. Down's syndrome
- D. Sleeping sickness

**Answer: A**



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**353.** In *Drosophila*, the sex is determined by

- A. The ratio of number of X-chromosomes to the sets of autosomes
- B. X and Y chromosomes
- C. The ratio of pairs of X-chromosomes to the pairs of autosomes
- D. Whether the egg is fertilized or develops parthenogenetically

**Answer: A**



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**354.** Which one of the following pairs is not correctly matched

- A. Vitamin C – Scurvy

B. Vitamin  $B_2$  – Pellagra

C. Vitamin  $B_{12}$  – Pernicious anaemia

D. Vitamin  $B_6$  – Beri-beri

**Answer: D**



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**355.** What would happen if in a gene encoding a polypeptide of 50 amino acids, 25th codon (UAU) is mutated to UAA ?

A. A polypeptide of 25 amino acids will be formed

B. Two polypeptides of 24 and 25 amino acids will be formed

C. A polypeptide of 49 amino acids will be formed

D. A polypeptide of 25 amino acids will be formed

**Answer: A**



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**356.** During anaerobic digestion of organic waste, such as in the producing biogas, Which one of the following is left undegraded ?

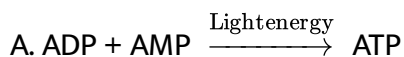
- A. Lipids
- B. Lignin
- C. Hemi-cellulose
- D. Cellulose

**Answer: B**



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**357.** Which of the following concerns photophosphorylation







**Answer: B**



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**358.** The major role of minor element inside living organisms is to act as:

- A. co-factors of enzymes
- B. Building blocks of important amino acids
- C. Constituent of hormones
- D. Binder of cell structure

**Answer: A**



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**359.** Element located in centre of porphyrin ring of chlorophyll is

- A. Calcium
- B. Magnesium
- C. Potassium
- D. Manganese

**Answer: B**



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**360.** The major portion of the dry weight of plants comprised of

- A. Nitrogen, phosphorus and potassium
- B. Calcium, magnesium and sulphur
- C. Carbon, nitrogen and hydrogen
- D. Carbon, hydrogen and oxygen

**Answer: D**



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**361.** Which one of the following elements plays an important role in biological nitrogen fixation

or

Browning of cauliflower takes due to deficiency of which one of the following elements

A. Copper

B. Manganese

C. Zinc

D. Molybdenum

**Answer: D**



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**362.** Stomata of CAM plants

- A. Are always open
- B. Open during the day and close at night
- C. Open during the night and close during the day
- D. Never open

**Answer: C**



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**363.** In flowering plants archesporium gives rise to

- A. Only the wall of the sporangium
- B. Both wall and the sporogenous cells
- C. Wall and the tapetum
- D. Only tapetum and sporogenous cells

**Answer: B**



**Watch Video Solution**

**364.** Differentiation of shoot is promoted by

- A. High auxin : cytokinin ratio
- B. High cytokinin : auxin ratio
- C. High gibberellin : auxin ratio
- D. High gibberellin : cytokinin ratio

**Answer: B**



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**365.** The cells of the quiescent centre are characterised by

- A. Having dense cytoplasm and prominent nuclei
- B. Having light cytoplasm and small nuclei
- C. Dividing regularly to add to the corpus

D. Dividing regularly to add to tunica

**Answer: B**



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**366.** In sugarcane plant  $^{14}CO_2$  is fixed in malic acid, in which the enzyme that fixes  $CO_2$  is

- A. Ribulose biphosphate carboxylase
- B. Phosphoenol pyruvic acid carboxylase
- C. Ribulose phosphate kinase
- D. Fructose phosphatase

**Answer: B**



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**367.** Stomata of a plant open due to

- A. Influx of potassium ions
- B. Efflux of potassium ions
- C. Influx of hydrogen ions
- D. Influx of calcium ions

**Answer: A**



**Watch Video Solution**

**368.** Plants deficient of element zinc, show its effect on the biosynthesis of plant growth hormone

- A. Auxin
- B. Cytokinin
- C. Ethylene
- D. Abscissic acid

**Answer: A**



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**369.** Which one of the following is wrong in relation to photorespiration

- A. It occurs in chloroplasts
- B. It occurs in daytime only
- C. It is a characteristic of  $C_4$  plants
- D. It is a characteristic of  $C_3$  plants

**Answer: C**



**Watch Video Solution**

**370.** In which one of the following nitrogen is not a constituent : -

- A. Idioblast



B. Bacteriochlorophyll

C. Invertase

D. Pepsin

**Answer: A**



**Watch Video Solution**

**371.** Diffuse porous woods are characterstic of plants growing in

A. Alpine region

B. Cold winter regions

C. Temperate climate

D. Tropics

**Answer: D**



**Watch Video Solution**

**372.** Apical meristem of root is present

- A. Only in radicals
- B. Only in tap roots
- C. Only in adventitious roots
- D. In all the roots

**Answer: D**



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**373.** Biosystematics aims at

- A. The classification of organisms based on broad morphological characters
- B. Delimiting various taxa of organism and establishing their relationships

- C. The classification of organisms based on their evolutionary history and establishing their phylogeny on the totality of various parameters from all fields of studies
- D. Identification and arrangement of organisms on the basis of cytological characteristics

**Answer: C**



**Watch Video Solution**

**374.** juicy hair-like structures observed in the lemon fruit develop from

- A. Exocarp
- B. Mesocarp
- C. Endocarp
- D. Mesocarp and endocarp

**Answer: C**



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**375.** Which fractions of the visible spectrum of solar radiations are primarily absorbed by carotenoids of the higher plants

- A. Blue and green
- B. Green and red
- C. Red and violet
- D. Violet and blue

**Answer: D**



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**376.** *Nicotiana sylvestris* flowers only during long days and *N.tobacum* flower only during long days in the labortory undre different photoperiods , they can be induced to flower at the same time and can be cross fertizd to flower aat the and can be corss fertilized to produce self

- fertile offspring .What is the best reason for considering *N. sylvestris* and *N. tabacum* to be separate species

- A. They cannot interbreed in nature
- B. They are reproductively distinct
- C. They are physiologically distinct
- D. They are morphologically distinct

**Answer: A**



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**377.** In which kingdom would you include archaea and nitrogen fixing organisms in the five kingdom classification

- A. Plantae
- B. Fungi
- C. Protista

D. Monera

**Answer: D**



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**378.** Which of the following plants are used as green manure in crop fields and in sandy soils

- A. *Crotalaria juncea* and *Alhagi camelorum*
- B. *Calotropis procera* and *Phyllanthus niruri*
- C. *Saccharum munja* and *Lantana camara*
- D. *Dichanthium annulatum* and *Azolla nilotica*

**Answer: A**



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**379.** Which one pair of examples will correctly represent the grouping Spermatophyta according to one of the schemes of classifying plants : -

- A. Acacia, Sugarcane
- B. Pinus, Cycas
- C. Rhizopus, Triticum
- D. Ginkgo, Pisum

**Answer: D**



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**380.** Plants reproducing by spores such as mosses and ferns are grouped under the geneal term:-

- A. Cryptogams
- B. Bryophytes
- C. Sporophytes

D. Thallophytes

**Answer: A**



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**381.** Chief advantage of encystment to an Amoeba is

- A. The ability to survive during adverse
- B. The ability to live for some time without ingesting food
- C. Protection from parasites and predators
- D. The chance to get rid of accumulated waste products

**Answer: A**



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**382.** Bartholin's glands are situated:



- A. On the sides of the head of some amphibians
- B. At the reduced tail end of birds
- C. On either side of vagina in humans
- D. On either side of vas deferens in humans

**Answer: C**



**Watch Video Solution**

**383.** Chlorenchyma is known to develop in the

- A. Cytoplasm of Chlorella
- B. Mycelium of a green mould such as Aspergillus
- C. Spore capsule of a moss
- D. Pollen tube of Pinus

**Answer: C**



**Watch Video Solution**

**384.** Boron in green plants assists in

- A. Activation of enzymes
- B. Acting of enzyme cofactor
- C. Photosynthesis
- D. Sugar transport

**Answer: D**



**Watch Video Solution**

**385.** Which one of the following is categorised under living fossils : -

- A. Pinus
- B. Cycas
- C. Selaginella

D. mint

**Answer: B**



**Watch Video Solution**

**386.** ELISA is used to detect viruses where the key reagent is:

A. Alkaline phosphatase

B. Catalase

C. DNA probe

D. RNase

**Answer: A**



**Watch Video Solution**

**387.** Tobacco mosaic virus is a tubular filament of size

A.  $300 \times 10 \text{ nm}$

B.  $300 \times 5 \text{ nm}$

C.  $300 \times 20 \text{ nm}$

D.  $700 \times 30 \text{ nm}$

**Answer: C**



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**388.** Mycorrhiza is an example of

A. Symbiotic relationship

B. Ectoparasitism

C. Endoparasitism

D. Decomposers

**Answer: A**



**Watch Video Solution**

**389.** In alcohol fermentation,

- A. Triose phosphate is the electron donor while acetaldehyde is the electron acceptor
- B. Triose phosphate is the electron donor while pyruvic acid is the electron acceptor
- C. There is no electron donor
- D. Oxygen is the electron acceptor

**Answer: A**



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**390.** Phenetic classification of organisms is based on

- A. The ancestral lineage of existing organisms

- B. Observable characteristics of existing organisms
- C. Dendrograms based on DNA characteristics
- D. Sexual characteristics

**Answer: B**



**Watch Video Solution**

**391.** Sexual reproduction of Spirogyra is an advanced feature as it shows

- A. Different size of motile sex organs
- B. Same size of motile sex organs
- C. Morphologically different sex organs
- D. Physiologically differentiated sex organs

**Answer: D**



**Watch Video Solution**

**392.** Which one of the following statements about viruses is correct

- A. Viruses possess their own metabolic system
- B. All viruses contain both RNA and DNA
- C. Viruses are obligate parasites
- D. Nucleic acid of viruses is known as capsid

**Answer: C**



**Watch Video Solution**

**393.** Which one of the following pairs of plants are not seed producers?

- A. Fern and Funaria
- B. Funaria and Ficus
- C. Ficus and Chlamydomonas
- D. Punica and Pinus

**Answer: A**



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**394.** Species are considered as

- A. Real basic units of classification
- B. The lowest units of classification
- C. Artificial concept of human mind which cannot be defined in absolute terms
- D. Real units of classification devised by taxonomists

**Answer: A::B**



**Watch Video Solution**

**395.** Which one of the following triplet codes, is correctly matched with its specificity for an amino acid in protein synthesis or as 'start' or 'stop'



codon ?

- A. UCG – Start
- B. UUU – Stop
- C. UGU – Leucine
- D. UAC – Tyrosine

**Answer: D**



**Watch Video Solution**

**396.** Coconut milk factor is

- A. An auxin
- B. A gibberellin
- C. Abscissic acid
- D. Cytokinin

**Answer: D**



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**397.** Gray spots of oat are caused by the deficiency of

- A. Cu
- B. Zn
- C. Mn
- D. Fe

**Answer: C**



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**398.** Genetic map is one that :

- A. Establishes sites of the genes on a chromosome
- B. Establishes the various stages in gene evolution
- C. Shows the stages during the cell division

D. Shows the distribution of various species in a region

**Answer: A**



**Watch Video Solution**

**399.** The aleurone layer in maize grain is specially rich in :-

A. Proteins

B. Starch

C. Lipids

D. Auxins

**Answer: A**



**Watch Video Solution**

**400.** the term" Antibiotic " was coined by

- A. Edward Jenner
- B. Louis Pasteur
- C. Selmán Waksman
- D. Alexander Fleming

**Answer: C**



**Watch Video Solution**

**401.** Blood analysis of a patient reveals an unusually high quantity of carboxyhemoglobin content. Which of the following conclusion is the most likely to be correct? The patient has been inhaling polluted air containing unusually high content of

- A. Chloroform
- B. Carbon dioxide
- C. Carbon monoxide
- D. carbon disulphide

**Answer: C**



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**402.** You are required to draw blood from a patient and to keep in it a test tube for analysis of blood corpuscles and plasma. You are also provided with the following four types of test tubes. Which of them will you not use for the purpose.

- A. Chilled test tube
- B. Test tube containing heparin
- C. Test tube containing sodium oxalate
- D. Test tube containing calcium bicarbonate

**Answer: D**



**Watch Video Solution**

**403.** The cardiac pacemaker in a patient fails to function normally. The doctors find that an artificial pacemaker is to be grafted in him. It is likely that it will be grafted at the site of —

- A. Purkinje system
- B. Sinuatrial node
- C. Atrioventricular node
- D. Atrioventricular bundle

**Answer: B**



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**404.** What is a keystone species?

- A. A common species that has plenty of biomass, yet has a fairly low impact on the community's organization

- B. A rare species that has minimal impact on the biomass and on other species in the community
- C. A dominant species that constitutes a large proportion of the biomass and which affects many other species
- D. A species which makes up only a small proportion of the total biomass of a community, yet has a huge impact on the community's organization and survival

**Answer: D**



**Watch Video Solution**

**405.** The most well studied bacterial- plant relationship is that of

- A. Gall formation on certain angiosperms by *Agrobacterium*
- B. Nodulation of *Sesbania* stems by nitrogen fixing bacteria
- C. Plant growth stimulation by phosphate– solubilising bacteria

D. Cyanobacterial symbiosis with some aquatic ferns

**Answer: A**



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**406.** Which one of the following precedes re-formation of the nuclear envelope during M phase of the cell cycle.

- A. Transcription from chromosomes and reassembly of the nuclear lamina
- B. Formation of the contractile ring and formation of the phragmoplast
- C. Formation of the contractile ring and transcription from chromosomes
- D. Decondensation from chromosomes and reassembly of the nuclear lamina



**Answer: B**



**Watch Video Solution**

**407.** The richest sources of vitamin  $B_{12}$  are

- A. Chocolate and green gram
- B. Rice and hen's egg
- C. Carrot and chicken's breast
- D. Goat's liver and Spirulina

**Answer: D**



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**408.** In transgenics, the expression of transgene in the target tissue is known by

A. Transgene

B. Promoter

C. Reporter

D. Enhancer

**Answer: B**



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**409.** A normal woman whose father was colour blind is married to a normal man .The sons would be :

A. 50% colour-blind

B. All normal

C. All colour-blind

D. 75 % colour-blind

**Answer: A**

**410.** Age of fossils in the past was generally determined by radiocarbon method and other methods involving radioactive elements found in the rocks. More precise methods, which were used recently and led to the revision of the evolutionary periods for different groups of organisms, includes

- A. Study of the conditions of fossilization
- B. Electron spin resonance (ESR) & fossil DNA
- C. Study of carbohydrates/proteins in rocks
- D. Study of carbohydrates/proteins in fossils

**Answer: B**

**411.** What kind of evidences suggested that man is more closely related with chimpanzee than with other hominoid apes?

- A. Comparison of chromosomes morphology only
- B. Evidence from fossil remains and the fossil mitochondrial DNA alone
- C. Evidence from DNA extracted from sex chromosomes, autosomes & mitochondria
- D. Evidence from DNA from sex chromosomes only

**Answer: C**



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**412.** Anthesis is a phenomenon which refers to

- A. formation of pollen
- B. Development of anther

C. Opening of flower bud

D. Reception of pollen by stigma

**Answer: C**



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**413.** One set of a plant was grown at 12 hours day and 12 hours night period cycle and it flowered while in the other set night period cycles and it flowered while in the other set night phase was interrupted by flash of light and did not produce flower. Under which one of the following categories will you place this plant

A. Darkness neutral

B. Day neutral

C. Short day

D. Long day

**Answer: C**



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**414.** Lead concentration of blood is considered alarming at

- A.  $30 \mu\text{g}/100 \text{ ml}$
- B.  $4\text{-}6 \mu\text{g}/100 \text{ ml}$
- C.  $10 \mu\text{g}/100 \text{ ml}$
- D.  $20 \mu\text{g}/100 \text{ ml}$

**Answer: C**



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**415.** In which one of the following enzymes, is copper necessarily associated as an activator

- A. Tryptophanase
- B. Lactic dehydrogenase

C. Tyrosinase

D. Carbonic anhydrase

**Answer: C**



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**416.** DNA fingerprinting refers to

A. Analysis of DNA samples using imprinting devices

B. Techniques used for molecular analysis of different specimens of DNA

C. Techniques used for identification of fingerprints of individuals

D. Molecular analysis of profiles of DNA samples

**Answer: D**



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**417.** Flagella of prokaryotic and eukaryotic cells differ in

- A. Location in cell and mode of functioning
- B. Microtubular organization and type of movement
- C. Microtubular organization and function
- D. Type of movement & placement in cell

**Answer: B**



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**418.** The animals with bilateral symmetry in young stage and radial pentamerous symmetry in the adult stage, belong to the phylum -

- A. Mollusca
- B. Cnidaria
- C. Echinodermata
- D. Annelida



**Answer: C**



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**419.** In Arthropoda, head and thorax are often fused to form cephalothorax, but one of the following classes is the body divide into head, thorax and abdomen

A. Myriapoda

B. Crustacea

C. Arachnida and Crustacea

D. Insecta

**Answer: D**



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**420.** During transcription, if the nucleotide sequence of the DNA strand that is being coded is ATACG, then the nucleotide sequence in the mRNA would be

- A. TCTGG
- B. UAUGC
- C. UATGC
- D. TATGC

**Answer: B**



**Watch Video Solution**

**421.** In  $C_3$  plants, the first stable product of photosynthesis during dark reaction is

- A. Oxaloacetic acid
- B. 3-phosphoglyceric acid

C. Phosphoglyceraldehyde

D. Malic acid

**Answer: B**



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**422.** Extra nuclear inheritance is a consequence of presence of genes in

A. Endoplasmic reticulum & mitochondria

B. Ribosomes and chloroplast

C. Lysosomes and ribosomes

D. Mitochondria and chloroplasts

**Answer: D**



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**423.** Which of the following hormones is a derivative of amino acid

- A. Progesterone
- B. Prostaglandin
- C. Estrogen
- D. Epinephrine

**Answer: D**



**Watch Video Solution**

**424.** Viruses that infect bacteria, multiply and cause their lysis, are called

- A. Lipolytic
- B. Lytic
- C. Lysogenic
- D. Lysozymes

**Answer: B**



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**425.** The recessive genes located on X-Chromosomes in humans are always

- A. Sub-lethal
- B. Expressed in males
- C. Expressed in females
- D. Lethal

**Answer: B**



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**426.** Maximum growth rate occur in

- A. Senescent phase
- B. Lag phase
- C. Exponential phase
- D. Stationary phase

**Answer: C**



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#### **427. Restriction endonucleases**

- A. Are used in genetic engineering for ligating two DNA molecules
- B. Are used for in vitro DNA synthesis
- C. Are synthesized by bacteria as part of their defense mechanism
- D. Are present in mammalian cells for degradation of DNA when the cell dies

**Answer: C**



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**428.** In the resting state of the neural membrane diffusion due to concentration gradients, allowed, would drive

A.  $K^+$  and  $Na^+$  out of the cell

B.  $Na^+$  into the cell

C.  $Na^+$  out of the cell

D.  $K^+$  into the cell

**Answer: B**



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**429.** Crossing over that results in genetic recombination in higher organisms occurs between

A. Non-sister chromatids of a bivalent

- B. Two daughter nuclei
- C. Two different bivalents
- D. Sister chromatids of a bivalents

**Answer: A**



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**430.** Which of the following statements is not true for retroviruses

- A. Retroviruses carry gene for RNA-dependent DNA polymerase
- B. The genetic material in mature retroviruses is RNA
- C. Retroviruses are causative agents for certain kinds of cancer in man
- D. DNA is not present at any stage in the life cycle of retroviruses

**Answer: D**



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**431.** In a mutational event, when adenine is replaced by guanine it is a case of

Or A mutation which substitutes one base with another purine base is called

- A. Transcription
- B. Transition
- C. Transversion
- D. Frameshift mutation

**Answer: B**



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**432.** Ovulation in the human female normally takes place during the menstrual cycle

- A. Just before the end of the secretory cycle

- B. At the beginning of the proliferative phase
- C. At the end of the proliferative phase
- D. At the mid secretory phase

**Answer: C**



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**433.** Injury to vagus nerve in humans is not likely to affect

- A. Gastrointestinal movements
- B. Pancreatic secretion
- C. Cardiac movements
- D. Tongue movements

**Answer: D**



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**434.** Which of the following hormones is not a secretory product of human placenta?

- A. Prolactin
- B. Estrogen
- C. Progesterone
- D. Human chorionic gonadotropin

**Answer: A**



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**435.** An ovule which becomes curved so that the nucellus and embryo sac lie at right angles to the funicle is

- A. Campylotropous
- B. Anatropous
- C. Orthotropous

D. Hemitropous

**Answer: D**



**Watch Video Solution**

**436.** Angiosperms have dominated the land flora primarily by their

- A. Property of producing large number of seeds
- B. Nature of self pollination
- C. Domestication by man
- D. Power of adaptability in diverse habitat

**Answer: D**



**Watch Video Solution**

**437.** Edible part of mango is

A. Receptacle

B. Epicarp

C. Mesocarp

D. Endocarp

**Answer: C**



**Watch Video Solution**

**438.** In chloroplasts, chlorophyll is present in the

A. Inner membrane

B. Thylakoids

C. Stroma

D. Outer membrane

**Answer: B**



**Watch Video Solution**

**439.** In glycolysis, during oxidation, electrons are removed by

A. Glyceraldehyde-3-phosphate

B.  $NAD^+$

C. Molecular oxygen

D. ATP

**Answer: B**



**Watch Video Solution**

**440.** Dough kept overnight in warm weather becomes soft and spongy due to

A. Fermentation

B. Cohesion

C. Osmosis

D. Absorption of carbon dioxide from atmosphere

**Answer: A**



**Watch Video Solution**

**441.** In the somatic cell cycle.

- A. DNA replication takes place in S-phase
- B. A short interphase is followed by a long mitotic phase
- C.  $G_2$  phase follows mitotic phase
- D. In  $G_1$  phase DNA content is double the amount of DNA present in the original cell

**Answer: A**



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**442.** A male human is heterozygous for autosomal genes A and B and is also hemizygous for hemophilic gene h. What proportion of his sperms will be abh

A.  $1/32$

B.  $1/16$

C.  $1/4$

D.  $1/8$

**Answer: D**



**Watch Video Solution**

**443.** India's wheat yield revolution of 1960 s was possible primarily due to

A. Increased chlorophyll content

B. Mutations resulting in plant height reduction

C. Quantitative trait mutations



D. Hybrid seeds

**Answer: C**



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**444.** The most likely reason for the development of resistance against pesticides in insects damaging a crop is

- A. Genetic recombination
- B. Directed mutations
- C. Acquired heritable changes
- D. Random mutations

**Answer: D**



**Watch Video Solution**

**445.** The following ratio is generally constant for a given species

A.  $T + C / G + A$

B.  $G + C / A + T$

C.  $A + C / T + G$

D.  $A + G / C + T$

**Answer: B**



**Watch Video Solution**

**446.** A self-fertilizing trihybrid plant forms

A. 4 different gametes and 16 different zygotes

B. 8 different gametes and 16 different zygotes

C. 8 different gametes and 32 different zygotes

D. 8 different gametes and 64 different zygotes

**Answer: D**



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**447.** Lichens are well known combination of an alga and a fungus where fungus has

- A. An epiphytic relationship with the alga
- B. A parasitic relationship with the alga
- C. A symbiotic relationship with the alga
- D. A saprophytic relationship with the alga

**Answer: C**



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**448.** Which of the following is expected to have the highest value ( $gm/m^2/yr$ ) in a grassland ecosystem?

- A. Tertiary production
- B. Gross production (GP)
- C. Net production (NP)
- D. Secondary production

**Answer: B**



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**449.** Lack of independent assortment between two genes A and B in fruit fly *Drosophila* is due to

- A. Recombination
- B. Linkage
- C. Crossing over
- D. Repulsion

**Answer: B**



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**450.** In your opinion, which is the most effective way to conserve the plant diversity of an area?

- A. By creating biosphere reserve
- B. By creating botanical garden
- C. By developing seed bank
- D. By tissue culture method

**Answer: A**



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**451.** If by radiation all nitrogenase enzyme are inactivated, then there will be no:-

- A. Fixation of atmospheric nitrogen

- B. Conversion from nitrate to nitrite in legumes
- C. Conversion from ammonium to nitrate in soil
- D. Fixation of nitrogen in legumes

**Answer: D**



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**452.** In 1984 the Bhopal gas tragedy took place because methyl isocyanate reacted with:

- A. Reacted with ammonia
- B. Reacted with  $CO_2$
- C. Reacted with water
- D. Reacted with DDT

**Answer: C**



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**453.** Which one of the following is the correct matching of a vitamin , its nature and its deficiency disease

- A. Vitamin K–Fat soluble Beri Beri
- B. Vitamin A–Fat soluble Beri Beri
- C. Vitamin K–Water soluble Pellagra
- D. Vitamin A–Fat soluble Night blindness

**Answer: D**



**Watch Video Solution**

**454.** Photosynthetically active radiation (PAR) represents the following range of wavelength

- A. 450-950 nm
- B. 340-450 nm

C. 400-700 nm

D. 500-600 nm

**Answer: C**



**Watch Video Solution**

**455.** The technique of obtaining large number plantlets by tissue culture method is called

A. Organ culture

B. Micropropagation

C. Macropropagation

D. Plantlet culture

**Answer: B**



**Watch Video Solution**



**456.** The most abundant element present in the plants is

Or

Which of the following is not absorbed through soil

- A. Nitrogen
- B. Manganese
- C. Iron
- D. Carbon

**Answer: D**



**Watch Video Solution**

**457.** Cell elongation in internodal regions of the green plants takes place due to

- A. Cytokinins
- B. Gibberellins

C. Ethylene

D. Indole acetic acid

**Answer: B**



**Watch Video Solution**

**458.** Diversification in plant life appeared

A. Due to abrupt mutations

B. Suddenly on earth

C. By seed dispersal

D. Due to long periods of evolutionary changes

**Answer: D**



**Watch Video Solution**

**459.** A terrestrial animal must be able to

- A. Conserve water
- B. By creating botanical garden
- C. Excrete large amounts of salts in urine
- D. Excrete large amounts of water in urine

**Answer: A**



**Watch Video Solution**

**460.** Mast cells of connective tissue contain

- A. Heparin and histamine
- B. Heparin and calcitonin
- C. Serotonin and melanin
- D. Vasopressin and relaxin

**Answer: A**



**Watch Video Solution**

**461.** Uricotelism is found in

- A. Fishes and Fresh water protozoans
- B. Birds, reptiles and insects
- C. Frogs and toads
- D. Mammals and birds

**Answer: B**



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**462.** ATPase enzyme needed for muscle contraction is located in

" " Or

The contractile protein of skeletal muscle involving ATPase activity is

A. Troponin

B. Myosin

C. Actin

D. Actinin

**Answer: B**



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**463.** Certain characteristic demographic features of developing countries are

A. High fertility, high density, rapidly rising mortality rate and very young age distribution

B. High infant mortality, low fertility, uneven population growth and a very young age distribution

- C. High mortality high density, uneven population growth and a very old age distribution
- D. High fertility, low or rapidly falling mortality rate, rapid population growth and a very young age distribution

**Answer: D**



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**464.** Duodenum has characteristic Brunner's glands which secrete two hormones called

- A. Secretin, Cholecystokinin
- B. Prolactin, parathormone
- C. Estradiol, progesterone
- D. Kinase, estrogen

**Answer: A**



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**465.** Cancer cells are more easily damaged by radiation than normal cells because they are:

- A. Undergoing rapid division
- B. Different in structure
- C. Non-dividing
- D. Starved of mutation

**Answer: A**



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**466.** Which one of the following is not correctly matched?

- A. *Culex pipiens* – Filariasis
- B. *Aedes aegypti* – Yellow fever

C. *Anopheles culifaciens* – Leishmaniasis

D. *Glossina palpalis* – Sleeping sickness

**Answer: C**



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**467.** Which one of the following pairs is not correctly matched :-

A. *Serratia* – Drug addiction

B. *Spirulina* – Single cell protein

C. *Rhizobium* – Biofertilizer

D. *Streptomyces* – Antibiotic

**Answer: A**



**View Text Solution**



**468.** Which of the following pairs correctly matches a hormone with the disease resulting from its deficiency ?

- A. Insulin – Diabetes insipidus
- B. Thyroxine – Tetany
- C. Parathyroid hormone – Diabetes mellitus
- D. Luteinizing hormone – Failure of ovulation

**Answer: D**



**Watch Video Solution**

**469.** A major component of gobar gas is

- A. Methane
- B. Ethane
- C. Butane
- D. Ammonia

**Answer: A**



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**470.** A free-living nitrogen-fixing cyanobacterium which can also form symbiotic association with the water fern Azolla is :

- A. Chlorella
- B. Nostoc
- C. Anabaena
- D. Tolypothrix

**Answer: C**



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**471.** In the ABO system of blood group, if both antigens are present but no antibody, the blood group of the individual would be :

A. O

B. AB

C. A

D. B

**Answer: B**



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**472.** Plants adapted to low light intensity have

A. Higher rate of  $CO_2$  fixation than the sun plants

B. More extended root system

C. Leaves modified to spines

D. Larger photosynthetic unit size than the sun plants

**Answer: D**



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**473.** The Ti plasmid, is often used for making transgenic plants. This plasmid is found in

- A. Rhizobium of the roots of leguminous plants
- B. Agrobacterium
- C. Yeast as a 2  $\mu$ m plasmid
- D. Azotobacter

**Answer: B**



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**474.** During replication of a bacterial chromosome DNA synthesis starts from a replication origin site and

- A. Is facilitated by telomerase
- B. Moves in one direction of the size

C. Moves in bi-directional way

D. RNA primers are involved

**Answer: C**



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**475.** In a plant, red fruit (R ) is dominant over yellow fruit (r ) and tallness (T) is dominant over shortness (t). If a plant with RRTt genotype is crossed with a plant that is rrtt

A. 50% will be tall with red fruit

B. 75% will be tall with red fruit

C. All the offspring will be tall with red fruit

D. 25% will be tall with red fruit

**Answer: A**



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**476.** After a mutation at a genetic locus the character of an organism changes due to the change in :

- A. DNA replication
- B. Protein synthesis pattern
- C. RNA transcription pattern
- D. Protein structure

**Answer: D**



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**477.** According to Oparin, which one of the following was not present in the primitive atmosphere of the earth?

- A. Oxygen
- B. Hydrogen

C. Water vapour

D. Methane

**Answer: A**



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**478.** When  $CO_2$  concentration in blood increases breathing becomes

A. There is no effect on breathing

B. Slow and deep

C. Faster and deeper

D. Shallower and slow

**Answer: C**



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**479.** Which one of the following pairs is not correctly matched

- A. Vitamin  $B_6$  – Loss of appetite
- B. Vitamin  $B_1$  – Beri-beri
- C. Vitamin  $B_2$  – Pellagra
- D. Vitamin  $B_{12}$  – Pernicious annemia

**Answer: A**



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**480.** One of the followings is a very unique feature of the mammalian body

- A. Presence of diaphragm
- B. Four chambered heart
- C. Rib cage
- D. Homeothermy



**Answer: A**



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**481.** Chemically hormones are :-

- A. Proteins, steroids & biogenic amines
- B. Proteins only
- C. Steroids only
- D. Biogenic amines only

**Answer: A**



**View Text Solution**

**482.** When a fresh-water protozoan possessing a contractile vacuole, is placed in a glass containing marine water, the vacuole will

- A. Disappear
- B. Increase in size
- C. Decrease in size
- D. Increase in number

**Answer: A**



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**483.** One of the parents of a cross has mutation in mitochondria. In that cross, that parent is taken as a male. During segregation of  $F_2$ -progenies that mutation is found in

- A. None of the progenies
- B. All the progenies
- C. 50% of the progenies
- D. 1/3 of the progenies

**Answer: A**



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**484.** An ecosystem which can be easily damaged but can recover after some time if damaging effect stops will be having

- A. High stability and low resilience
- B. Low stability and low resilience
- C. High stability and high resilience
- D. Low stability and high resilience

**Answer: D**



**Watch Video Solution**

**485.** In which of the following pairs is the specific characteristic of a soil not correctly matched :-

- A. Terra rossa – Most suitable for roses
- B. Chernozems – Richest soil in the world
- C. Black soil – Rich in calcium carbonate
- D. Laterite – Contains aluminium compound

**Answer: A**



**View Text Solution**

**486.** Recently government of India has allowed mixing of alcohol in petrol. What is amount of alcohol permitted for mixing in petrol

- A. 10– 15 %
- B. 10 %
- C. 5 %
- D. 2.5 %

**Answer: C**



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**487.** In a longitudinal section of a root, starting from the tip upward, the four zones occur in the following order

- A. Root cap, cell division, cell maturation, cell enlargement
- B. Cell division, cell enlargement, cell maturation, root cap
- C. Cell division, cell maturation, cell enlargement, root cap
- D. Root cap, cell division, cell enlargement, cell maturation

**Answer: D**



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**488.** Presence of gills in the tadpole of frog indicates that :

- A. Fishes evolved from frog like ancestors
- B. Frogs will have gills in future

C. Frogs evolved from gilled ancestors

D. Fishes were amphibious in the past

**Answer: C**



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**489.** In oogamy. Fertilization involves

A. A large non-motile female gamete and a small motile male gamete

B. A large non-motile female gamete and a small non-motile male gamete

C. A large motile female gamete and a small non-motile male gamete

D. A small non-motile female gamete and a large motile male gamete

**Answer: A**



**Watch Video Solution**

**490.** Which one of the following is a living fossil

- A. Moss
- B. Saccharomyces
- C. spirogyra
- D. Cycas

**Answer: D**



**Watch Video Solution**

**491.** In which one of the following habitats does the diurnal temperature of soil surface vary most?

- A. Forest
- B. Desert
- C. Grassland
- D. Shrub land

**Answer: B**



**Watch Video Solution**

**492.** The telomeres of eukaryotic chromosomes consist of short sequences of

- A. Cytosine rich repeats
- B. Adenine rich repeats
- C. Guanine rich repeats
- D. Thymine rich repeats

**Answer: C**



**Watch Video Solution**

**493.** Which form of RNA has a structure resembling clover leaf ?



A. hn-RNA

B. m-RNA

C. t-RNA

D. r-RNA

**Answer: C**



**Watch Video Solution**

**494.** A nutritionally wild type organism ,which does not require any additional growth supplement is known as :

A. Holotype

B. Auxotroph

C. Prototroph

D. Phenotype

**Answer: C**



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**495.** Which of the following propagates through leaf tip

- A. Sprout-leaf plant
- B. Marchantia
- C. Moss
- D. Walking fern

**Answer: D**



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**496.** The common indicator organism of water pollution is

- A. Eichhornia crassipes
- B. Escherichia coli
- C. Entamoeba histolytica

D. *Lemna paucicostata*

**Answer: B**



**Watch Video Solution**

**497.** ELISA is used to detect viruses, where

- A. Southern blotting is done
- B. Alkaline phosphatase is the key reagent
- C. Catalase is the key reagent
- D. DNA-probes are required

**Answer: B**



**Watch Video Solution**

**498.** Phenetic classification of organisms is based on

- A. The ancestral lineage of existing organisms
- B. Dendrogram based on DNA characteristics
- C. Sexual characteristics
- D. Observable characteristics of existing organisms

**Answer: D**



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**499.** If you are provided with root-tips of onion in your class and are asked to count the chromosomes, which of the following stages can you most conveniently look into.

- A. Telophase
- B. Anaphase
- C. Prophase
- D. Metaphase

**Answer: D**



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**500.** When a diploid female plant is crossed with a tetraploid male, the ploidy level of endosperm cells in the resulting seed is:

- A. Pentaploidy
- B. Diploidy
- C. Triploidy
- D. Tetraploidy

**Answer: D**



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**501.** Which of the following is the simplest amino acid

- A. Alanine
- B. Asparagine
- C. Glycine
- D. Tyrosine

**Answer: C**



**Watch Video Solution**

**502.** During which stage in the complete oxidation of glucose are the greatest number of ATP molecules formed from ADP ?

- A. Glycolysis
- B. Krebs cycle
- C. Electron transport chain
- D. Conversion of pyruvic acid to acetyl CoA

**Answer: C**



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**503.** Ectophloic siphonostele is found in

- A. *Osmunda* and *Equisetum*
- B. *Adiantum* and *Cucurbitaceae*
- C. *Marsilea* and *Botrychium*
- D. *Dicksonia* and Maiden hair fern

**Answer: A**



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**504.** G-6-P dehydrogenase deficiency is associated with hemolysis of :

- A. Leucocytes
- B. Lymphocytes
- C. Platelets

D. RBCs

**Answer: D**



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**505.** Which one of the following statements regarding enzyme inhibition is correct

- A. Competitive inhibition is seen when a substrate competes with an enzyme for binding to an inhibitor protein
- B. Non-competitive inhibitors often bind to the enzyme irreversibly
- C. Competitive inhibition is seen when the substrate and the inhibitor compete for the active site on the enzyme
- D. Non-competitive inhibition of an enzyme can be overcome by adding large amount of substrate

**Answer: C**





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**506.** In contrast to Annelids, the Platyhelminths show

- A. Absence of body cavity
- B. Presence of pseudocoel
- C. Radial symmetry
- D. Bilateral symmetry

**Answer: A**



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**507.** Which of the following represents the edible part of the fruit of Litchi -

- A. Endocarp
- B. Pericarp

C. Juicy aril

D. Mesocarp

**Answer: C**



**Watch Video Solution**

**508.** Which one of the following pairs is mismatched?

A. Nuclear power – radioactive wastes

B. Solar energy – green house effect

C. Fossil fuel burning – release of  $CO_2$

D. Biomass burning – release of  $CO_2$

**Answer: B**



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**509.** Enzymes, vitamins and hormones can be classified into a single category of biological chemicals, because all of these

- A. Are exclusively synthesized in the body of a living organism as at present
- B. enhance oxidative metabolism
- C. Are conjugated proteins
- D. Help in regulating metabolism

**Answer: D**



**Watch Video Solution**

**510.** E. coli cell with a mutated Z gene of the lac operon cannot grow in medium containing only lactose as the source of energy because:

- A. They cannot synthesize functional beta galactosidase
- B. They cannot transport lactose from the medium into the cell

C. The lac operon is constitutively active in these cells

D. In the presence of glucose, E. coli cells do not utilize lactose

**Answer: A**



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**511.** The deficiencies of micronutrients not only affects growth of plants, but also vital functions such as photosynthetic and mitochondrial electron flow. Among the list given below, which group of three elements shall affect the most, both photosynthetic and mitochondrial electron transport ?

A. Ca, K, Na

B. Co, Ni, Mo

C. Mn, Co, Ca

D. Cu, Mn, Fe

**Answer: D**



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**512.** Pollen tube enters the embryo sac usually

- A. Persistent synergid
- B. Egg cell
- C. Central cell
- D. Degenerated synergid

**Answer: D**



[Watch Video Solution](#)

**513.** An acromian process is characteristically found in the

- A. Skull of frog
- B. Spine of mammals
- C. Pelvic girdle of mammals

D. Pectoral girdle of mammals

**Answer: D**



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**514.** Golden rice is a transgenic crop of the future with the following improved trait:

- A. High protein content
- B. High vitamin – A content
- C. High lysine (essential amino acid) content
- D. Insect resistance

**Answer: B**



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**515.** In a type of apomixis known as adventitious embryony embryos develop directly from the

- A. Synergids or antipodals in an embryo sac
- B. Nucellus or integuments
- C. Zygote
- D. Accessory embryo sacs in the ovule

**Answer: B**



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**516.** all of the following statements concerning the actinomycetous filamentous soil bacterium Frankia are correct except that Frankia

- A. Forms specialized vesicles in which the nitrogenase is protected from oxygen by a chemical barrier involving triterpene hopanoids
- B. Can induce root nodules on many plant species

- C. Like Rhizobium, it usually infects its host plant through root hair deformation and stimulates cell proliferation in the host's cortex
- D. Cannot fix nitrogen in the free-living state

**Answer: B**



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**517.** In Ornithine cycle which one pair of the following wastes is removed from the blood?

- A.  $CO_2$  and ammonia
- B. Ammonia and urea
- C.  $CO_2$  and urea
- D. Urea and urine

**Answer: A**



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**518.** At a particular locus, frequency of allele A is 0.6 and that of allele a is 0.4. what would be the frequency of heterozygotes in a random mating population at equilibrium?

- A. 0.24
- B. 0.16
- C. 0.48
- D. 0.36

**Answer: C**



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**519.** Four healthy people in their twenties got involved in injuries resulting in damage and death of few cells of the following. Which of the cells are least likely to be replaced by new cells

- A. Osteocytes
- B. Liver cells
- C. Neurons
- D. Malpighian layer of the skin

**Answer: C**



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**520.** Which one of the following makes use of RNA as a template to synthesize DNA ?

- A. DNA dependant RNA polymerase
- B. DNA polymerase
- C. Reverse transcriptase
- D. RNA polymerase

**Answer: C**

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**521.** A student wishes to study the cell structure under a light microscope having 10X eyepiece and 45 X objective. He should illuminate the object by which one of the following colours of light so as to get the best possible resolution

- A. Red
- B. Green
- C. Yellow
- D. Blue

**Answer: D**

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**522.** As compared to a  $C_3$  plant, how many additional molecules of ATP are needed for net production of one molecule hexose sugar by  $C_4$  plants

A. Zero

B. Six

C. Two

D. Twelve

**Answer: D**



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**523.** *Bacillus thuringiensis* (Bt) strains have been used for designing novel

A. Bioinsecticidal plants

B. Bio-mineralization processes

C. Biofertilizers

D. Bio-metallurgical techniques

**Answer: A**



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**524.** Secretin and cholecystokinin are digestive hormones. They are secreted in :

- A. Oesophagus
- B. Ileum
- C. Duodenum
- D. Pyloric stomach

**Answer: C**



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**525.** Grey crescent is the area

- A. At the point of entry of sperm into ovum
- B. Just opposite to the site of entry of sperm into ovum
- C. At the animal pole

D. At the vegetal pole

**Answer: B**



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**526.** Using imprints from a plate with complete medmm and carrying bacterial colonies, you can select streptomycin resistant mutants and prove that such mutations do not originate as adaptation. These imprints need to be used

- A. On plates with and without streptomycin
- B. Only on plates with streptomycin
- C. On plates with minimal medium
- D. Only on plates without streptomycin

**Answer: B**



**Watch Video Solution**

**527.** Chemiosmotic theory of ATP synthesis in the chloroplasts and mitochondria is based on

- A. Membrane potential
- B. Accumulation of K ions
- C. Proton gradient
- D. Accumulation of Na ions

**Answer: C**



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**528.** Which one of the following experiments suggests that simplest living organisms could not have originated spontaneously from non-living matter

- A. Larva could appear in decaying organic matter
- B. Meat was not spoiled, when heated and kept sealed in a vessel

C. microbes did not appear in stored meat

D. Microbes appeared form unsterilized organic matter

**Answer: B**



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**529.** Which of the following is not used for disinfection of drinking water?

A. Chlorine

B. Phenyl

C. Chloramine

D. Ozone

**Answer: B**



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**530.** Which one of the following characters is not typical of the class Mammalia

- A. Alveolar lungs
- B. Ten pairs of cranial nerves
- C. Seven cervical vertebrae
- D. Thecodont dentition

**Answer: B**



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**531.** Identify the correctly matched pair:

- A. Kyoto protocol – Climatic change
- B. Montreal Protocol - Global warming
- C. Basal Convention – Biodiversity Conservation
- D. Ramsar Convention – Ground water pollution

**Answer: A**



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**532.** Auxospores and hormocysts are formed respectively by

- A. Some cyanobacteria and many diatoms
- B. Several diatoms and a few cyanobacteria
- C. Several cyanobacteria and several diatoms
- D. Some diatoms and several cyanobacteria

**Answer: B**



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**533.** Which one of the following phenomena supports Darwin's concept of natural selection in organic evolution?

- A. production of 'Dolly', the sheep by cloning
- B. Development of organs from 'stem' cells for organ transplantation
- C. Development of transgenic animals
- D. Prevalence of pesticide resistant insects

**Answer: D**



**Watch Video Solution**

**534.** Norman borlaug is associated with

- A. Green Revolution
- B. White Revolution
- C. Yellow Revolution
- D. Blue Revolution

**Answer: A**



**Watch Video Solution**

**535.** Nucleotides are building blocks of nucleic acids. Each nucleotide is a composite molecule formed by :

- A. Base-sugar-OH
- B. Base-sugar-phosphate
- C. Sugar-phosphate
- D. (Base-sugar-phosphate)<sub>n</sub>

**Answer: B**



**Watch Video Solution**

**536.** Which of the following is generally used for induced mutagenesis in crop plants

- A. Gamma rays (from cobalt 60)
- B. Alpha particles

C. X rays

D. UV (260 nm)

**Answer: A**



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**537.** One of the most important functions of botanical gardens is that

A. They allow ex-situ conservation of germ plasm

B. They provide the natural habitat for wild life

C. One can observe tropical plants there

D. They provide a beautiful area for recreation

**Answer: A**



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**538.** The net pressure gradient that causes the fluid to filter out of the glomeruli into the capsule is -

- A. 20 mm Hg
- B. 50 mm Hg
- C. 75 mm Hg
- D. 30 mm Hg

**Answer: A**



**Watch Video Solution**

**539.** Epithelial cells involved in absorption of digested food have on their free surface.

- A. Zymogen granules
- B. Pinocytic vesicles
- C. Phagocytic vesicles

D. Microvilli

**Answer: D**



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**540.** If mammalian ovum fails to get fertilized, which of the following is unlikely ?

- A. Estrogen secretion further decreases
- B. Progesterone secretion rapidly declines
- C. Corpus luteum will disintegrate
- D. Primary follicle starts developing

**Answer: D**



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**541.** The catalytic efficiency of two different enzymes can be compared by the

- A. The  $K_m$  value
- B. The pH optimum value
- C. Molecular size of the enzyme
- D. Formation of the product

**Answer: A**



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**542.** Biodiversity Act of India was passed by the Parliament in the year

- A. 2002
- B. 1992
- C. 1996
- D. 2000



**Answer: A**



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**543.** The salivary gland Chromosomes in the dipteran larvae, are useful in gene mapping because

- A. They have endoreduplicated chromosomes
- B. These are fused
- C. These are easy to stain
- D. These are much longer in size

**Answer: A**



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**544.** Top-shaped multiciliate male gametes, and the mature seed which bears only one embryo with two cotyledons, are characteristic features of

A. Gamopetalous angiosperms

B. Conifers

C. Polypetalous angiosperms

D. Cycads

**Answer: D**



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**545.** Which group of three of the following five statement (1-5) contain is all three correct statements regarding beri-beri

1 . A crippling disease prevalent among the native population of sub-Saharan Africa

2. A deficiency disease caused by lack of thiamine (vitamin  $B_1$ )

3. A nutritional disorder in infants and young children when the diet is persistently deficient in essential protein

4 . Occurs in those countries where the staple diet is polished rice

5 . The symptoms are pain from neuritis , paralysis , muscle wasting , progressive oedema mental deterioration and finally heart failure .

A. b,c and e

B. a,b and d

C. b,d and e

D. a, c and e

**Answer: C**



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**546.** Which unicellular organism has a macronucleus for trophic function and one or more micronuclei for reproduction ?

A. Trypanosoma

B. Paramecium

C. Euglena

D. Amoeba

**Answer: B**



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**547.** Protein synthesis in an animal cell occurs

- A. On ribosomes presents in cytoplasm as well as in mitochondria
- B. On ribosomes present in the nucleolus as well as in cytoplasm
- C. Only on ribosomes attached to the nuclear envelope and endoplasmic reticulum
- D. Only on the ribosomes present in cytosol

**Answer: A**



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**548.** Centromere is required for

- A. Movement of chromosomes towards poles
- B. Cytoplasmic cleavage
- C. Crossing over
- D. Transcription

**Answer: A**



**Watch Video Solution**

**549.** Which one of the following hydrolyses internal phosphodiester, bonds in a polynucleotide chain

- A. Lipase
- B. protease
- C. Exonuclease
- D. Endonuclease

**Answer: D**



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**550.** Carbohydrates, the most abundant biomolecules on earth, are produced by

- A. Some bacteria, algae and green plant cells
- B. All bacteria, fungi and algae
- C. Fungi, algae and green plants cells
- D. Viruses, fungi and bacteria

**Answer: A**



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**551.** Animals have the innate ability to escape from predation. Examples for the same are given below. Select the incorrect example

- A. Colour change in chameleon
- B. Poison fangs in snakes
- C. Melanism in moths
- D. Enlargement of body size by swallowing air in puffer fish

**Answer: D**



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**552.** Which one of the following represents an ovule, where the embryo sac becomes horse- shoe shaped and the funiculus and micropyle are close to each other -

- A. Amphitropous
- B. Anatropous
- C. Circinotropous
- D. Atropous

**Answer: A**



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**553.** Three crops that contribute maximum to global food production are

- A. Wheat, rice and maize
- B. Rice, maize and sorghum
- C. Wheat maize and sorghum
- D. Wheat, rice and barley

**Answer: A**



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**554.** Telomerase is an enzyme which is a

- A. RNA



B. Ribonucleoprotein

C. Repetitive DNA

D. Simple protein

**Answer: B**



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**555.** For finding the different types of gametes produced by genotype AaBb, it should be crossed with genotype

A. AaBb

B. aabb

C. AABB

D. aaBB

**Answer: B**



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**556.** Prolonged liberal irrigation of agricultural fields is likely to create the problem of

- A. Aridity
- B. Metal toxicity
- C. salinity
- D. Acidity

**Answer: C**



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**557.** According to widely accepted "Fluid mosaic model" cell membranes are semi-fluid, where lipids and integral proteins can diffuse randomly. In recent years, this model has been modified in several respects. In this regard, which of the following statements is incorrect

- A. Proteins can also undergo flip-flop movements in the lipid bilayer
- B. Many proteins remain completely embedded within the lipid bilayer
- C. Proteins in cell membranes can travel within the lipid bilayer
- D. Proteins can remain confined within certain domains of the membranes

**Answer: A**



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**558.** There exists a close association between the algae and the fungus within a lichen. The fungus

- A. Provides food for the alga
- B. Provides protection, anchorage and absorption for the alga
- C. Fixes the atmospheric nitrogen for the alga
- D. releases oxygen for the alga

**Answer: B**



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**559.** In a woody dicotyledonous tree, which of the following parts wall mainly consist of primary tissues

- A. Stem and root
- B. All parts
- C. Shoot tips and root tips
- D. Flowers, fruit and leaves

**Answer: D**



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**560.** Which of the following is not a hereditary disease

A. Haemophilia

B. Cretinism

C. Cystic fibrosis

D. Thalassemia

**Answer: B**



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**561.** Which of the following is the relatively most accurate method for dating of fossils ?

A. Electron-spin resonance method

B. Uranium-lead method

C. Potassium–argon method

D. Radio-carbon method

**Answer: A**



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**562.** More than 70% of world's fresh water is contained in

- A. Antarctica
- B. Polar ice
- C. Glaciers and Mountains
- D. Greenland

**Answer: B**



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**563.** A woman with normal vision, but whose father was colour blind, marries a colour blind man. Suppose that the fourth child of this couple was a boy. This boy:

- A. Must have normal colour vision

- B. May be colour blind or may be normal vision
- C. Will be partially colour blind since he is heterozygous for the colour blind mutant allele.
- D. Must be colour blind

**Answer: B**



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**564.** Production of a human protein in bacteria by genetic engineering is possible because

- A. Bacterial cell can carry out the RNA splicing reactions
- B. The mechanism of gene regulation is identical in humans and bacteria
- C. The human chromosome can replicate in bacterial cell
- D. The genetic code is universal

**Answer: D**



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**565.** Which of the following substances, if introduced into the blood system, would cause coagulation of blood at the site of its introduction

A. Thromboplastin

B. Fibrinogen

C. Heparin

D. Prothrombin

**Answer: A**



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**566.** The world's highly prized wool yielding 'Pashmina' breed is :



A. Kashmir sheep-Afghan sheep cross

B. Goat

C. Sheep

D. Goat-sheep cross

**Answer: B**



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**567.** Photosynthesis in  $C_4$  plants is relatively less limited by atmospheric  $CO_2$  levels because

A. The primary fixation of  $CO_2$  is mediated via PEP carboxylase

B. Effective pumping of  $CO_2$  into bundle sheath cells

C. Four carbon acids are the primary initial  $CO_2$  fixation products

D. Rubisco in  $C_4$  plants has higher affinity for  $CO_2$

**Answer: B**



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**568.** One of the example of the action of the autonomous nervous system is

- A. Knee-jerk reponse
- B. Pupillary reflex
- C. Peristalsis of the intestines
- D. Swallowing of food

**Answer: C**



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**569.** In which stage of the cell cycle are histone proteins synthesised in a eukaryotic cells ?

- A. During telophase

- B. During S-phase
- C. During G-2 stage of prophase
- D. During entire prophase

**Answer: B**



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**570.** During transcription holoenzyme RNA polymerase binds to a DNA sequence and the DNA assumes a saddle like structure at that point. What is that sequence called ?

- A. CAAT box
- B. GGTT box
- C. AAAT box
- D. TATA box

**Answer: D**



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**571.** Organelle involved in modification and routing of newly synthesised proteins to their destination is

- A. Endoplasmic Reticulum
- B. Lysosome
- C. Mitochondria
- D. Chloroplast

**Answer: A**



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**572.** Damage to thymus in a child may lead to

- A. A reduction in haemoglobin content of blood
- B. A reduction in stem cell production

C. Loss of antibody mediated immunity

D. Loss of cell mediated immunity

**Answer: D**



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**573.** Which one of the following depresses brain activity and produces feelings of calmness, relaxation and drowsiness?

A. Morphine

B. Valium

C. Hashish

D. Amphetamines

**Answer: B**



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**574.** why is vivipary an undesirable character for annual crop plants?

- A. It reduces the vigour of the plant
- B. The seeds exhibit long dormancy
- C. It adversely affects the fertility of the plant
- D. The seeds cannot be stored under normal conditions for the next season

**Answer: D**



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**575.** There are two opposing views about origin of modern man. According to one view Homo erectus in Asia were the ancestors of modern man. A study of variation of DNA however suggested African origin of modern man. What kind of observation on DNA variation could suggest this ?

- A. Greater variation in Asia than in Africa
- B. Similar variation in Africa and Asia
- C. Variation only in Asia and no variation in Africa
- D. Greater variation in Africa than in Asia

**Answer: A**



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**576.** Which of the following is not true for a species :

- A. Members of a species can interbreed
- B. Variations occur among members of a species
- C. Gene flow does not occur between the populations of a species
- D. Each species is reproductively isolated from every other species.

**Answer: C**



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**577.** Photosynthetically active radiation (PAR) represents the following range of wavelength

- A. 340-450 nm
- B. 450-950 nm
- C. 500-600 nm
- D. 400-700 nm

**Answer: D**



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**578.** Haemophilia is more commonly seen in human males than in human female because:

- A. This disease is due to a Y-linked recessive mutation
- B. This disease is due to an X-linked recessive mutation



C. This disease is due to an X-linked dominant mutation

D. A greater proportion of girls die in infancy

**Answer: B**



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**579.** In chloroplasts the chlorophyll is located in

A. Grana

B. Pyrenoid

C. Stroma

D. Both (1) and (3)

**Answer: A**



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**580.** AIDS is caused by HIV that principally infects

- A. Activator B cells
- B. T4 lymphocytes
- C. Cytotoxic T cells
- D. All lymphocytes

**Answer: B**



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**581.** Which one of the following pairs is mismatched?

- A. Savanna - acacia trees
- B. Coniferous forest - evergreen trees
- C. Tundra - permafrost
- D. Prairie - epiphytes

**Answer: D**



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**582.** In which one pair both the plants can be vegetatively propagated by leaf segments ?

- A. Bryophyllum and Kalanchoe
- B. Agave and Kalanchoe
- C. Asparagus and Bryophyllum
- D. Chrysanthemum and Agave

**Answer: A**



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**583.** Parkinson's disease (Characterized by tremors and progressive rigidity of limbs) is caused by degeneration of brain neurons that are

involved in movement control and make use of neurotransmitter

A. Norepinephrine

B. Acetylcholine

C. GABA

D. Dopamine

**Answer: D**



**Watch Video Solution**

**584.** A woman with 47 chromosomes due to three copies of chromosome 21 is characterized by :

A. Turner syndrome

B. Down syndrome

C. Superfemaleness

D. Triploidy

**Answer: B**



**Watch Video Solution**

**585.** A man and a woman, who do not show any apparent signs of a certain inherited disease, have seven children (2 daughters and 5 sons). Three of the sons suffer from the given disease but none of the daughters are affected which of the following mode of inheritance do you suggest for this disease

- A. Sex-limited recessive
- B. Autosomal dominant
- C. Sex-linked recessive
- D. Sex-linked dominant

**Answer: C**



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**586.** At which latitude, heat gain through insolation approximately equals heat loss through terrestrial radiation -

- A.  $40\frac{1}{2}^{\circ}$  North and South
- B.  $22\frac{1}{2}^{\circ}$  North and South
- C.  $40^{\circ}$  North and South
- D.  $66^{\circ}$  North and South

**Answer: D**



**Watch Video Solution**

**587.** In a man, abducens nerve is injured. Which one of the following functions will be affected ?

- A. Swallowing
- B. Movement of the eye ball
- C. Movement of the neck

D. Movement of the tongue

**Answer: B**



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**588.** Hogo de Vries gave his mutation theory on organic evolution while working on :

A. *Oenothera lamarckiana*

B. *Drosophila melanogaster*

C. *Pisum sativum*

D. *Althea rosea*

**Answer: A**



**Watch Video Solution**

**589.** Genes for cytoplasmic male sterility in plants are located in

- A. Nuclear genome
- B. Chloroplast genome
- C. Cytosol
- D. Mitochondrial genome

**Answer: D**



**Watch Video Solution**

**590.** A patient is advised to specially consume more meat ,lentil ,milk and eggs in diet when the patient suffers from

- A. Anemia
- B. Scurvy
- C. Kwashiorkor
- D. Rickets



**Answer: C**



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**591.** Barophillic prokaryotes

- A. Grow slowly in highly alkaline frozen lakes at high altitudes
- B. Grow and multiply in very deep marine sediments
- C. Readily grow and divide in sea water enriched in any soluble salt of barium
- D. Occur in water containing high concentrations of barium hydroxide

**Answer: B**



**Watch Video Solution**

**592.** An important step in the manufacture of pulp in paper industry from woody tissues of plants is

- A. Removal of water from the wood by prolonged heating at approximately  $50^{\circ}$
- B. Treatment of wood with chemicals that break down cellulose
- C. Removal of oils present in the wood by treatment with suitable chemicals
- D. Preparation of pure cellulose by removing lignin

**Answer: D**



**Watch Video Solution**

**593.** Potometer works on the principle of

- A. Potential difference between the tip of the tube and that of the plant
- B. Amount of water absorbed equals the amount transpired
- C. Osmotic pressure

D. Root pressure

**Answer: B**



**Watch Video Solution**

**594.** The ability of the venus fly trap of capture insects is due to

- A. Rapid turgor pressure changes
- B. A passive process requiring no special ability on the part of the plant
- C. Specialized "muscle-like" cells
- D. Chemical stimulation by the prey

**Answer: A**



**Watch Video Solution**

**595.** Which of the following pairs is correctly matched ?

- A. Fibrous joint – between phalanges
- B. Cartilaginous joint – skull bones
- C. Gliding joint – between zygapophyses of the successive vertebrae
- D. Hinge joint – between vertebrae

**Answer: C**



**Watch Video Solution**

**596.** According to IUCN Red List, what is the status of Red Panda (*Ailurus fulgens*)

- A. Critically endangered species
- B. Vulnerable species
- C. Extinct species
- D. Endangered species

**Answer: D**



**Watch Video Solution**

**597.** A person is undergoing prolonged fasting. His urine would contain abnormal quantities of

- A. Fats
- B. Amino acids
- C. Ketones
- D. Glucose

**Answer: C**



**Watch Video Solution**

**598.** For retting of jute, the fermenting microbe used is

A. Methophilic bacteria

B. *Helicobacter pylori*

C. Butyric acid bacteria

D. *Streptococcus lactis*

**Answer: C**



**Watch Video Solution**

**599.** From the following statements select the wrong one

A. Prawn has two pairs of antennae

B. Millipedes have two pairs of appendages in each segment of the body

C. Animals belonging to Phylum porifera are exclusively marine

D. Nematocysts are characteristic of the phylum cnidaria.

**Answer: C**



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**600.** Biological organisation starts with

- A. Atomic level
- B. Submicroscopic molecular level
- C. Cellular level
- D. Organismic level

**Answer: B**



[Watch Video Solution](#)

**601.** About 98 percent of the mass of every living organism is composed of just six elements including carbon, hydrogen, nitrogen, oxygen and

- A. Calcium and phosphorus
- B. Phosphorus and sulphur

C. Sulphur and magnesium

D. Magnesium and sodium

**Answer: B**



**Watch Video Solution**

**602.** Which of the following is an example of negative feedback loop in humans

- A. Secretion of sweat glands and constriction of skin blood vessels when it is too hot
- B. Constriction of skin blood vessels and contraction of skeletal muscles when it is too cold
- C. Secretion of tears after falling of sand particles into the eye
- D. Salivation of mouth at the sight of delicious food

**Answer: B**





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**603.** What is common of Whale, Seal and Shark?

- A. Homoeiothermy
- B. Seasonal migration
- C. Thick subcutaneous fat
- D. Convergent evolution

**Answer: D**



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**604.** Which one of the following is not a constituent of cell membrane

- A. Phospholipids
- B. Cholesterol
- C. Glycolipids

D. Proline

**Answer: D**



**Watch Video Solution**

**605.** Select the wrong statement from the following

- A. The chloroplasts are generally much larger than mitochondria
- B. Both chloroplasts and mitochondria contain an inner and an outer membrane
- C. Both chloroplasts and mitochondria have an internal compartment, the thylakoid space bounded by the thylakoid membrane
- D. Both chloroplasts and mitochondria contain DNA

**Answer: C**



**Watch Video Solution**

**606.** The overall goal of glycolysis, Krebs cycle, and the electron transport system is the formation of

- A. Nucleic acids
- B. ATP in small stepwise units
- C. ATP in one large oxidation reaction
- D. Sugars

**Answer: B**



**Watch Video Solution**

**607.** If the mean and the median pertaining to a certain character of a population are of the same value, the following is most likely to occur:-

- A. A skewed curve
- B. A normal distribution
- C. A bi-modal distribution

D. a T-shaped curve

**Answer: B**



**Watch Video Solution**

**608.** Which of the following is a slime mould

A. Anabaena

B. Rhizopus

C. Physarum

D. Thiobacillus

**Answer: C**



**Watch Video Solution**

**609.** For a critical study of secondary growth in plants, which one of the following pairs is suitable

- A. Wheat and maiden hair fern
- B. Sugarcane and sunflower
- C. Teak and pine
- D. Deodar and fern

**Answer: C**



**Watch Video Solution**

**610.** Which one of the following statements about mycoplasma is wrong

- A. They cause diseases in plants
- B. They are also called PPLO
- C. They are pleomorphic
- D. They are sensitive to penicillin

**Answer: D**



**Watch Video Solution**

**611.** In the prothallus of a vascular cryptogam, the antherozoids and egg mature and different time As a result.

- A. Self fertilization is prevented
- B. There is no change in success rate of fertilization
- C. There is high degree of sterility
- D. One can conclude that the plant is apomictic

**Answer: A**



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**612.** Two plants can be conclusively said to belong to the same species if they

- A. Have same number of chromosomes
- B. Can reproduce freely with each other and form seeds
- C. Have more than 90 percent similar genes
- D. Look similar and possess identical secondary metabolites.

**Answer: B**



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**613.** If you are asked to classify the various algae into distinct groups, which of the following characters you should choose

- A. Chemical composition of the cell wall
- B. Types of pigments present in the cell
- C. Nature of stored food materials in the cell
- D. Structural organization of thallus

**Answer: B**



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**614.** Flagellated male gametes are present in all the three of which one of the following sets

- A. Riccia, Dryopteris and Cycas
- B. Anthoceros, Funaria and Spirogyra
- C. Zygnema, Saprolegnia and Hydrilla
- D. Fucus, Marsilea and Calotropis

**Answer: A**



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**615.** In gymnosperms the pollen chamber represents

- A. The microsporangium in which pollen grains develop
- B. A cell in the pollen grain in which the sperms are formed



C. A cavity in the ovule in which pollen grains are stored after pollination

D. An opening in the megagametophyte through which the pollen tube approaches the egg

**Answer: C**



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**616.** Spore dissemination in some liverworts is aided by

A. Peristome teeth

B. Elaters

C. Indusium

D. Calyptra

**Answer: B**



**Watch Video Solution**

**617.** Which pair of the following belongs to basidiomycetes

- A. Morchella and Mushrooms
- B. Birds' nest fungi and Puffballs
- C. Puffballs and Claviceps
- D. Peziza and Stink horns

**Answer: B**



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**618.** ICBN stands for

- A. Indian Code of Botanical Nomenclature
- B. Indian Congress of Biological Names
- C. International code of Botanical Nomenclature

## D. International Congress of Biological Names

**Answer: C**



**Watch Video Solution**

**619.** Ergot (of Rye ) is obtained from

A. Claviceps

B. Phytophthora

C. Uncinula

D. Ustilago

**Answer: A**



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**620.** When two species of different genealogy come to resemble each other as a result of adaptation, the phenomenon is termed

- A. Convergent evolution
- B. Divergent evolution
- C. Microevolution
- D. Co-evolution

**Answer: A**



**Watch Video Solution**

**621.** Adaptive radiation refers to

- A. Power of adaptation in an individual to a variety of environments
- B. Adaptations due to Geographical isolation
- C. Evolution of different species from a common ancestor
- D. Migration of members of a species to different geographical areas

**Answer: C**



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**622.** The living organisms can be undexceptionally distinguished from the non - living things on the basis of their ability for

- A. Growth and movement
- B. Responsiveness to touch
- C. Interaction with the environment and progressive evolution
- D. Reproduction

**Answer: C**



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**623.** The finches of Galapagos islands provide an evidence in favour of

A. Biogeographical Evolution

B. Special Creation

C. Evolution due to Mutation

D. Retrogressive Evolution

**Answer: A**



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**624.** One of the important consequences of geographical isolation is

A. Random creation of new species

B. No change in the isolated fauna

C. Preventing Speciation

D. Speciation through reproductive isolation

**Answer: D**



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**625.** Industrial melanism as observed in peppered moth proves that

- A. Melanism is a pollution-generated feature
- B. The true black melanic forms arise by a recurring random mutation
- C. The melanic form of the moth has no selective advantage over lighter form in industrial area
- D. The lighter-form the moth has no selective advantage either in polluted industrial area or non-polluted area

**Answer: A**



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**626.** The concept of chemical evolution is based on :

- A. Possible origin of life by combination of chemicals under suitable environmental conditions
- B. Crystallization of chemicals
- C. Interaction of water, air and clay under intense heat
- D. Effect of solar radiation on chemicals

**Answer: A**



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**627.** Among the human ancestors the brain size was more than 1000 cc in:

- A. Homo habilis
- B. Homo neanderthalensis
- C. Homo erectus
- D. Ramapithecus

**Answer: B**



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628. Which of the following pairs are correctly matched ?

Animals	Morphological features
(A) Crocodile	4-chambered heart
(B) Sea Urchin	Parapodia
(C) Obelia	Metagenesis
(D) Lemur	Thecodont

A. Only A and B

B. A, C and D

C. B, C and D

D. Only A and D

**Answer: B**

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**629.** Select the correct statement from the following:

- A. Mutations are random and directional
- B. Darwinian variations are small and directionless
- C. Fitness is the end result of the ability to adapt and gets selected by nature
- D. All mammals except whales and camels have seven cervical vertebrae

**Answer: C**



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**630.** Which one of the following is a matching pair of a body feature and the animal possessing it?

- A. Ventral heart – Scorpion
- B. Post-anal tail – Octopus

C. Ventral central – Leech nervous system

D. Pharyngeal gill slits – Chamaeleon Absent in embryo

**Answer: C**



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**631.** What is common between parrot, platypus and kangaroo ?

A. Ovoparity

B. Homoiothermy

C. Toothless jaws

D. Functional post-anal tail

**Answer: B**



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**632.** What is true about Nereis, scorpion, cockroach and silver fish?

- A. They all belong to the same phylum
- B. They all belong to the same phylum
- C. They all possess dorsal heart
- D. None of them is

**Answer: C**



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**633.** Which one of the following statement is correct ?

- A. Ontogeny repeats phylogeny
- B. Stem cells are specialized cells
- C. There is no evidence of the existence of gills during embryogenesis of mammals

D. All plant & animal cells are totipotent

**Answer: A**



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**634.** Foolish Seedling disease of rice led to the discovery of

A. IAA

B. GA

C. ABA

D. 2,4-D

**Answer: B**



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**635.** Passage cells are thin walled cells found in

- A. Central region of style through which the pollen tube grows towards the ovary.
- B. Endodermis of roots facilitating rapid transport of water from cortex to pericycle
- C. Phloem elements that serve as entry points for substances for transport to other plant parts
- D. Testa of seeds to enable emergence of growing embryonic axis during seed germination

**Answer: B**



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**636.** The first acceptor of electrons from an excited chlorophyll molecule of photosystem II is

- A. Quinone

B. Cytochrome

C. Iron-sulphur protein

D. Ferredoxin

**Answer: A**



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**637.** All enzymes of TCA cycle are located in the mitochondrial matrix except one which is located in inner mitochondrial membranes in eukaryotes and in cytosol in prokaryotes. This enzyme is

A. Succinate dehydrogenase

B. Lactate dehydrogenase

C. Isocitrate dehydrogenase

D. Malate dehydrogenase

**Answer: A**



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**638.** The wavelength of light absorbed by Pr form of phytochrome is

- A. 620 nm
- B. 640 nm
- C. 680 nm
- D. 720 nm

**Answer: B**



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**639.** Opening of floral buds is

- A. Autonomic movement of growth
- B. Autonomic movement of locomotion
- C. Autonomic movement of variation



D. Paratonic movement of growth

**Answer: A**



**Watch Video Solution**

**640.** Which one of the following pairs, is not correctly matched ?

- A. IAA – Cell wall elongation
- B. Abscissic acid – Stomatal closure
- C. Gibberellic acid – Leaf fall
- D. Cytokinin – Cell division

**Answer: C**



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**641.** One gene - one enzyme relationship was established for the first time on

A. *Diplococcus pneumoniae*

B. *Neurospora crassa*

C. *Salmonella typhimurium*

D. *Escherichia Coli*

**Answer: B**



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**642.** Male gametes in angiosperms are formed by the division of

A. Microspore mother cell

B. Microspore

C. Generative cell

D. Vegetative cell

**Answer: C**



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**643.** Two cells A and B are contiguous. Cell A has osmotic pressure 10 atm, turgor pressure-7 atm and diffusion pressure deficit 3 atm. Cell B has osmotic pressure 8 atm, turgor pressure 3 atm and diffusion pressure deficit 5 atm. The result will be

- A. Movement of water from cell A to B
- B. Movement of water from cell B to A
- C. No movement of water
- D. Equilibrium between the two

**Answer: A**



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**644.** In the leaves of  $C_4$  plants, malic acid formation during  $CO_2$  fixation occurs in the cells of

- A. Epidermis
- B. Mesophyll
- C. Bundle Sheath
- D. Phloem

**Answer: B**



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**645.** Which of the following is a flowering plant with nodules containing filamentous nitrogen-fixing microorganism

- A. *Cicer arietinum*
- B. *Casuarina equisetifolia*
- C. *Crotalaria juncea*

D. *Cycas revoluta*

**Answer: B**



**Watch Video Solution**

**646.** Which one of the following is surrounded by a callose wall

A. Pollen grain

B. Microspore mother cell

C. Male gamete

D. Egg

**Answer: B**



**Watch Video Solution**

**647.** Which one of the following elements is not an essential micronutrient for plant growth?

A. Ca

B. Mn

C. Zn

D. Cu

**Answer: A**



**Watch Video Solution**

**648.** If you suspect major deficiency of antibodies in a person, to which of the following would you look for confirmatory evidence

A. Haemocytes

B. Serum albumins

C. Serum globulins

D. Fibrinogen in the plasma

**Answer: C**



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**649.** Which one of the following is a fat-soluble vitamin and its related deficiency disease

A. Calciferol – Pellagra

B. Ascorbic acid – Scurvy

C. Retinol – Xerophthalmia

D. Cobalamine – Beri-beri

**Answer: C**



**Watch Video Solution**

**650.** Which one of the following mammalian cells is not capable of metabolising glucose to carbon-dioxide aerobically ?

- A. Red blood cells
- B. White blood cells
- C. Unstriated muscle cells
- D. Liver cells

**Answer: A**



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**651.** Compared to a bull a bullock is docile because of

- A. Lower levels of adrenalin/noradrenalin in its blood
- B. Higher levels of thyroxin
- C. Higher levels of cortisone
- D. Lower levels of blood testosterone



**Answer: D**



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**652.** In the human female , menstruation can be referred by the administration of :-

- A. FSH only
- B. LH only
- C. Combination of FSH and LH
- D. Combination of estrogen and progesterone

**Answer: D**



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**653.** Which one is anatomically correct

A. Cranial nerve – 10 pairs

B. Floating ribs – 2 pairs

C. Collar bones – 3 pairs

D. Salivary glands – 1 pair

**Answer: B**



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**654.** In which one of the following preparations are you likely to come across cell junctions most frequently ?

A. Hyaline cartilage

B. Ciliated epithelium

C. Thrombocytes

D. Tendon

**Answer: B**



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**655.** A drop of each of the following, is placed separately on four sides.

Which of them will not coagulate ?

- A. Whole blood from pulmonary vein
- B. Blood plasma
- C. Blood serum
- D. Sample from the thoracic duct of lymphatic system

**Answer: C**



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**656.** Feeling of tremors of an earthquake, a scared resident of seventh floor of a multistoried building starts climbing down the stairs rapidly.

Which hormone initiated this action ?

- A. Gastrin
- B. Thyroxin
- C. Adrenaline
- D. Glucagon

**Answer: C**



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**657.** A person on long hunger strike and surviving only on water will have

- A. Less urea in his urine
- B. More sodium in his urine
- C. Less amino acids in his urine
- D. More glucose in his blood

**Answer: A**



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**658.** Which one of the following pairs of structures distinguishes a nerve cell from other types of cell

- A. Nucleus and mitochondria
- B. Perikaryon and dendrites
- C. Vacuoles and fibres
- D. Flagellum and medullary sheath

**Answer: B**



**Watch Video Solution**

**659.** Which part of ovary in mammals acts as an endocrine gland after ovulation ?

- A. Vitelline membrane
- B. Graffian follicle

C. Stroma

D. Germinal epithelium

**Answer: B**



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**660.** During the transmission of nerve impulse through a nerve fibre, the potential on the inner side of the plasma membrane has which type of electric charge ?

- A. First positive, then negative and again back to positive
- B. First negative, then positive and again back to negative
- C. First positive, then negative and continue to be negative
- D. First negative, then positive and continue to be positive

**Answer: B**



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**661.** A person is having problems with calcium and phosphorus metabolism in his body. Which one of the following glands may not be functioning properly ?

- A. Thyroid
- B. Parathyroid
- C. Parotid
- D. Pancreas

**Answer: B**



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**662.** Identify the odd combination of the habitat and the particular animal concerned

- A. Rann of Kutch– Wild Ass

B. Dachigam National Park – Snow Leopard

C. Sunderbans – Bengal Tiger

D. Periyar – Elephant

**Answer: B**



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**663.** In which one of the following the BOD (Biochemical Oxygen Demand) of sewage (S), distillery effluent (DE), paper mill effluent (PE) and sugar mill effluent (SE) have been arranged in ascending order ?

A.  $S < DE < PE < SE$

B.  $SE < S < PE < DE$

C.  $SE < PE < S < DE$

D.  $PE < S < SE < DE$

**Answer: B**





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**664.** Which one of the following ecosystem types has the highest annual net primary productivity

- A. Temperate deciduous forest
- B. Tropical rain forest
- C. Tropical deciduous forest
- D. Temperate evergreen forest

**Answer: B**



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**665.** Which one of the following is being utilized as a source of biodiesel in the Indian countryside

Or

An example of Petrocrop is

A. Pongamia

B. Euphorbia

C. Beetroot

D. Sugarcane

**Answer: A**



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**666.** In a coal-fired power plant, electrostatic precipitators are installed to control the emission of

A.  $CO$

B.  $SO_2$

C.  $N \otimes$

D. SPM

**Answer: D**



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**667.** Which one of the following is no bioindicator of water pollution?

- A. Sewage fungus
- B. Sludge-worms
- C. Blood-worms
- D. Stone flies

**Answer: D**



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**668.** A high density of elephant population in an area can result in

- A. Predation on one another
- B. Mutualism
- C. Intra specific competition

D. Inter specific competition

**Answer: C**



**Watch Video Solution**

**669.** Geometric representation of age structure is a characteristic of :

A. Ecosystem

B. Biotic community

C. Population

D. Landscape

**Answer: C**



**Watch Video Solution**

**670.** Which one of the following pairs of organisms are exotic species introduced in India

- A. Nile perch, *Ficus religiosa*
- B. *Ficus religiosa*, *Lantana camara*
- C. *Lantana camara*, Water hyacinth
- D. Water hyacinth, *Prosopis cineraria*

**Answer: C**



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**671.** One of endangered species of Indian medicinal plants is that of

- A. *Nepenthes*
- B. *Podophyllum*
- C. *Ocimum*
- D. Garlic

**Answer: B**



**Watch Video Solution**

**672.** Genetically engineered microorganism used successfully in bioremediation of oil spills is:

A. Bacillus

B. Pseudomonas

C. Trichoderma

D. Xanthomonas

**Answer: B**



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**673.** A sequential expression of a set of human genes occurs when a steroid molecule binds to the

- A. Ribosome
- B. Transfer RNA
- C. Messenger RNA
- D. DNA sequence

**Answer: D**



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**674.** The Okazaki fragments in DNA chain growth

- A. Polymerize in the 5'-to-3' direction and explain 3'- to 5' DNA replication
- B. Result in transcription
- C. Polymerize in the 3'-to-5' direction and forms replication fork
- D. Prove semi-conservative nature of DNA replication

**Answer: A**



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**675.** In the hexaploid wheat, the haploid ( $n$ ) and basic ( $x$ ) numbers of chromosomes are

- A.  $n = 21$  and  $x = 7$
- B.  $n = 7$  and  $x = 21$
- C.  $n = 21$  and  $x = 21$
- D.  $n = 21$  and  $x = 14$

**Answer: A**



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**676.** Molecular basis of organ differentiation depends on the modulation in transcription by

- A. Anticodon



- B. RNA polymerase
- C. Ribosome
- D. Transcription factor

**Answer: D**



**Watch Video Solution**

**677.** Telomere repetitive DNA sequences control the function of eukaryotic chromosomes because they

- A. Prevent chromosome loss
- B. Act as replicons
- C. Are RNA transcription initiator
- D. Help chromosome pairing

**Answer: A**



**Watch Video Solution**

**678.** Inheritance of skin colour in humans is an example of :-

- A. Inheritance of skin colour in humans is an example of:-
- B. Chromosomal aberration
- C. Point mutation
- D. Polygenic inheritance

**Answer: D**



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**679.** A common test to find the genotype of a a hybrid is by

- A. Crossing of one F1 progeny with male parent
- B. Crossing of one F2 progeny with male parent
- C. Crossing of one F2 progeny with female parent
- D. Studying the sexual behaviour of F1 progenies

**Answer: A**



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**680.** During transcription holoenzyme RNA polymerase binds to a DNA sequence and the DNA assumes a saddle like structure at that point. What is that sequence called ?

- A. TATA
- B. TTAA
- C. AATT
- D. CACC

**Answer: A**



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**681.** R and y genes of Maize lie very close to each other . When RRYy and rryy genotypes are hybridised ,  $F_2$  generation will show

- A. Higher number of the parental types
- B. Higher number of the recombinant types
- C. Segregation in the expected 9 : 3 : 3 : 1 ratio
- D. Segregation in 3 : 1 ratio

**Answer: A**



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**682.** In maize, hybrid vigour is exploited by:

- A. Inducing mutations
- B. Inducing mutations
- C. Crossing of two inbred parental lines
- D. Harvesting seeds from the most productive plants

**Answer: C**



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**683.** Differentiation of organs and tissues in a developing organism, is associated with

- A. Deletion of genes
- B. Developmental mutations
- C. Differential expression of genes
- D. Lethal mutations

**Answer: C**



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**684.** In pea plants, yellow seeds are dominant to green. If a heterozygous yellow seeds plant is crossed with a green seeded plant, what ratio of

yellow and green seeded plants would you expect in  $F_1$  generation :-

- A. 3: 1
- B. 50: 50
- C. 9: 1
- D. 1: 3

**Answer: B**



**Watch Video Solution**

**685.** The length of DNA molecule greatly exceeds the dimensions of the nucleus in eukaryotic cell. How is this DNA accommodated

- A. Through elimination of repetitive DNA
- B. Deletion of non-essential genes
- C. Super-coiling in nucleosomes
- D. Super-coiling in nucleosomes

**Answer: C**



**Watch Video Solution**

**686.** In cloning of cattle a fertilised egg is taken out of the mother's womb and

- A. From this upto eight identical twins can be produced
- B. The egg is divided into 4 pairs of cells which are implanted into the womb of other cows
- C. In the eight cell stage, cells are separated and cultured until small embryos are formed which are implanted into the womb of other cows
- D. In the eight cell stage the individual cells are separated under electrical field for further development in culture media

**Answer: C**



Watch Video Solution

**687.** Which one of the following statements is correct ?

- A. At present it is not possible to grow maize without chemical fertilizers
- B. Extensive use of chemical fertilizers may lead to eutrophication of nearby water bodies
- C. Both Azotobacter and Rhizobium fix atmospheric nitrogen in root nodules of plants
- D. Cyanobacteria such as Anabaena and nostoc are important mobilizers of phosphates and potassium for plant nutrition in soil

**Answer: B**



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**688.** The population of an insect species shows an explosive increase in numbers during rainy season followed by its disappearance at the end of the season. What does this show ?

- A. The population of its predators increases enormously
- B. S-shaped or sigmoid growth of this insect
- C. The food plants mature and die at the end of the rainy season
- D. Its population growth curve is of J-type

**Answer: D**



**Watch Video Solution**

**689.** The two polynucleotide chains in DNA are

- A. Semiconservative
- B. Parallel
- C. Discontinuous

D. Antiparallel

**Answer: D**



**Watch Video Solution**

**690.** A plant requires phosphorus for

- A. Cell wall development
- B. Holding cells together
- C. Protein synthesis
- D. Chlorophyll synthesis

**Answer: D**



**Watch Video Solution**

**691.** Probiotics are

A. Live microbial food supplement

B. Safe antibiotics

C. Cancer inducing microbes

D. New kind of food allergens

**Answer: A**



**Watch Video Solution**

**692.** Bowman's glands are located in the

A. Olfactory epithelium of our nose

B. Proximal end of uriniferous tubules

C. Anterior pituitary

D. Female reproductive system of cockroach

**Answer: A**



**Watch Video Solution**

**693.** Increased asthmatic attacks in certain seasons are related to

- A. Low temperature
- B. Hot and humid environment
- C. Eating fruits preserved in tin containers
- D. Inhalation of seasonal pollen

**Answer: D**



**Watch Video Solution**

**694.** A human male produces sperms with the genotypes AB, Ab, aB, and ab pertaining to two diallelic characters in equal proportions. What is the corresponding genotype of this person?

- A. AABB
- B. AaBb

C. AaBB

D. AABb

**Answer: B**



**Watch Video Solution**

**695.** Which one of the following pairs is wrongly matched

A. Coliforms – Vinegar

B. Methanogens – Gobar gas

C. Yeast – Ethanol

D. Streptomyces – Antibiotic

**Answer: A**



**Watch Video Solution**

**696.** Which one of the following pairs is mismatched

A. *Bombyx mori* – Silk

B. *Pila globosa* – Pearl

C. *Pila globosa* – Pearl

D. *Kenia lacca* – Lac

**Answer: B**



**Watch Video Solution**

**697.** Which one of the following is a viral disease of poultry?

A. Pasteurellosis

B. Salmonellosis

C. Coryza

D. New Castle disease

**Answer: D**



**Watch Video Solution**

**698.** Ultrasound of how much frequency is beamed into human body for sonography ?

A. 45 - 70 MHz

B. 30 -45 MHz

C. 15 -30 MHz

D. 1 - 15 MHz

**Answer: D**



**Watch Video Solution**

**699.** Lysozyme that is present in perspiration, saliva and tears, destroys

- A. Most virus – infected cells
- B. Certain fungi
- C. Certain types of bacteria
- D. All viruses

**Answer: C**



**Watch Video Solution**

**700.** The segment of *DNA* which acts as the instrumental manual for the synthesis of the protein is:

- A. Nucleoside
- B. Nucleotide
- C. Ribose
- D. Gene

**Answer: 4**





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**701.** Which of the following hormones contains iodine ?

- A. Thyroxine
- B. Insuline
- C. Tetstosterone
- D. Adernaline

**Answer: 1**



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**702.** Which one of the following has haplontic life cycle

- A. Wheat
- B. Funaria
- C. Polytrichum

D. Ustilago

**Answer: 4**



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**703.** T.O. Diener discovered a

- A. Bacteriophage
- B. Free infection DNA
- C. Free infectious RNA
- D. Infectious protein

**Answer: 3**



**Watch Video Solution**

**704.** Mannitol (sugar alcohol) is the stored food in

A. Gracillaria

B. Chara

C. Porphyra

D. Fucus

**Answer: 4**



**Watch Video Solution**

**705.** Which one of the following is a vascular cryptogam?

A. Cedrus

B. Equisetum

C. Ginkgo

D. Marchantia

**Answer: 2**



**Watch Video Solution**

**706.** phylogentic system of classification is based on

- A. Floral characters
- B. Evolutionary relationships
- C. Morphological features
- D. Chemical constituents

**Answer: 2**



**Watch Video Solution**

**707.** Which one of the following groups of animals is bilaterally symmetrical and triploblastic

- A. Sponges
- B. Coelentrates (Cnidarians)
- C. Aschelminthes (round worms)

D. Ctenophores

**Answer: 3**



**Watch Video Solution**

**708.** Peripatus is a connecting link between :

- A. Coelenterata and Porifera
- B. Ctenophora and Platyhelminthes
- C. Mollusca and Echinodermata
- D. Annelida and Arthropoda

**Answer: 4**



**Watch Video Solution**

**709.** Which one of the following pairs of animals comprises 'Jawless fishes' ?

- A. Guppies and hag fishes
- B. Lampreys and eels
- C. Mackerals and Rohu
- D. Lampreys and hag fishes

**Answer: 4**



**Watch Video Solution**

**710.** If a live earthworm is pricked with a needle on its outer surface without damaging its gut, the fluid that comes out is

- A. Slimy mucus
- B. excretory fluid
- C. Coelomic fluid

D. haemolymph

**Answer: 3**



**Watch Video Solution**

**711.** Plasmodesmata are

- A. Connection between adjacent cells
- B. Lignified cemented layers between cells
- C. Locomotory structures
- D. Membranes connecting the nucleus with plasmalemma

**Answer: 1**



**Watch Video Solution**

**712.** Chloroplast stroma of higher plants contains

- A. Chlorophyll
- B. Light-independent reaction enzymes
- C. Light-dependent reaction enzymes
- D. Ribosomes

**Answer: 2**



**Watch Video Solution**

**713.** Synapsis occurs between :

- A. two homolog chromosomes
- B. a male and a female gamete
- C. mRNA and ribosomes
- D. spindle fibres and centromere

**Answer: 1**



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**714.** Middle lamella is composed mainly of :

- A. Phosphoglycerides
- B. Hemicellulose
- C. Muramic acid
- D. Calcium pectate

**Answer: 4**



**Watch Video Solution**

**715.** Cytoskeleton is made up of :

- A. Proteinaceous filaments
- B. Calcium carbonate granules
- C. Callose deposits

D. Cellulose microfibrils

**Answer: 1**



**Watch Video Solution**

**716.** The cell junctions called tight, adhering and gap junctions are found in :

- A. Neural tissue
- B. Muscular tissue
- C. Connective tissue
- D. Epithelial tissue

**Answer: 4**



**Watch Video Solution**

**717.** The kind of tissue that forms the supportive structure in our pinna (external ears) is also found in -

- A. tip of the nose
- B. vertebrae
- C. nails
- D. ear ossicles

**Answer: 1**



**Watch Video Solution**

**718.** The epithelial tissue present on the inner surface of bronchioles and fallopian tubes is

- A. Squamous
- B. Cuboidal
- C. Glandular

D. Ciliated

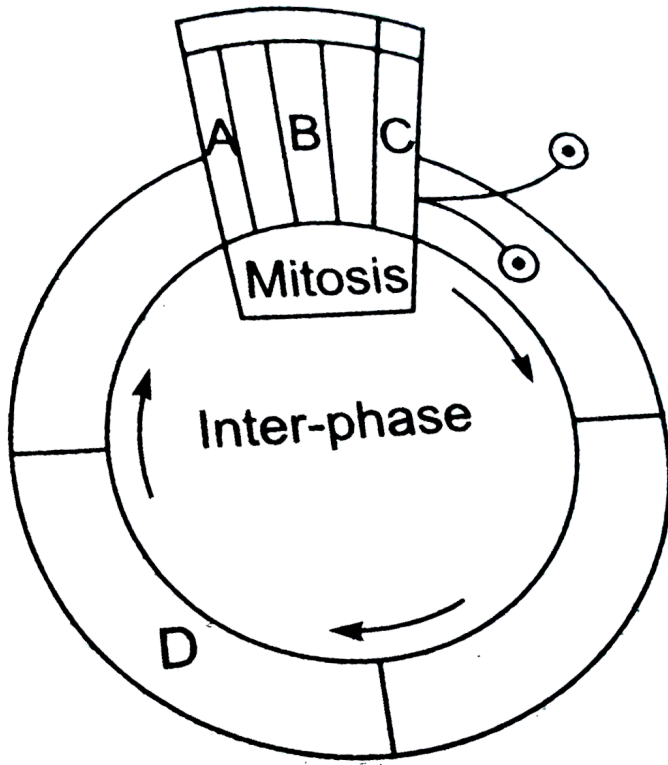
**Answer: 4**



**Watch Video Solution**

**719.** Given below is a schematic break-up of the phases/stages of cell cycle. Which one of the following is the correct indication of the

stage/phase in the cell cycle?



A. A-Cytokinesis

B. B-Metaphase

C. C-Karyokinesis

D. D-Synthetic phase

Answer: 4



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**720.** What is not true for genetic code :-

- A. It is unambiguous
- B. A codon in mRNA is read in a non- contiguous fashion
- C. It is nearly universal
- D. It is degenerate

**Answer: 2**



**Watch Video Solution**

**721.** Removal of introns and joining the exons in a defined order in a transcription unit is

- A. Capping
- B. Splicing

C. Tailing

D. Transformation

**Answer: 2**



**Watch Video Solution**

**722.** Semiconservative replication of DNA was first demonstrated in

A. *Salmonella typhimurium*

B. *Drosophila melanogaster*

C. *Escherichia coli*

D. *Streptococcus pneumoniae*

**Answer: 3**



**Watch Video Solution**

**723.** Whose experiments cracked the DNA and discovered unequivocally that a genetic code is a "triplet" :-

- A. Beadle and Tatum
- B. Nirenberg and Mathaei
- C. Hershey and Chase
- D. Morgan and Sturtevant

**Answer: 2**



**Watch Video Solution**

**724.** Point (Gene mutation) mutation involves

- A. Deletion
- B. Insertion
- C. Change in single base pair
- D. Duplication



**Answer: 3**



**Watch Video Solution**

**725.** In the case of peppered moth (*Biston betularia*) the black-coloured form became dominant over the light-coloured form in England during industrial revolution. This is an example of

- A. Inheritance of darker colour character acquired due to the darker environment
- B. Natural selection whereby the darker forms were selected.
- C. Appearance of the darker coloured individuals due to very poor sunlight
- D. Protective mimicry

**Answer: 2**



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**726.** Sickel cell anemia is :

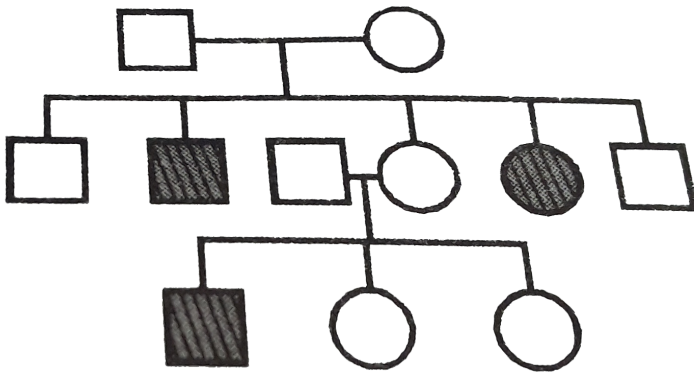
- A. Characterized by elongated sickle like RBCs with a nucleus
- B. An autosomal linked dominant trait
- C. Caused by substitute of valine by glutamic acid in the beta globin chain of haemoglobin
- D. Caused by a change in a single base pair of DNA

**Answer: 4**



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727. Study the pedigree chart given below :-



What does it show :-

- A. Inheritance of a recessive sex-linked disease like haemophilia
- B. Inheritance of a sex-linked inborn error of metabolism like phenylketonuria
- C. Inheritance of a condition like phenylketonuria as an autosomal recessive trait
- D. The pedigree chart is wrong as this is not possible

Answer: 3



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**728.** The most popularly known blood grouping is the ABO grouping. It is named ABO and not ABC, because, because "O" in it refers to having

- A. No antigens A and B on RBCs
- B. Other antigens besides A and B on RBCs
- C. Overdominance of this type on the genes for A and B types
- D. One antibody only-either anti-A and anti-B on the RBCs

**Answer: 1**



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**729.** Select the incorrect statement from the following :

- A. Baldness is a sex limited trait
- B. Linkage is an exception to the principle of independent assortment in heredity.

C. Galactosemia is an inborn error of metabolism

D. Small population size results in random genetic drift in a population

**Answer: 1**



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**730.** Cotyledons and testa respectively are edible parts in

A. Cashew nut and litchi

B. Groundnut and pomegranate

C. Walnut and tamarind

D. French bean and coconut

**Answer: 2**



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**731.** An example of a seed with endosperm perisperm and caruncle is

Or

Which one of the following is an endosperm seed

Or

In which of the following plants, cotyledons form the first pair of leaves.

A. Castor

B. Cotton

C. Coffee

D. Lily

**Answer: 1**



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**732.** Guard cells help in

A. Fighting against infection

B. Protection against grazing

C. Transpiration

D. Guttation

**Answer: 3**



**Watch Video Solution**

**733.** Manganese is required in

A. Chlorophyll synthesis

B. Nucleic acid synthesis

C. Plant cell wall formation

D. Photolysis of water during photosynthesis

**Answer: 4**



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**734.** Oxygenic photosynthesis occurs in

- A. Chlorobium
- B. Chromatium
- C. Oscillatoria
- D. Rhodospirillum

**Answer: 3**



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**735.** A fruit developed from hypanthodium inflorescence is called

- A. Caryopsis
- B. Hesperidium
- C. Sorosis
- D. Syconus



**Answer: 4**



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**736.** The annular and spirally thickened conducting elements generally develop in the protoxylem when the root or stem is

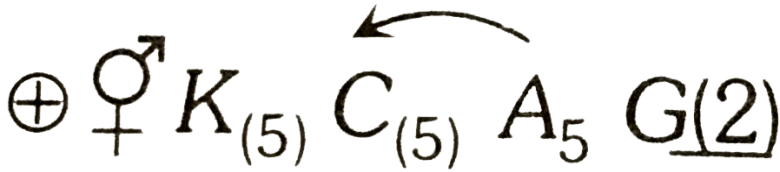
- A. Differentiating
- B. Maturing
- C. Elongating
- D. Widening

**Answer: 1**



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737. The floral formula



is that of

- A. Tobacco
- B. Tulip
- C. Soybean
- D. Sunnhemp

**Answer: 1**



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738. An example of axile placentation is

- A. Marigold
- B. Argemone

C. Dianthus

D. Lemon

**Answer: 4**



**Watch Video Solution**

**739.** In barley stem vascular bundles are

A. Closed and radial

B. Open and scattered

C. Closed and scattered

D. Open and in a ring

**Answer: 3**



**Watch Video Solution**

**740.** Aerobic respiratory pathway is appropriately termed

- A. Anabolic
- B. Catabolic
- C. Parabolic
- D. Amphibolic

**Answer: 4**



**Watch Video Solution**

**741.** Palisade parenchyma is absent in leaves of

- A. Gram
- B. Sorghum
- C. Mustard
- D. Soybean

**Answer: 2**



**Watch Video Solution**

**742.** Reduction in vascular tissue mechanical tissue and cuticle is characteristic of

- A. Hydrophytes
- B. Xerophytes
- C. Mesophytes
- D. Epiphytes

**Answer: 1**



**Watch Video Solution**

**743.** Anatomically fairly old dicotyledonous root is distinguished from the dicotyledonous stem by

- A. Position of protoxylem
- B. absence of secondary xylem
- C. Absence of secondary phloem
- D. Presence of cortex

**Answer: 1**



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**744.** Cyclic photophosphorylation results in the formation of :

- A. ATP
- B. NADPH
- C. ATP and NADPH
- D. ATP, NADPH and  $O_2$

**Answer: 1**



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**745.** In a standard ECG which one of the following alphabets is the correct representation of the respective activity of the human heart ?

- A. P-depolarisation of the atria
- B. R-repolarisation of ventricles
- C. S-start of systole
- D. T-end of diastole

**Answer: 1**



**Watch Video Solution**

**746.** Uric acid is the chief nitrogenous component of the excretory products of :

- A. Frog
- B. Man

C. Earthworm

D. Cockroach

**Answer: 4**



**Watch Video Solution**

**747.** Which one of the following pairs of food components in human reaches the stomach totally undigested

A. Starch and cellulose

B. Protein and starch

C. Starch and fat

D. Fat and cellulose

**Answer: 4**



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**748.** Which one of the following is correct pairing of a body part and the kind of muscle tissue that moves it

- A. Iris – Involuntary smooth muscle
- B. Heart wall – Involuntary unstriated muscle
- C. Biceps of upper arm – smooth muscle fibres
- D. Abdominal wall – smooth muscle

**Answer: 1**



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**749.** Compared to blood our lymph has :

- A. More RBCs and less WBCs
- B. No plasma
- C. Plasma without proteins
- D. More WBCs and no RBCs

**Answer: 4**



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**750.** What will happen if the stretch receptors of the urinary bladder wall are totally removed ?

- A. There will be no micturition
- B. Urine will continue to collect normally in bladder
- C. Micturition will continue
- D. Urine will not collect in the bladder

**Answer: 1**



**Watch Video Solution**

**751.** Which part of human brain is concerned with the regulation of body temperature ?

- A. Hypothalamus
- B. Medulla Oblongata
- C. Cerebellum
- D. Cerebrum

**Answer: 1**



**Watch Video Solution**

**752.** A young infant may be feeding entirely on mother's milk which is white in colour but the stools which the infant passes out is quite yellowish. The yellow colour of stool is due to

- A. Pancreatic juice poured into duodenum
- B. Intestinal juice
- C. Bile pigments passed through bile juice
- D. Undigested milk protein casein

**Answer: 3**



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**753.** Globulins contained in human blood plasma are primarily involved in

- A. Clotting of blood
- B. Defence mechanisms of body
- C. Osmotic balance of body fluids
- D. Oxygen transport in the blood

**Answer: 2**



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**754.** Seminal plasma in humans is rich in

- A. Fructose and certain enzymes but poor calcium

B. Fructose and calcium but has no enzyme

C. Fructose, calcium and certain enzymes

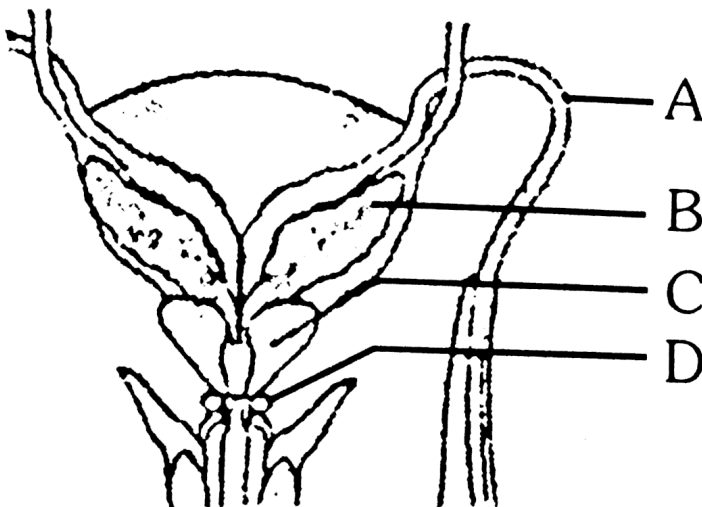
D. Glucose and certain enzymes but has no calcium

**Answer: 3**



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**755.** Given below is a diagrammatic sketch of a portion of human male reproductive system . Select the correct set of the names of the parts labelled . A , B , C, D:-





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756. Which one is a correct match of three items and their grouping category ?

Item	Group
(A) Cytosine, uracil, thiamine	— Pyrimidines
(B) Malleus, incus, cochlea	— Ear ossicles
(C) Ilium, ischium, pubis	— Coxal bones of pelvic girdle
(D) Actin, myosin, rhodopsin	— Muscle proteins.

- |    |                            |                              |
|----|----------------------------|------------------------------|
| A. | Items                      | Groups                       |
|    | Cytosine, uracil, thiamine | Pyrimidines                  |
| B. | Items                      | Groups                       |
|    | Malleus, incus, cochlea    | Ear ossicles                 |
| C. | Items                      | Groups                       |
|    | iliu, ischium pubis        | Coxal bones of pelvic girdle |
| D. | Items                      | Groups                       |
|    | Actin, myosin, rodospin    | Muscle proteins              |

Answer: 3



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**757.** Which one of the following statements is true regarding digestion and absorption of food in humans?

- A. Two pairs of accessory glands in 16–18 segments
- B. Two pairs of testes in 10th and 11th segments.
- C. Four pairs of spermathecae in 4–7 segments
- D. One pair of ovaries attached at intersegmental septum of 14th and 15 th segments.

**Answer: 3**



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**758.** Which one of the following correctly described the location of some body parts in the earthworm Pheretima ?

- A. Ball and socket joint
- B. Pivot joint

C. Hinge joint

D. Gliding joint

**Answer: 2**



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**759.** Elbow joint is an example of :

A. Free-living gametophyte

B. Dependent sporophyte

C. Heterospory

D. Haplontic life cycle

**Answer: 3**



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**760.** Which one of the following is considered important in the development of seed habit

Or

Selaginella has the character of evolutionary importance. That character is



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**761.** One of the synthetic auxin is

A. IBA

B. NAA

C. IAA

D. GA

**Answer: 2**



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**762.** Which one of the following acids is a derivative of carotenoids?

- A. Absciscic acid
- B. Indole butyric acid
- C. Indole-3-acetic acid
- D. Gibberellic acid

**Answer: 1**



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**763.** Vegetative propagation in mint occurs by

- A. Sucker
- B. Runner
- C. Offset
- D. Rhizome

**Answer: 1**



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**764.** Which one of the following plants is monoecious

- A. Papaya
- B. Marchantia
- C. Pinus
- D. Cycas

**Answer: 3**



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**765.** Foetal ejection reflex in human female is induced by:

- A. Differentiation of mammary glands

- B. Pressure exerted by amniotic fluid
- C. Release of oxytocin from pituitary
- D. Fully developed foetus and placenta

**Answer: 4**



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**766.** Which one of the following is the correct matching of the events occurring during menstrual cycle?

- A. Menstruation Breakdown of myometrium and ovum not fertilized
- B. Ovulation LH and FSH attain peak level and sharp fall in the secretion of progesterone
- C. Proliferative phase Rapid regeneration of myometrium and maturation of Graafian follicle

D. Development of corpus luteum Secretory phase and increased secretion of progesterone

**Answer: 4**



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**767.** In a regularly cycling human female, which can be the root cause of menstrual failure?

- A. Retention of well-developed corpus luteum
- B. Fertilization of the ovum
- C. Maintenance of the hypertrophical endometrial lining
- D. Maintenance of high concentration of sex- hormones in the blood stream

**Answer: 2**



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**768.** The correct sequence of spermatogenetic stages leading to the formation of sperms in a mature human testis is

- A. Spermatogonia-spermatid-spermatocyte- sperms
- B. Spermatocyte-spermatogonia-spermatid- sperms
- C. Spermatogonia-spermatocyte-spermatid- sperms
- D. Spermatid-spermatocyte-spermatogonia- sperms

**Answer: 3**



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**769.** A change in the amount of yolk and its distribution in the egg will affect :-

- A. Fertilization
- B. Formation of zygote

C. Pattern of cleavage

D. Number of blastomeres produced

**Answer: 3**



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**770.** When breast feeding is replaced by less nutritive food low in proteins and calories, the infants below the age of one year are likely to suffer from

A. Pellagra

B. Marasmus

C. Rickets

D. Kwashiorkor

**Answer: 2**



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**771.** Which one of the following types of organisms occupy more than one trophic level in a pond ecosystem?

- A. Frog
- B. Phytoplankton
- C. Fish
- D. Zooplankton

**Answer: 3**



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**772.** Which one of the following has maximum genetic diversity in India

- A. Tea
- B. Teak
- C. Mango



D. Wheat

**Answer: 4**



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**773.** Montreal protocol aims at:

- A. Control of  $CO_2$  emission
- B. Reduction of ozone depleting substances
- C. Biodiversity conservation
- D. Control of water pollution

**Answer: 2**



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**774.** "Chipko movement" was launched for the protection of :

A. Wet lands

B. Grasslands

C. Forests

D. Livestock

**Answer: 3**



**Watch Video Solution**

**775.** The correct sequence of plants in hydrosere is :

A. Oak → Lantana → Volvox → Hydrilla → Pistia → Scirpus

B. Oak → Lantana → Scirpus → Pistia → Hydrilla → Volvox

C. Volvox → Hydrilla → Pistia → Scirpus → Lantana → Oak

D. Pistia → Volvox → Scirpus → Hydrilla → Oak → Lantana

**Answer: 3**



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**776.** Steps taken by government of India in controlling air pollution are

- A. Use of non-polluting Compressed Natural Gas (CNG) only as fuel by all buses and trucks
- B. Compulsory mixing of 20% ethyl alcohol with petrol and 20% biodiesel with diesel
- C. Compulsory PUC (Pollution Under Control) certification of petrol driven vehicles which tests for carbon monoxide and hydrocarbons
- D. Permission to use only pure diesel with a maximum of 500 ppm sulphur as fuel for vehicles

**Answer: 3**



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**777.** Biochemical oxygen demand (BOD) in a river water

- A. Increases when sewage gets mixed with river water
- B. Remains unchanged when algal bloom occurs
- C. has no relationship with concentration of oxygen in the water
- D. Gives a measure of Salmonella in the water

**Answer: 1**



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**778.** DDT residues are rapidly passed through food chain causing biomagnification because DDT is :

- A. Water soluble
- B. Lipo soluble
- C. Moderately toxic
- D. Non-toxic to aquatic animals

**Answer: 2**



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**779.** Global agreement in specific control strategies to reduce the release of ozone depleting substances, was adopted by :

- A. The Vienna Convention
- B. Rio de Janeiro Conference
- C. The Montreal Protocol
- D. The Kyoto Protocol

**Answer: 3**



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**780.** Somaclones are obtained by : -

- A. Genetic engineering
- B. Tissue culture

C. Plant breeding

D. Irradiation Genetic engineering

**Answer: 2**



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**781.** Which one is the wrong pairing for the disease and its causal organism ?

A. Root-knot of vegetables : *Meloidogyne* sp

B. Late blight of potato : *Alternaria solani*

C. Black rust of wheat : *Puccinia graminis*

D. Loose smut of wheat : *Ustilago nuda*

**Answer: 2**



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**782.** Which of the following is not used as a biopesticide ?

- A. *Xanthomonas Campestris*
- B. *Bacillus thuringiensis*
- C. *Trichoderma harzianum*
- D. Nuclear Polyhedral Virus (NPV)

**Answer: 1**



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**783.** Which of the following plant species you would select for the production of bioethanol ?

- A. *Jatropha*
- B. *Brassica*
- C. *Zea Mays*
- D. *Pongamia*

**Answer: 3**



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**784.** Which of the following is a symbiotic nitrogen fixer ?

A. Azolla

B. Glomus

C. Azotobacter

D. Frankia

**Answer: 4**



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**785.** A health disorder that results from the deficiency of thyroxine in adults and characterized by (i) a low metabolic rate (ii) increase in body weight and (iii) tendency to retain water in tissues is :



- A. Cretinism
- B. Hypothyroidism
- C. Simple goiter
- D. Myxoedema

**Answer: 4**



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**786.** Which one of the following statement is correct ?

- A. Malignant tumours may exhibit metastasis
- B. Patients who have undergone surgery are given cannabinoids to relieve pain.
- C. Benign tumours show the property of metastasis
- D. Heroin accelerates body functions

**Answer: 1**



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**787.** Which of the following is a pair of viral diseases

- A. Typhoid, Tuberculosis
- B. Ringworm, AIDS
- C. Common Cold, AIDS
- D. Dysentery, Common Cold

**Answer: 3**



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**788.** A person likely to develop tetanus is immunized by administering  
or

When a quick immune response is required due to infection of a deadly  
microbes, the patient is injected with

- A. Weakned germs
- B. Dead germs
- C. Preformed antibodies
- D. Wide spectrum antibiotics

**Answer: 3**



**Watch Video Solution**

**789.** Use of anti-histamines and steroids give a quick relief from -

- A. Headache
- B. Allergy
- C. Nausea
- D. Cough

**Answer: 2**



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**790.** Alzheimer disease in humans is associated with the deficiency of

- A. Gamma aminobutyric acid (GABA)
- B. Dopamine
- C. Glutamic acid
- D. Acetylcholine

**Answer: 4**



**Watch Video Solution**

**791.** Which one of the following is commonly used in transfer of foreign DNA into crop plants?

- A. *Penicillium expansum*
- B. *Trichoderma harzianum*
- C. *Meloidogyne incognita*

D. *Agrobacterium tumefaciens*

**Answer: 4**



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**792.** The bacterium *Bacillus thuringiensis* is widely used in contemporary biology as

- A. Source of industrial enzyme
- B. Indicator of water pollution
- C. Insecticide
- D. Agent for production of dairy products

**Answer: 3**



**Watch Video Solution**

**793.** Which one of the following pairs is wrongly matched ?

- A. Textile – amylase
- B. Detergents – lipase
- C. Alcohol – nitrogenase
- D. Fruit juice – pectinase

**Answer: 3**



**View Text Solution**

**794.** Polyethylene glycol method is used for

- A. Energy production from sewage
- B. Gene transfer without a vector
- C. Biodiesel production
- D. Seedless fruit production

**Answer: 2**



**Watch Video Solution**

**795.** Transgenic plants are the ones

- A. Grown in artificial medium after hybridization in the field
- B. Produced by a somatic embryo in artificial medium
- C. Generated by introducing foreign DNA in to a cell and regenerating a plant from that cell
- D. Produced after protoplast fusion in artifical medium

**Answer: 3**



**Watch Video Solution**

**796.** What is true about Bt toxin?

- A. The concerned Bacillus has antitoxins
- B. The inactive protoxin gets converted into active form in the insect gut
- C. Bt protein exists as active toxin in the Bacillus
- D. The activated toxin enters the ovaries of the pest to sterillise it and thus prevent its multiplication.

**Answer: 2**



**Watch Video Solution**

**797.** The genetic defect-adenosine deaminase (ADA) deficiency may be cured permanently by

- A. Enzyme replacement therapy
- B. Periodic infusion of genetically engineered lymphocytes having functional ADA cDNA



C. Administering adenosine deaminase activators

D. Introducing bone marrow cells producing ADA into cells at early embryonic stages

**Answer: 4**



**Watch Video Solution**

**798.** There is no DNA in

A. Hair root

B. An enucleated ovum

C. Mature RBCs

D. A mature spermatozoan

**Answer: 3**



**Watch Video Solution**

**799.** The letter "T" in T-lymphocyte refers to

- A. Thymus
- B. Thyroid
- C. Thalamus
- D. Tonsil

**Answer: 1**



**Watch Video Solution**

**800.** Tiger is not a resident in which one of the following national park

- A. Jim Corbett
- B. Ranthambhor
- C. Sunderbans
- D. Gir

**Answer: 4**



**Watch Video Solution**

**801.** Selaginella and Salvinia are considered to represent a significant step toward evolution of seed habit because

- A. Embryo develops in female gametophyte which is retained on parent sporophyte.
- B. Female gametophyte is free and gets dispersed like seeds.
- C. Female gametophyte lacks archegonia.
- D. Megaspore possess endosperm and embryo surrounded by seed coat.

**Answer: A**



**Watch Video Solution**

**802.** Consider the following four statements whether they are correct or wrong.

A. Statements (A) and (B)

B. Statements (A) and (C)

C. Statements (A) and (D)

D. Statements (B) and (C)

**Answer: C**



**Watch Video Solution**

**803.** At metaphase, chromosomes are attached to the spindle fibres by their

A. Centromere

B. Satellites

C. Secondary constrictions

D. Kinetochores

**Answer: D**



**Watch Video Solution**

**804.** Which one of the following is not considered as a part of the endomembrane system ?

A. Lysosome

B. Golgi complex

C. Peroxisome

D. Vacuole

**Answer: C**



**Watch Video Solution**

**805.** In history of biology, Human genome project led to the development of

- A. Biosystematics
- B. Biotechnology
- C. Biomonitoring
- D. Bioinformatics

**Answer: D**



**Watch Video Solution**

**806.** The unequivocal proof of DNA as the genetic material came from the studies on :

- A. Bacterial virus
- B. Bacterium
- C. Fungus

D. Viroid

**Answer: A**



**Watch Video Solution**

**807.** Guttation is the result of

A. Root pressure

B. Diffusion

C. Transpiration

D. Osmosis

**Answer: A**



**Watch Video Solution**

**808.** Function of companion cells is

- A. Loading of sucrose into sieve elements
- B. Providing energy to sieve elements for active transport
- C. Providing water to phloem
- D. Loading of sucrose into sieve elements by passive transport

**Answer: B**



**Watch Video Solution**

**809.** Some vascular bundles are described as open because these

- A. are not surrounded by pericycle
- B. are surrounded by pericycle but no endodermis
- C. are capable of producing secondary xylem and phloem
- D. possess conjunctive tissue between xylem and phloem

**Answer: C**



**Watch Video Solution**



**810.** Which one of the following diagrams represents the placentation in Dianthus

A. 

B. 

C. 

D. 

**Answer: C**



**Watch Video Solution**

**811.** Which one of the following ions is essential for photolysis of water?

A. Boron

B. Manganese

C. Zinc

D. Copper

**Answer: B**



**Watch Video Solution**

**812.** In kranz anatomy, the bundle sheath cells have

- A. thick walls, many intercellular spaces and few chloroplasts
- B. thin walls, many intercellular spaces and no chloroplasts
- C. thick walls, no intercellular spaces and large number of chloroplasts
- D. thin walls, no intercellular spaces and several chloroplasts

**Answer: C**



**Watch Video Solution**

**813.** Sweet potato is homologous to

- A. Turnip
- B. Potato
- C. Colocasia
- D. Ginger

**Answer: A**



**Watch Video Solution**

**814.** Which one of the following is not an essential mineral element for plants while the remaining three are

- A. Phosphorus
- B. Iron
- C. Manganese
- D. Cadmium

**Answer: D**

**815.** Whorled, simple leaves with reticulate venation are present in

- A. Alstonia
- B. Calotropis
- C. Neem
- D. China Rose

**Answer: A**

**816.** What is common between vegetative reproduction and Apomixis

- A. Both produces progeny identical to the parent
- B. Both are applicable to only dicot plants
- C. Both bypass the flowering phase

D. Both occur round the year

**Answer: A**



**Watch Video Solution**

**817.** In mitochondria, protons accumulate in the

A. Matrix

B. Outer membrane

C. Inner membrane

D. Intermembrane space

**Answer: D**



**Watch Video Solution**

**818.** Which one the following pairs is wrongly matched while the remaining three are correct

- A. Agave - Bulbils
- B. Penicillium - Conidia
- C. Water hyacinth - Runner
- D. Bryophyllum - Leaf buds

**Answer: C**



**Watch Video Solution**

**819.** In angiosperms functional megaspore develops into

- A. Pollen sac
- B. Embryo sac
- C. Ovule
- D. Endosperm

**Answer: B**



**Watch Video Solution**

**820.** Both, hydrarch and xerarch successions lead to

- A. Excessive wet conditions
- B. Medium water conditions
- C. Xeric conditions
- D. Highly dry conditions

**Answer: B**



**Watch Video Solution**

**821.** Which one of the following animals may occupy more than one trophic levels in the same ecosystem at the same time?

A. Frog

B. Sparrow

C. Lion

D. Goat

**Answer: B**



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**822.** The breakdown of detritus into smaller particles by earthworm is a process called

A. Catabolism

B. Humification

C. Fragmentation

D. Mineralisation

**Answer: C**





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823. "Good ozone" is found in the

- A. Ionosphere
- B. Mesosphere
- C. Troposphere
- D. Stratosphere

Answer: D



Watch Video Solution

824. The logistic population growth is expressed by the equation

- A.  $dN/dt = rN \left( \frac{N - K}{N} \right)$
- B.  $dt/dN = rN \left( \frac{K - N}{K} \right)$
- C.  $dN/dt = rN \left( \frac{K - N}{K} \right)$

D.  $dN/dt = rN$

**Answer: C**



**Watch Video Solution**

**825.** Which one of the following is a wrong matching of a microbe and its industrial product, while the remaining three are correct:-

- A. *Aspergillus niger* – citric acid
- B. Yeast – statins
- C. *Acetobacter aceti* – acetic acid
- D. *Clostridium butylicum* – lactic acids

**Answer: D**



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**826.** Common cold is not cured by antibiotics because it is

- A. not an infectious disease
- B. caused by a virus
- C. caused by a Gram-positive bacterium
- D. caused by a Gram-negative bacterium

**Answer: B**



**Watch Video Solution**

**827.** Read the following four statements (A-D)

- A. The first transgenic buffalo, Roise produced milk which was human alpha-lactalbumin enriched
- B. Restriction enzymes are used in isolation of DNA from other macromolecules
- C. Downstream processing is one of the step of rDNA technology
- D. Disarmed pathogen vectors are also used in transfer of rDNA into the

host

which of the two statements have mistakes ?

A. Statements (A) and (B)

B. Statements (B) and (C)

C. Statements (C) and (D)

D. Statements (A) and (C)

**Answer: A**



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**828.** Silencing of mRNA has been used in producing transgenic plants resistant to:

A. Bacterial blights

B. Bollworms

C. Nematodes

D. White rusts

**Answer: C**



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**829.** Which one of the following aspects is a exclusive characteristic of living things?

- A. Increase in mass by accumulation of material both on surface as well as internally
- B. Isolated metabolic reactions occur in vitro
- C. Increase in mass from inside only
- D. Perception of events happening in the environment and their memory

**Answer: D**



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**830.** The type of muscle present in our

- A. upper arm are smooth muscle fibres fusiform in shape
- B. heart are involuntary and unstriated smooth muscles
- C. intestine are striated and involuntary
- D. thigh are striated and voluntary

**Answer: D**



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**831.** Which one of the following conditions of the zygotic cell would lead to the birth of a normal human female child

- A. one X and one Y chromosome
- B. two X chromosomes
- C. only one Y chromosome

D. only one X chromosome

**Answer: B**



**Watch Video Solution**

**832.** Test cross in plants or in *Drosophila* involves crossing:

- A. between two genotypes with dominant trait
- B. between two genotypes with recessive trait
- C. between two F1 hybrids
- D. the F1 hybrid with a double recessive genotype

**Answer: D**



**Watch Video Solution**

**833.** Which one of the following correctly represents the normal adult human formula:

A.  $\frac{3}{3}, \frac{1}{1}, \frac{3}{3}, \frac{3}{3}$

B.  $\frac{3}{3}, \frac{1}{1}, \frac{3}{2}, \frac{1}{1}$

C.  $\frac{2}{2}, \frac{1}{1}, \frac{3}{2}, \frac{3}{3}$

D.  $\frac{2}{2}, \frac{1}{1}, \frac{2}{2}, \frac{3}{3}$

**Answer: D**



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**834.** Bulk of carbon dioxide ( $CO_2$ ) released from body tissues into the blood is present as

A. carbamino-haemoglobin in RBCs

B. bicarbonate in blood plasma and RBCs

C. Free  $CO_2$  in blood plasma



D. 70% carbamino-haemoglobin and 30% as bicarbonate

**Answer: B**



**Watch Video Solution**

**835.** Frogs differ from humans in possessing

- A. thyroid as well as parathyroid
- B. paired cerebral hemispheres
- C. hepatic portal system
- D. nucleated red blood cells

**Answer: D**



**Watch Video Solution**

**836.** The cells lining the blood vessels belongs to the category of :

- A. Connective tissue
- B. Smooth muscle tissue
- C. Squamous epithelium
- D. Columnar epithelium

**Answer: C**



**Watch Video Solution**

**837.** The 24 hour (diurnal) rhythm of our body such as the sleep-wake cycle is regulated by the hormone

Or

Which hormone is secreted more in dark condition

- A. melatonin
- B. calcitonin
- C. prolactin
- D. adrenaline

**Answer: A**



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**838.** Which one of the following structures in *Pheretima* is correctly matched with its function

- A. Typhlosole-storage of extra nutrients
- B. Clitellum-secretes cocoon
- C. Gizzard-absorbs digested food
- D. Setae-defence against predators

**Answer: B**



**Watch Video Solution**

**839.** Ureters act as urinogenital ducts in

- A. frog's males
- B. human males
- C. human females
- D. frog's both males and fema

**Answer: A**



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**840.** In humnas one of the constituents of the pancreatic juice which is poured into the doudenum is

- A. Enterokinase
- B. Trypsinogen
- C. Chymotrypsin
- D. Trypsin

**Answer: B**



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**841.** Which one of the following is a possibility for most of us in regards to breathing, by making a conscious effort

- A. The lungs can be made fully empty by forcefully breathings out all air from them
- B. One can breathe out air totally without oxygen
- C. One can breathe out air through Eustachian tubes by closing both the nose and the mouth
- D. one can consciously breathe in and breathe out by moving the diaphragm alone, without moving the ribs at all.

**Answer: D**



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**842.** What happens during fertilization in humans after many sperms reach close to the ovum?

- A. Only two sperms nearest the ovum penetrate zona pellucida
- B. Secretions of acrosome helps one sperm enter cytoplasm of ovum through zona pellucida
- C. All sperms except the one nearest to the ovum lose their tails
- D. Cells of corona radiata trap all the sperms except one

**Answer: B**



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**843.** The technique called gamete intrafallopian transfer (GIFT) is recommended for those females

- A. who cannot provide suitable environment for fertilisation
- B. who cannot produce an ovum

C. who cannot retain the foetus inside uterus

D. whose cervical canal is too narrow to allow passage for the sperms

**Answer: B**



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**844.** Consider the following four statements ( $A - D$ ) related to the common frog *Rana tigrina* and select the correct option stating which ones are true (T) and which ones are false (F)

Statements :

(A) On dry land it would die due to lack of  $O_2$  if its mouth is forcibly kept closed for a few days

(B) It has four-chambered heart

(C) ON dry land it turns uricotelic from ureotelic

(D) Its life-history is carried out in pond water

A. 

$A$	$B$	$C$	$D$
$F$	$T$	$T$	$F$

B. 

$A$	$B$	$C$	$D$
$T$	$F$	$F$	$T$

- C.  $\begin{array}{cccc} A & B & C & D \\ T & T & F & F \end{array}$
- D.  $\begin{array}{cccc} A & B & C & D \\ F & F & T & T \end{array}$

**Answer: B**



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**845.** About which day in a normal human menstrual cycle does rapid secretion of LH (popularly called LH-surge) normally occurs?

A. 11<sup>th</sup> day

B. 14<sup>th</sup> day

C. 20<sup>th</sup> day

D. 5<sup>th</sup> day

**Answer: B**



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**846.** Consider the following statements (a-d) each with one or two blanks:

(a) Bears go into (1) during winter to (2) cold weather.

(b) A conical age pyramid with a broad base represent (3) human population.

(c) A wasp pollinating a fig flower is an example of (4).

(d) An area with high levels of species richness is known as (5) .

Find the correct fill up words.

A. (1) - hibernation, (2) - escape, (3) - expanding, (5) - hot spot

B. (3) - stable, (4) - commensalism, (5) - marsh

C. (1) - aestivation, (2) - escape, (3) - stable, (4) - mutualism

D. (3) - expanding, (4) - commensalism, (5) - biodiversity park

**Answer: A**



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**847.** Study the following statements regarding organic farming and select the correct ones

- (i) It utilises genetically modified crops like Bt cotton
- (ii) It uses only naturally produced inputs like compost and biofertilisers
- (iii) It does not use pesticides and urea
- (iv) It produces vegetables rich in vitamins and minerals.

A. (A) and (B) only

B. (B), (C) and (D)

C. (C) and (D) only

D. (B) and (C) only

**Answer: D**



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**848.** Biodiversity of a geographical region represents

- A. Species endemic to the region
- B. Endangered species found in the region
- C. The diversity in the organisms living in the region
- D. Genetic diversity present in the dominant species of the region.

**Answer: C**



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**849.** The pathogen *Microsporum* responsible for ringworm disease in humans belongs to the same Kingdom of organisms as that of:

- A. *Ascaris*, a round worm
- B. *Taenia*, a tapeworm
- C. *Wuchereria*, a filarial worm
- D. *Rhizopus*, a mould

**Answer: D**



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**850.** Select the correct statement with respect to diseases and immunisation

- A. Injection of snake antivenom against snake bite is an example of active immunisation.
- B. If due to some reason B-and T-lymphocytes are damaged, the body will not produce antibodies against a pathogen.
- C. Injection of dead/inactivated pathogens causes passive immunity
- D. Certain protozoans have been used to mass produces hepatitis B vaccine

**Answer: B**



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**851.** *Bacillus thuringiensis* forms protein crystals which contain insecticidal protein. This protein:

- A. does not kill the carrier bacterium which is itself resistant to this toxin
- B. binds with epithelial cells of midgut of the insect pest ultimately killing it
- C. is coded by several genes including the gene cry
- D. is activated by acid pH of the foregut of the insect pest.

**Answer: B**



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**852.** Which one of the following techniques made it possible to genetically engineer living organisms ?

- A. Hybridization

B. Recombinant DNA techniques

C. X-ray diffraction

D. Heavier isotope labeling

**Answer: B**



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**853.** which one of the following statements is totally wrong about the occurrence of notochord , while the other three are correct

A. It is present throughout life in Amphioxus

B. It is present only in larval tail in Ascidians

C. It is replaced by vertebral column in adult frog

D. It is absent throughout life in humans from the very beginning

**Answer: D**



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**854.** Root pressure develops due to

- A. Increase in transpiration
- B. Active absorption
- C. Low osmotic potential in soil
- D. passive absorption

**Answer: B**



**Watch Video Solution**

**855.** Which one is a wrong statement?

- A. Brown algae have chlorophyll a and c, and fucoxanthin
- B. archegonia are found in bryophyta, pteridophyta and gymnosperms
- C. Mucor has biflagellate zoospores
- D. Haploid endosperm is typical feature of gymnosperms

**Answer: C**



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**856.** Which of the following structures is not found in a prokaryotic cell?

- A. Plasma membrane
- B. Nuclear envelope
- C. Ribosome
- D. Mesosome

**Answer: B**



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**857.** Which one of the following animals has two separate circulatory pathways



A. Shark

B. Frog

C. Lizard

D. Whale

**Answer: D**



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**858.** Most animals that live in deep oceanic waters are:

A. detritivores

B. primary consumers

C. secondary consumers

D. tertiary consumers

**Answer: A**



**Watch Video Solution**

**859.** An association of individuals of different species living in the same habitat and having functional interactions is

- A. population
- B. Ecological niche
- C. Biotic community
- D. Ecosystem

**Answer: C**



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**860.** The oxygen evolved during photosynthesis comes from water molecules. Which one of the following pairs of elements is involved in this reaction ?

- A. Magnesium and chlorine

- B. manganese and chlorine
- C. manganese and potassium
- D. magnesium and molybdenum

**Answer: B**



**Watch Video Solution**

**861.** Axile placentation is present in

- A. Argemone
- B. Dianthus
- C. Lemon
- D. Pea

**Answer: C**



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**862.** In which of the following both pairs have correct combination?



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**863.** In mammalian eye, the 'fovea' is the centre of the visual field, where

- A. more rods than cones are found
- B. high density of cones occur, but has no rods
- C. the optic nerve leaves the eye
- D. only rods are present

**Answer: B**



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**864.** Choose the wrong statement

- A. yeast is unicellular and useful in fermentation
- B. Penicillium is multicellular and produces antibiotics
- C. neurospora is used in the study of biochemical genetics
- D. morels and truffles are poisonous mushrooms

**Answer: D**



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**865.** Which of the following are not membrane bound ?

- A. Mesosomes
- B. Vacuoles
- C. Ribosomes
- D. Lysosomes

**Answer: C**



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**866.** In which of the following interaction both partners are adversely affected ?

- A. Mutualism
- B. Competition
- C. predation
- D. Parasitism

**Answer: B**



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**867.** A colour blind man marries a woman with normal sight who has no history of colour blindness in her family. What is the probability of their grandson being colour blind ?

- A. 0.25

B. 0.5

C. 1

D. Nil

**Answer: D**



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**868.** Ectopic pregnancies are referred to as

A. pregnancies terminated due to hormonal imbalance

B. pregnancies with genetic abnormality

C. Implantation of embryo at site other than uterus

D. Implantation of defective embryo in the uterus

**Answer: C**



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**869.** Cellular organelles with membranes are

- A. lysosomes, golgi apparatus and mitochondria
- B. nuclei, ribosomes and mitochondria
- C. chromosomes, ribosomes and endoplasmic reticulum
- D. endoplasmic reticulum, ribosomes and nuclei

**Answer: A**



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**870.** Cell wall is absent in:

- A. Nostoc
- B. Aspergillus
- C. Funaria
- D. Mycoplasma



**Answer: D**



**Watch Video Solution**

**871.** the term 'linkage' was coined by :

A. W. sutton

B. T.H. moran

C. T. Boveri

D. G. Mendel

**Answer: B**



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**872.** Which of the following biomolecules does have phosphodiester bond

A. Nucleic acids in a nucleotide

- B. Fatty acids in a diglyceride
- C. Monosaccharides in a polysaccharide
- D. Amino acids in a polypeptide

**Answer: A**



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**873.** The primary dentition in human differs from permanent dentition in not having one of the following type of teeth

- A. Incisors
- B. canine
- C. premolars
- D. molars

**Answer: C**



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**874.** A protoplast is a cell

- A. without cell wall
- B. without plasma membrane
- C. without nucleus
- D. undergoing division

**Answer: A**



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**875.** In which group of organisms the cell walls form two thin overlapping shells which fit together

- A. Slime moulds
- B. Chrysophytes
- C. Euglenoids

D. Dinoflagellates

**Answer: B**



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**876.** The DNA molecule to which the gene of interest is integrated for cloning is called

A. carrier

B. transformer

C. vector

D. template

**Answer: C**



**Watch Video Solution**

**877.** Male gametophyte in angiosperms produces:

- A. three sperms
- B. two sperms and a vegetative cell
- C. single sperm and a vegetative cell
- D. single sperm and two vegetative cell

**Answer: B**



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**878.** Coconut water from a tender coconut is:

- A. denerated nucellus
- B. immature embryo
- C. free nuclear endosperm
- D. innermost layers of the seed coat

**Answer: C**



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**879.** The species confined to a particular region and not found elsewhere is termed as

- A. Rate
- B. Keystone
- C. Alien
- D. Endemic

**Answer: D**



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**880.** Metagenesis refers to

- A. Presence of a segmented body and parthenogenetic mode of reproduction
- B. presence of difference morphic forms
- C. alternation of generation between asexual and sexual phases of an organism
- D. occurrence of a drastic change in form during post-embryonic development

**Answer: C**



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**881.** The enzyme that is not present in succus entericus is

- A. lipase
- B. maltase
- C. nucleases

D. nucleosidase

**Answer: C**



**Watch Video Solution**

**882.** Eutrophication of water bodies leading to killing of fishes is mainly due to non-availability of:

- A. Oxygen is more electronegative
- B. food
- C. light
- D. essential minerals

**Answer: A**



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**883.** The function of the gap junction is to

- A. stop substance from leaking across a tissue
- B. performing cementing to keep neighbouring cells together
- C. facilitate communication between adjoining cells by connecting the cytoplasm for rapid transfer of ions, small molecules and some large molecules.
- D. separate two cells from each other.

**Answer: C**



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**884.** Match the following list of microbes and their importance

(A)	<i>Saccharomyces cerevisiae</i>	(i)	Production of immunosuppressive agents
(B)	<i>Monascus purpureus</i>	(ii)	Ripening of swiss cheese
(C)	<i>Trichoderma polysporum</i>	(iii)	Commerical production of ethanol
(C)	<i>Propionibacterium sharmanii</i>	(iv)	Production of blood cholesterol lowering agents

A. a-iii,b-i,c-iv,d-ii

B. a-iii,b-iv,c-i,d-ii

C. a-iv,b-iii,c-ii,d-i

D. a-iv,b-ii,c-i,d-iii

**Answer: B**



**Watch Video Solution**

**885.** Arrange the following events of meiosis in correct sequence

- (a) Crossing over
- (b) Synapsis
- (c) Terminalisation of chiasmata
- (d) Disappearance of nucleolus.

A. b,c,d,a

B. b,a,d,c

C. b,a,c,d

D. a,b,c,d

**Answer: C**



**Watch Video Solution**

**886.** The cutting of DNA at specific locations became possible with the discovery of

- A. Ligase
- B. Restriction enzymes
- C. probes
- D. Selectable markers

**Answer: B**



**Watch Video Solution**

**887.** During biological nitrogen fixation, inactivation of nitrogenase by oxygen poisoning is prevented by

- A. Cytochrome
- B. Leghaemoglobin
- C. Xanthophyll
- D. Carotene

**Answer: B**



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**888.** Grafted kidney may rejected in a patient due to

- A. Innate immune response
- B. Humoral immune response
- C. Cell-mediated immune response
- D. Passive immune response

**Answer: C**



[Watch Video Solution](#)

**889.** The body cells in Cockroach discharge their nitrogenous waste in haemolymph mainly in the form of

- A. calcium carbonate
- B. Ammonia

C. Potassium urate

D. Urea

**Answer: C**



**Watch Video Solution**

**890.** Filiform apparatus is characteristic feature of :

A. synergids

B. Generative cells

C. Nucellar embryo

D. Aleurone cell

**Answer: A**



**Watch Video Solution**

**891.** Acid rain is caused by increase in the atmospheric concentration of :

- A.  $O_3$  and dust
- B.  $SO_2$  and  $NO_2$
- C.  $SO_3$  and  $CO$
- D.  $CO_2$  and  $CO$

**Answer: B**



**Watch Video Solution**

**892.** The wheat grain/maize grain has an embryo with one, large, shield shaped cotyledon known as:

- A. Coleoptile
- B. Epiblast
- C. Coleorrhiza
- D. Scutellum

**Answer: D**



**Watch Video Solution**

**893.** Among china rose, mustard, Brinjal, potato, guava,cucumber onion and tulip, how many plants have superior ovary

A. Four

B. Five

C. Six

D. Three

**Answer: C**



**Watch Video Solution**

**894.** Which of the following is not a functioin of the skeletal system



- A. Locomotion
- B. Production of erythrocytes
- C. Storage of minerals
- D. Production of body heat

**Answer: D**



**Watch Video Solution**

**895.** Golden rice is a genetically modified crop plant where the incorporated gene is meant for biosynthesis of:

- A. Vitamin A
- B. Vitamin B
- C. Vitamin C
- D. Omega 3

**Answer: A**



[Watch Video Solution](#)

**896.** Chromatophores take part in

- A. Respiration
- B. Photosynthesis
- C. Growth
- D. Movement

**Answer: B**



[Watch Video Solution](#)

**897.** Select the wrong statement

- A. Mosaic disease in tobacco and AIDS in human being are caused by viruses
- B. The viroids were discovered by D.J. Ivanowski

C. W.M. Stanley showed that viruses could be crystallized

D. The term 'contagium vivum fluidum' was coined by M.W. Beijerinck

**Answer: B**



**Watch Video Solution**

**898.** A pleiotropic gene:

A. Controls multiple traits in an individual

B. is expressed only in primitive plants

C. is a gene evolved during pliocene

D. controls a trait only in combination with another gene

**Answer: A**



**Watch Video Solution**

**899.** Human urine is usually acidic because

- A. Hydrogen ions are actively secreted into the filtrate
- B. the sodium transporter exchanges one hydrogen ion for each sodium ion, in peritubular capillaries
- C. excreted plasma proteins are acidic
- D. potassium and sodium exchange generates acidity.

**Answer: A**



**Watch Video Solution**

**900.** Auxin can be bioassayed by

- A. Lettuce hypocotyl elongation
- B. Avena coleoptile curvature
- C. Hydroponics

D. Potometer

**Answer: B**



**Watch Video Solution**

**901.** Which of the following events is not associated with ovulation in human female?

- A. LH surge
- B. Decrease in estradiol
- C. Full development of Graafian follicle
- D. Release of secondary oocyte

**Answer: B**



**Watch Video Solution**

**902.** Body having meshwork of cell, internal cavities lined with food filtering flagellated cells and indirect development are the characteristics of phylum

- A. Protozoa
- B. Coelenterata
- C. Porifera
- D. Mollusca

**Answer: C**



**Watch Video Solution**

**903.** Which one of the following hormones is not involved in sugar metabolism ?

- A. Glucagon
- B. Cortisone

C. Aldosterone

D. Insulin

**Answer: C**



**Watch Video Solution**

**904.** Which of the following diseases is caused by a protozoan

A. Blastomycosis

B. Syphilis

C. Influenza

D. Babesiosis

**Answer: D**



**Watch Video Solution**

**905.** Outbreeding is an important strategy of animal husbandry because it

- A. exposes harmful recessive genes that are eliminated by selection.
- B. helps in accumulation of superiod genes
- C. is useful in producing purelines of animals.
- D. is useful is overcoming inbreeding depression.

**Answer: D**



**Watch Video Solution**

**906.** A childless couple can be assisted to have a child through a technique called GIFT. The full form of this technique is:-

- A. Germ cell internal fallopian transfer
- B. Gamete inseminated fallopian transfer
- C. Gamete intra fallopian transfer



D. Gamete internal fertilization and transfer

**Answer: C**



**Watch Video Solution**

**907.** A jawless fish which lays eggs in fresh water and whose ammocoete larve after metamorphosis return to ocean is

A. Petromyzon

B. Eptatretus

C. Myxine

D. Neomyxine

**Answer: A**



**Watch Video Solution**

**908.** The structure that help some bacteria to attach to rocks and host tissues are

- A. Holdfast
- B. Rhizoids
- C. Fimbriae
- D. Mesosomes

**Answer: C**



**Watch Video Solution**

**909.** If you suspect major deficiency of antibodies in a person, to which of the following would you look for confirmatory evidence

- A. Serum globulins
- B. Fibrinogen in plasma
- C. serum albumins

D. haemocytes

**Answer: A**



**Watch Video Solution**

**910.** In human females, meiosis-II is not completed until

A. Birth

B. Puberty

C. Fertilization

D. uterine implantation

**Answer: C**



**Watch Video Solution**

**911.** Which of the following layers in an antral follicle is acellular?

A. Zona pellucida

B. Granulosa

C. Theca interna

D. Stroma

**Answer: A**



**Watch Video Solution**

**912.** In his classic experiment on Pea plants, Mendel did not use

A. Flower position

B. Seed colour

C. Pd length

D. Seed shape

**Answer: C**



**Watch Video Solution**

**913.** Which one of the following fruits is parthenocarpic

- A. Banana
- B. Brinjal
- C. Apple
- D. Jackfruit

**Answer: A**



**Watch Video Solution**

**914.** In angiosperm , microsporogenesis and megasporogenesis :

- A. occur in ovule
- B. occur in another
- C. form gametes without further divisions

D. involve meiosis

**Answer: D**



**Watch Video Solution**

**915.** A gene showing codominance has:

- A. Both alleles independently expressed in the heterozygote
- B. one allele dominant on the other
- C. alleles tightly linked on the same chromosome
- D. alleles that are recessive to each other

**Answer: A**



**Watch Video Solution**

**916.** The chitinous exoskeleton of arthropods is formed by the polymerisation of :

- A. lipoglycans
- B. keratin sulphate and chondroitin sulphate
- C. D-glucosamine
- D. N-acetyl glucosamine

**Answer: D**



**Watch Video Solution**

**917.** The imperfect fungi which are decomposers of litter and help in mineral cycling belong to:

- A. Ascomycetes
- B. Deuteromycetes
- C. Basidiomycetes

D. Phycomycetes

**Answer: B**



**Watch Video Solution**

**918.** The wings of a bird and the wings of an insect are

- A. Homologous structures and represent convergent evolution
- B. homologous structures and represent divergent evolution
- C. analogous structures and represent convergent evolution
- D. phylogenetic structure and represent divergent evolution

**Answer: C**



**Watch Video Solution**

**919.** Flowers are unisexual in



- A. Onion
- B. Pea
- C. Cucumber
- D. China rose

**Answer: C**



**Watch Video Solution**

**920.** Increase in concentration of the toxicant at successive trophic levels is known as:

- A. Biogeochemical cycling
- B. Biomagnification
- C. Biodeterioration
- D. Biotransformation

**Answer: B**



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**921.** Destruction of the anterior horn cells of the spinal cord would result in loss of

- A. integrating impulses
- B. sensory impulses
- C. voluntary motor impulses
- D. commissural impulses

**Answer: B**



[Watch Video Solution](#)

**922.** Roots play insignificant role in absorption of water in

- A. Wheat
- B. Sunflower

C. Pistia

D. Pea

**Answer: C**



**Watch Video Solution**

**923.** Match the columns and identify the corret options

Column I	Column II
(a) Thylakoids	(i) Disc-shaped sacs in Golgi apparatus
(b) Cristae	(ii) Condensed structure of DNA
(c) Cisternae	(iii) Flat membranous sacs in stroma
(d) Chromatin	(iv) Infoldings in mitochondria

A. a-iii,b-iv,c-ii,d-i

B. a-iv,b-iii,c-i,d-ii

C. a-iii,b-iv,c-i,d-ii

D. a-iii,b-i,c-iv,d-ii

**Answer: C**



**Watch Video Solution**

**924.** Identify the correct order of organisation of genetic material from largest to smallest :

A. Chromosome, genome, nucleotide, gene

B. Chromosome, gene, genome, nucleotide

C. Genome, chromosome, nucleotide, gene

D. Genome, chromosome, gene, nucleotide

**Answer: D**



**Watch Video Solution**

**925.** Which one of the following hormones thought synthesised elsewhere, is stored and released by the master gland ?

- A. Melanocyte stimulating hormone
- B. Antidiuretic hormone
- C. Luteinizing hormone
- D. Prolactin

**Answer: B**



**Watch Video Solution**

**926.** Read the different components from (A) to (D) in the list given below and tell the correct order of the components with reference to their arrangement from outer side to inner side in a woody dicot stem

- (A) Secondary cortex , (B) Wood  
(C) Secondary phloem , (D) Phellem

A. d,c,a,b

B. c,d,b,a

C. a,b,d,c

D. d,a,c,b

**Answer: D**



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**927.** Which of the following joints would allow no movement

A. Ball and socket joint

B. Fibrous joint

C. Cartilaginous joint

D. Synovial joint

**Answer: B**



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**928.** which one of the following is not applicable to RNA

- A. Chargaff's rule
- B. Complementary base pairing
- C. 5' phosphoryl and 3' hydroxyl ends
- D. Heterocyclic nitrogenous based

**Answer: A**



**Watch Video Solution**

**929.** Doctors use stethoscope to hear the sounds produced during each cardiac cycle. The second sound is heard when

- A. A V node receives signal from SA node
- B. AV valves open up
- C. Ventricular walls vibrate due to gushing in of blood from atria

D. Semilunar valves close down after the blood flows into vessels from ventricles

**Answer: D**



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**930.** During ecological succession:

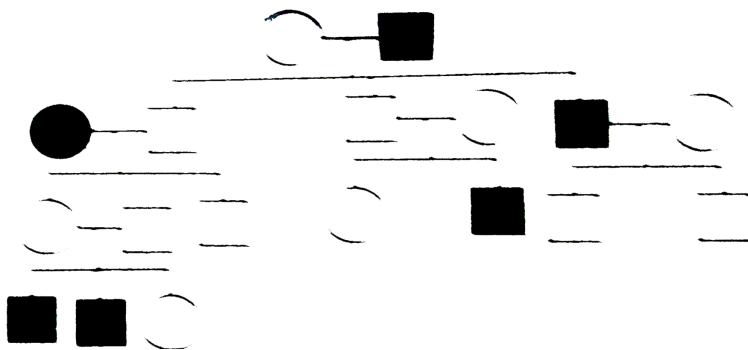
- A. The changes lead to a community that is in near equilibrium with the environment and is called pioneer community
- B. the gradual and predictable change in species composition occurs in a given area
- C. The establishment of a new biotic community is very fast in its primary phase.
- D. the numbers and types of animals remain constant.

**Answer: B**



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**931.** In the following human pedigree, the filled symbols represent the affected individuals. Identify the type of given pedigree



- A. X-linked dominant
- B. Autosomal dominant
- C. X-linked recessive
- D. Autosomal recessive

**Answer: D**

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**932.** Balbiani rings are sites of

- A. RNA and protein synthesis
- B. Lipid synthesis
- C. Nucleotide synthesis
- D. Polysaccharide synthesis

**Answer: A**



**Watch Video Solution**

**933.** Name the pulmonary disease in which alveolar surface area involved in gas exchange is drastically reduced due to damage in the alveolar walls

- A. Asthma
- B. Pleurisy
- C. Emphysema

D. Pneumonia

**Answer: C**



**Watch Video Solution**

**934.** Which the following are most suitable indicators of  $SO_2$  pollution in the environment ?

A. Fungi

B. Lichens

C. Conifers

D. Algae

**Answer: B**



**Watch Video Solution**

**935.** Satellite DNA is important because it

- A. codes for enzymes needed for DNA replication.
- B. codes for proteins needed in cell cycle.
- C. shows high degree of polymorphism in population and also the same degree of polymorphism in an individual, which is heritable from parents to children.
- D. does not code for proteins and is same in all members of the population.

**Answer: C**



**Watch Video Solution**

**936.** Industrial melanism is an example of

- A. Neo lamarckism

- B. Neo darwinism
- C. natural selection
- D. mutation

**Answer: C**



**Watch Video Solution**

**937.** A column of water within xylem vessels of tall trees does not break under its weight because of

- A. Positive root pressure
- B. Dissolved sugars in water
- C. Tensile strength of water
- D. Lignification of xylem vessels

**Answer: C**



**Watch Video Solution**

**938.** The introduction of t-DNA into plants involves

- A. Allowing the plant roots to stand in water
- B. infection of the plant by *Agrobacterium*
- C. Altering the pH of the soil, then heat-shocking the plants
- D. Exposing the plants to cold for a brief

**Answer: B**



**Watch Video Solution**

**939.** Pick up the wrong statement

- A. Nuclear membrane is present in Monera
- B. Cell wall is absent in animalia
- C. Protista have photosynthetic and heterophic modes of nutrition
- D. some fungi are edible

**Answer: A**



**Watch Video Solution**

**940.** In photosynthesis, light independent reactions take place at

- A. Stromal matrix
- B. Thylakoid lumen
- C. Photosystem I
- D. Photosystem II

**Answer: A**



**Watch Video Solution**

**941.** Which of the following immunoglobulins does constitute the largest percentage in human milk ?

A. IgG

B. IgD

C. IgM

D. IgA

**Answer: D**



**Watch Video Solution**

**942.** Which of the following pairs is not correctly matched

A. Mode of reproduction- Conidia, Example-Penicillium

B. Moe of reproduction-Offset, Example-Water hyacinth

C. Mode of reproduction-Rhizome, Example-Banana

D. Mode of reproduction-Binary fission, Example-Sargassum

**Answer: D**



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**943.** The UN Conference of Parties on climate change in the year 2012 was held at:

A. Warsaw

B. Durban

C. Doha

D. Lima

**Answer: C**



**Watch Video Solution**

**944.** In the spectrum of hydrogen atom, the ratio of the longest wavelength in Lyman series to the longest wavelength in the Balmer series is:

A.  $\frac{5}{27}$

B.  $\frac{4}{9}$

C.  $\frac{9}{4}$

D.  $\frac{27}{5}$

**Answer: A**



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**945.** Which one of the following is wrong for fungi

A. They are eukaryotic

B. All fungi possess a purely cellulosic cell wall

C. They are heterotrophic

D. they are both unicellular and multicellular

**Answer: B**



**Watch Video Solution**

**946.** Methanogens belong to

- A. Eubacteria
- B. Archaeobacteria
- C. Dinoflagellates
- D. Slime moulds

**Answer: B**



**Watch Video Solution**

**947.** Select the wrong statement.

- A. The walls of diatoms are easily destructible
- B. 'diatomaceous earth' is formed by the cell walls of diatoms
- C. Diatoms are chief producers in the oceans
- D. Diatoms are microscopic and float passively in water

**Answer: A**



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**948.** The label of a herbarium sheet does not carry information on

- A. date of collection
- B. name of collector
- C. local names
- D. height of the plant

**Answer: D**



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**949.** Conifers are adapted to tolerate extreme environmental conditions because of

A. broad hardy leaves

B. superficial stomata

C. thick cuticle

D. presence of vessels

**Answer: C**



**Watch Video Solution**

**950.** Which one of the following statements is wrong?

A. Algae increae the level of dissolved oxygen in the immediate environment

B. Algini is obtained from red algae, and carrageenan from brown algae

C. agar-agar is obtained from Gelidium and Gracilaria

D. laminaria and Sargassum are used as food

**Answer: B**



**Watch Video Solution**

**951.** The term 'polyadelphous' is related to

- A. gynoeceus
- B. androecium
- C. corolla
- D. calyx

**Answer: B**



**Watch Video Solution**

**952.** Many plants among Indigofera, Sesbania, Salvia, Allium, Aloe, mustard, groundnut, radish, gram and turnip have stamens with different in their flowers

A. Three

B. Four

C. Five

D. Six

**Answer: B**



**Watch Video Solution**

**953.** Radial symmetry is found in the flowers of

A. Brassica

B. Trifilium

C. Pisum

D. Cassia

**Answer: A**



**Watch Video Solution**

**954.** Free-central placentation is found in

- A. Dianthus
- B. Argemone
- C. Brassica
- D. Citrus

**Answer: A**



**Watch Video Solution**

**955.** Cortex is the region found between

- A. Epidermis and stele
- B. Pericycle and endodermis endodermis
- C. endodermis and pith



D. endodermis and vascular bundle

**Answer: A**



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**956.** the baloon- shaped structuces called tyloses

- A. originate in the lumen of vessels
- B. characterize the sapwood
- C. are extensions of xylem parenchyma cells into vessels
- D. are linked to the ascent of sap through xylem vessels

**Answer: C**



**Watch Video Solution**

**957.** A non- proteinaceous enzyme is

- A. lysozyme
- B. ribozyme
- C. ligase
- D. deoxyribonuclease

**Answer: B**



**Watch Video Solution**

**958. Select the mismatch**

- A. Gas vacuoles-green bacteria
- B. large central vacuoles-animal cells
- C. Protist-Eukaryotes
- D. Methanogens-Prokaryotes

**Answer: B**



**Watch Video Solution**

**959.** Select the wrong statement

- A. Bacterial cell wall is made up of peptidoglycan
- B. Pili and fimria are mainly involved in motility of bacterial cells
- C. Cyanobacteria lack flagellated cells
- D. Mycoplasma is a wall-less microorganism

**Answer: B**



**Watch Video Solution**

**960.** A cell organelle containing hydrolytic enzymes is

- A. Lysosome
- B. Microsome
- C. Ribosome

D. Mesosome

**Answer: A**



**Watch Video Solution**

**961.** During cell growth, DNA synthesis takes place in

A. S phase

B.  $G_1$  phase

C.  $G_2$  phase

D. M phase

**Answer: A**



**Watch Video Solution**

**962.** Which of the following biomolecules is common to respiration-mediated breakdown of fats, carbohydrates and proteins

- A. Glucose-6-phosphate
- B. fructose 1,6-bisphosphate
- C. Pyruvic acid
- D. acetyl CoA

**Answer: C**



**Watch Video Solution**

**963.** A few drops of sap were collected by cutting across a plant stem by a suitable method. The sap was tested chemically. Which one of the following test results indicates that it is phloem sap ?

- A. Acidic
- B. Alkaline

C. Low refractive index

D. Absence of sugar.

**Answer: B**



**Watch Video Solution**

**964.** You are given a tissue with its potential for differentiation in an artificial culture .Which of the following pairs of hormones would you add to the medium to secure shoots as well as roots

A. IAA and gibberellin

B. Auxin and cytokinin

C. auxin and abscisic acid

D. Gibberellin and abscisic acid

**Answer: B**



**Watch Video Solution**

**965.** Phytochrome is

- A. flavoprotein
- B. Glycoprotein
- C. Lipoprotein
- D. Chromoprotein

**Answer: D**



**Watch Video Solution**

**966.** Which is essential for the growth of root tip ?

- A. Zn
- B. Fe
- C. Ca
- D. Mn

**Answer: C**



**Watch Video Solution**

**967.** The process which makes major difference between  $C_3$  and  $C_4$  plants is

- A. glycolysis
- B. calvin cycle
- C. photorespiration
- D. respiration

**Answer: C**



**Watch Video Solution**

**968.** Which one of the following statements is not correct?



- A. Offspring produced by the asexual reproduction are called clone
- B. Microscopic, motile asexual reproductive structures are called zoospores
- C. In potato, banana and ginger, the plantlets arise from the internodes present in the modified stem
- D. water hyacinth, growing in the standing water, drains oxygen from water that leads to the death of fishes

**Answer: C**



**Watch Video Solution**

**969.** Which one of the following generates new genetic combinations leading to mutations

- A. Vegetative reproduction
- B. Parthenogenesis

C. Sexual reproduction

D. Nucellar polyembryony

**Answer: C**



**Watch Video Solution**

**970.** In majority of angiosperms:

A. egg has a filiform apparatus

B. there are numerous antipodal cells

C. reduction division occur in the megaspore mother cell

D. a small central cell is present in the embryo sac

**Answer: C**



**Watch Video Solution**

**971.** Pollination in water by hyacinth and water lily is brought about by the agency of:

- A. water
- B. insects or wind
- C. birds
- D. bats

**Answer: B**



**Watch Video Solution**

**972.** the ovule of an angiosperm is technically equivalent to

- A. megasporangium
- B. megasporophyll
- C. megaspore mother cell
- D. megaspore

**Answer: A**



**Watch Video Solution**

**973.** Taylor conducted the experiments to provide semiconservative mode of chromosome replication on

A. *Vinca rosea*

B. *Vicia faba*

C. *Drosophila melanogaster*

D. *E. coli*

**Answer: B**



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**974.** the mechanism that causes a gene to move from one linkage group to another is called :

- A. Inversion
- B. Duplication
- C. Translocation
- D. Crossing-over

**Answer: C**



**Watch Video Solution**

**975.** The equivalent of a structural gene is

- A. Muton
- B. Cistron
- C. Operon
- D. Recon

**Answer: B**



**Watch Video Solution**

**976.** A true breeding plant is:

- A. One that is able to breed on its own
- B. produced due to cross-pollination among unrelated plants
- C. near homozygous and produces offspring of its own kind
- D. always homozygous recessive in its genetic constitution.

**Answer: C**



**Watch Video Solution**

**977.** Which of the following r-RNAs acts as structural RNA as well as ribozyme in bacteria ?

- A. 5 S rRNA
- B. 18 S rRNA
- C. 23 S rRNA

D. 5.8 S rRNA

**Answer: C**



**Watch Video Solution**

**978.** Stirred-tank bioreactors have been designed for

- A. purification of product
- B. addition of preservatives to the product
- C. availability of oxygen through the oxygen
- D. ensuring anaerobic conditions in the culture vessel

**Answer: C**



**Watch Video Solution**

**979.** A foreign DNA and plasmid cut by the same restriction endonuclease can be joined to form a recombinant plasmid using

- A. Eco RI
- B. Taq polymerase
- C. Polymerase III
- D. Ligase

**Answer: D**



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**980.** Which of the following is not a component of downstream processing

- A. Separation
- B. Purification
- C. Preservation



D. Expression

**Answer: D**



**Watch Video Solution**

**981.** Which of the following restriction enzymes produces blunt ends ?

A. Sal I

B. Eco RV

C. Xho I

D. Hind III

**Answer: B**



**Watch Video Solution**

**982.** Which kind of therapy was given in 1990 to a four year old girl with adenosine deaminase (ADA) deficiency?

- A. Gene therapy
- B. Chemotherapy
- C. Immunotherapy
- D. Radiation therapy

**Answer: A**



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**983.** How many hot spots of biodiversity in the world have been identified till date by Norman Myers ?

- A. 17
- B. 25
- C. 34

D. 43

**Answer: C**



**Watch Video Solution**

**984.** The primary producers of the deep-sea hydrothermal vent ecosystem are:

- A. Green algae
- B. chemosynthetic bacteria
- C. glue-green algae
- D. coral reefs

**Answer: B**



**Watch Video Solution**

**985.** Which of the following is correct for r-selected species ?

- A. Large number of progeny with small size
- B. large number of progeny with large size
- C. small numbr of progeny with small size
- D. small number of progeny with larger size

**Answer: A**



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**986.** If '+' sign is assigned to benefited interaction '-' sign to detrimental and '0' sign to neutral interaction, then the population interaction represented by '+' '-' refers to:

- A. Mutualism
- B. Amensalism
- C. Commensalism

D. Parasitism

**Answer: D**



**Watch Video Solution**

**987.** Which of the following is correctly matched

- A. Aerenchyma-Opuntia
- B. Age pyramid-Biome
- C. Parthenium hysterophorus-Threat to biodiversity
- D. Stratification-population

**Answer: C**



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**988.** Red List contains data or information on

- A. all economically important plants
- B. plants whose products are I international trade
- C. threatened species
- D. marine vertebrates only

**Answer: C**



**Watch Video Solution**

**989.** Which of the following sets of disease is caused by bacteria

- A. Cholera and tetanus
- B. Typhoid and smallpox
- C. Tetanus and mumps
- D. Herpes and influenza

**Answer: A**



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**990.** Match the column-I with Column-II for housefly classification and select the correct option using the codes given below:



A. a-iii,b-*i*,c-iv,d-ii

B. a-iii,b-ii,c-iv,d-*i*

C. a-iv,b-iii,c-ii,d-*i*

D. a-iv,b-ii,c-*i*,d-iii

**Answer: A**



**View Text Solution**

**991.** Choose the correct statement

A. All mammlas are viviparous

B. All cyclostomes do not possess jaws and paired fins.

C. All reptiles have a three-chambered heart.

D. All pisces have gills covered by an operculum.

**Answer: B**



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**992.** study the four statements (A-D) given below and select the two correct ones out of them

(A) Definition of biological species was given by Ernst Mayr

(B) photoperiod does not affect reproduction in plants

(C) Binomial nomenclature system was given by Ernst Whittaker

(D) In unicellular organisms, reproduction is synonymous with growth

The two correct statements are

A. B and C

B. C and D

C. A and D



D. A and B

**Answer: C**



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**993.** In male cockroaches, sperms are stored in which part of the reproductive system

- A. Seminal vesicles
- B. Mushroom glands
- C. Testes
- D. Vas deferens

**Answer: A**



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**994.** Smooth muscles are

- A. Involuntary, fusiform, non-striated
- B. voluntary, multinucleate, cylindrical
- C. involuntary, cylindrical, striated
- D. voluntary, spindle-shaped, uninucleate

**Answer: A**



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**995.** Oxidative phosphorylation is

- A. formation of ATP by transfer of phosphate group from a substrate to ADP
- B. Oxidation of phosphate group in ATP
- C. Addition of phosphate group to ATP

D. Formation of ATP by energy released from electrons removed during substrate oxidation

**Answer: D**



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**996.** Which of the following is the least likely to be involved in stabilizing the three-dimensional folding of most proteins

- A. hydrogen bonds
- B. Electrostatic interaction
- C. Hydrophobic interaction
- D. Ester bonds

**Answer: D**



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997. Which of the following describes the given graph correctly?



- A. Endothermic reaction with energy A in presence of enzyme and B in absence of enzyme
- B. Exothermic reaction with energy A in presence of enzyme and B in absence of enzyme
- C. Endothermic reaction with energy A in absence of enzyme and B in presence of enzyme.
- D. Exothermic reaction with energy A in absence of enzyme and B in presence of enzyme

**Answer: B**



**View Text Solution**

**998.** When cell has stalled DNA replication fork , which checkpoint should be predominantly activated

A.  $G_1 / S$

B.  $G_2 / M$

C.  $M$

D. Both  $G_2 / M$  and  $M$

**Answer: B**



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**999.** Which hormones do stimulate the production of pancreatic juice and juice bicarbonate

A. Angiotensin and epinephrine

B. Gastrin and insulin

C. Cholecystokinin and secretin

D. Insulin and glucagon

**Answer: C**



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**1000.** The partial pressure of oxygen in the alveoli of the lungs is

- A. equal to that in the blood
- B. more than that in the blood
- C. less than that in the blood
- D. less than that of carbon dioxide

**Answer: B**



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**1001.** Choose the correct statement

- A. Nociceptors respond to change in pressure.
- B. Meissner's corpuscles are thermoreceptors.
- C. Photoreceptors in the human eye are depolarized during darkness and become hyperpolarized in response to the light stimulus.
- D. Receptors do not produce graded potentials

**Answer: C**



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**1002.** Graves' disease is caused due to

- A. hyposecretion of thyroid gland
- B. hypersecretion of thyroid gland
- C. hyposecretion of adrenal gland
- D. hypersecretion of adrenal gland

**Answer: B**



[Watch Video Solution](#)

**1003.** Name the ion responsible for masking active sites for myosin for cross-bridge activity during muscle contraction

- A. Calcium
- B. Magnesium
- C. Sodium
- D. Potassium

**Answer: A**



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**1004.** Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body.

- A. Erythrocytes



B. Leucocytes

C. Neutrophils

D. Thrombocytes

**Answer: D**



**Watch Video Solution**

**1005.** Name a peptide hormone which acts mainly on hepatocytes, adipocytes and enhances cellular glucose uptake and utilization :

A. Insulin

B. Glucagon

C. Secretin

D. Gastrin

**Answer: A**



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**1006.** Osteoporosis, an age related disease of skeletal system, may occur due to

- A. immune disorder affecting neuromuscular junction leading to fatigue
- B. high concentration of  $Ca^{++}$  and  $Na^{+}$
- C. Decreased level of estrogen
- D. Accumulation of uric acid leading to inflammation of joints

**Answer: C**



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**1007.** Serum differs from blood in

- A. lacking globulins
- B. lacking albumins

C. lacking clotting factors

D. lacking antibodies.

**Answer: C**



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**1008.** Lungs do not collapse between breaths and some air always remains in the lungs which can never be expelled because

A. there is a negative pressure in the lungs

B. there is a negative intrapleural pressure pulling at the lung walls

C. there is a positive intrapleural pressure

D. pressure in the lungs is higher than the atmospheric pressure

**Answer: B**



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**1009.** The posterior pituitary gland is not a 'true' endocrine gland because

- A. it is provided with a duct
- B. it only stores and releases hormones
- C. it is under the regulation of hypothalamus
- D. is secretes enzymes

**Answer: B**



**Watch Video Solution**

**1010.** Part of nephron involved in active reabsorption of sodium is

- A. distal convoluted tubule
- B. proximal convoluted tubule
- C. bowman's capsule
- D. descending limb of Henle's loop

**Answer: A::B**



**Watch Video Solution**

**1011.** Which of the following is hormone releasing IUD ?

- A. LNG-20
- B. Multiload 275
- C. Lippes loop
- D. *Cu7*

**Answer: A**



**Watch Video Solution**

**1012.** Which of the following is incorrect regarding vasectomy?

- A. No sperm occurs in seminal fluid

B. No sperm occurs in epididymis

C. Vasa deferentia is cut and tied

D. Irreversible sterility

**Answer: B**



**Watch Video Solution**

**1013.** Embryo with more than 16 blastomeres formed due to in vitro fertilization in transferred into :

A. uterus

B. fallopian tube

C. fimbriae

D. cervix

**Answer: A**



**Watch Video Solution**

**1014.** Which of the following depicts the correct pathway of transport of sperms?

- A. Rete testis → Efferent ductules → Epididymis → Vas deferens
- B. Rete testis → Epididymis → Efferent ductules → Vas deference
- C. Rete testis → Vas deferens → Efferent ductules → Epididymis
- D. Efferent ductules → Rete testis → Vas deferens → Epididymis

**Answer: A**



**Watch Video Solution**

**1015.** Match the column-I with column-II and select the correct using the codes given below:



- A. a-iii,b-iv,c-ii,d-i

B. a-iii,b-iv,c-*i*,d-ii

C. a-iii,b-*i*,c-iv,d-ii

D. a-*i*,b-iv,c-iii,d-ii

**Answer: A**



**View Text Solution**

**1016.** Several hormones like hCG, hPL, estrogen, progesterone are produced by

A. ovary

B. placenta

C. fallopian tube

D. pituitary

**Answer: B**



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**1017.** If a colour blind man marries a woman who is homozygous for normal colour vision, the probability of their son being colour blind is :

- A. 0
- B. 0.5
- C. 0.75
- D. 1

**Answer: A**



**Watch Video Solution**

**1018.** Genetic drift operates in :

- A. small isolated population
- B. large isolated population
- C. non-reproductive population

D. slow reproductive population

**Answer: A**



**Watch Video Solution**

**1019.** In Hardy-Weinberg equation , the frequency of heterozygous individual is represented by

A.  $p^2$

B.  $2pq$

C.  $pq$

D.  $q^2$

**Answer: B**



**Watch Video Solution**

**1020.** The chronological order of human evolution from early to the recent is:

A. Australopithecus → Ramapithecus → Homo habilis → Homo erectus

B. Ramapithecus → Australopithecus → Homo habilis → Homo erectus

C. Ramapithecus → Homo habilis → Australopithecus → Homo erectus

D. Australopithecus → Homo habilis → Ramapithecus → Homo erectus

**Answer: B**



**Watch Video Solution**

**1021.** Which of the following is the correct sequence of events in the origin of life

- I. Formation of protobionts
- II. Synthesis of organic monomers
- III. Synthesis of organic polymers
- IV. Formation of DNA-based genetic systems

A. I,II,III,IV

B. I,III,II,IV

C. II,III,I,IV

D. II,III,IV,I

**Answer: C**



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**1022.** A molecule that can act as a genetic material must fulfill the traits given below, except

- A. it should be able to express itself in the form of "mendelian characters'
- B. it should be able to generate its replica
- C. it should be unstable structurally and chemically
- D. it should provide the scope for slow changes that are required for evolution.

**Answer: C**



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**1023.** DNA-dependent RNA polymerase catalyzes transcription on one strand of the DNA which is called the

- A. template strand
- B. coding strand
- C. alpha strand

D. antistrand

**Answer: A**



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**1024.** Interspecific hybridization is the mating of

- A. animals within same breed without having common ancestors
- B. two different related species
- C. superior males and females of different breeds
- D. more closely related individuals within same breed for 4-6 generations

**Answer: B**



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**1025.** Which of the following is correct regarding AIDS causative agent HIV

- A. HIV is enveloped virus containing one molecule of single-stranded RNA and one molecule of reverse transcriptase.
- B. HIV is enveloped virus that containing two identical molecule of single-stranded RNA and two molecule of reverse transcriptase.
- C. HIV is unenveloped retrovirus.
- D. HIV does not escape but attacks the acquired immune response.

**Answer: B**



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**1026.** Among the following edible fishes, which one is a marine fish having rich source of omega -3 fatty acids ?

- A. Mystus
- B. Mangur

C. Mrigala

D. Mackerel

**Answer: D**



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**1027.** Biochemical Oxygen Demand (BOD) may not be a good index for pollution for water bodies receiving effluents from

A. domestic sewage

B. dairy industry

C. petroleum industry

D. sugar industry

**Answer: C**



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**1028.** The principle of competitive exclusion was stated by

- A. C. Darwin
- B. G.F. Gause
- C. MacArthur
- D. Verhulst & Pearl

**Answer: B**



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**1029.** Which of the following National Parks is home to the famous musk deer or hangul

- A. Keibul Lamjao National park, manipur
- B. Bandhavgarh national park, madhya pradesh
- C. Eaglenest wildlife sanctuary, arunachal pradesh
- D. Dachigam national park, jammu & Kashmir

**Answer: D**



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**1030.** A lake which is rich in organic waste may result in

- A. increased population of aquatic organisms due to minerals
- B. drying of the lake due to algal bloom
- C. increased population of fish due to lots of nutrients
- D. mortality of fish due to lack of oxygen

**Answer: D**



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**1031.** The highest DDT concentration in aquatic food chain shall occur in:

- A. Phytoplankton

B. Seagull

C. Crab

D. Eel

**Answer: B**



**Watch Video Solution**

**1032.** Double fertilization is exhibited by

A. Gymnosperms

B. Algae

C. Fungi

D. Angiosperms

**Answer: D**



**Watch Video Solution**

**1033.** Which of the following are found in extreme saline conditions

- A. Archaeobacteria
- B. Eubacteria
- C. Cyanobacteria
- D. Mycobacteria

**Answer: A**



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**1034.** Select the mismatch

- A. Frankia - Alnus
- B. Rhodospirillum - Mycorrhiza
- C. Anabaena - Nitrogen fixer
- D. Rhizobium - Alfalfa

**Answer: B**



**Watch Video Solution**

**1035.** What is the criterion for DNA fragments movement on agarose gel during gel electrophoresis ?

- A. The larger the fragment size, the farther it moves
- B. The smaller the fragment size, the farther it moves
- C. Positively charged fragments move to farther end
- D. Negatively charged fragments do not move

**Answer: B**



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**1036.** Attractants and reward are required for

A. Anemophily

B. Entomophily

C. Hydrophily

D. Cleistogamy

**Answer: B**



**Watch Video Solution**

**1037.** Which of the following is made up of dead cells

A. Xylem parenchyma

B. Collenchyma

C. Phellem

D. Phloem

**Answer: C**



**Watch Video Solution**

**1038.** Which cells of Crypts of Lieberkuhn secrete antibacterial lysozyme ?

- A. Argentaffin cells
- B. Paneth cells
- C. Zymogen cells
- D. Kupffer cells

**Answer: B**



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**1039.** Adult human RBCs are enucleate. Which of the following statement (s) is/are most appropriate explanation for this feature ?

- (1) They do not need to reproduce
- (2) They are somatic cells
- (3) They do not metabolise
- (4) All their internal space is available for oxygen transport.

A. Only (d)

B. Only (a)

C. (a), (c) and (d)

D. (b) and (c)

**Answer: A**



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**1040.** The hepatic portal vein drains blood to liver from

A. Heart

B. Stomach

C. Kidneys

D. Intestine

**Answer: D**



**Watch Video Solution**



**1041.** The final proof for DNA as the genetic material came from the experiments of

- A. Griffith
- B. Hershey and Chase
- C. Avery , Mcleod and McCarty
- D. Hargobind Khorana

**Answer: B**



**Watch Video Solution**

**1042.** Which among the following are the smallest living cells, known without a definite cell wall, pathogenic to plants as well as animals and can survive without oxygen ?

- A. Bacillus

B. Pseudomonas

C. Mycoplasma

D. Nostoc

**Answer: C**



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**1043.** Which of the following option gives the correct sequence of events during mitosis

A. Condensation → nuclear membrane disassembly → crossing over → segregation → telophase

B. Condensation → nuclear membrane disassembly → arrangement at equator → centromere division → segregation → telophase

C. Condensation → crossing over → nuclear membrane

disassembly → segregation → telophase

D. Condensation → arrangement at equator → centromere

division → segregation → telophase

**Answer: B**



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**1044.** Which one of the following statements is correct with reference to enzymes

A. Apoenzyme = Holoenzyme + Coenzyme

B. Holoenzyme = Apoenzyme + Coenzyme

C. Coenzyme = Apoenzyme + Holoenzyme

D. Holoenzyme = Coenzyme + Cofactor

**Answer: B**



[Watch Video Solution](#)

**1045.** During DNA replication, Okazaki fragments are used to elongate :

- A. The leading strand towards replication fork
- B. The lagging strand towards replication fork
- C. The leading strand away from replication fork
- D. The lagging strand away from the replication fork

**Answer: D**



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**1046.** Which of the following are not polymeric

- A. Nucleic acids
- B. Proteins
- C. Polysaccharides

D. Lipids

**Answer: D**



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**1047.** The region of Biosphere Reserve which is legally protected and where no human activity is allowed is known as

A. Core zone

B. Buffer zone

C. Transition zone

D. Restoration zone

**Answer: A**



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**1048.** A dioecious flowering plant prevents both

- A. Autogamy and xenogamy
- B. Autogamy and geitonogamy
- C. Geitonogamy and xenogamy
- D. Cleistogamy and xenogamy

**Answer: B**



**Watch Video Solution**

**1049.** A temporary endocrine gland in the human body is

- A. Pineal gland
- B. Corpus cardiacum
- C. Corpus luteum
- D. Corpus allatum

**Answer: C**



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**1050.** Match the following sexually transmitted diseases (column I) with their causative agent (column II) and select the correct option.

Column I

Column II

- |                  |                            |
|------------------|----------------------------|
| A. Gonorrhoea    | (i) HIV                    |
| B. Syphilis      | (ii) Neisseria             |
| C. Genital warts | (iii) Treponema            |
| C. Genital warts | (iv) Human papilloma virus |

- A. (a),(b),(c),(d)  
(ii),(iii),(iv),(i)
- B. (a),(b),(c),(d)  
(iii),(iv),(i),(ii)
- C. (a),(b),(c),(d)  
(iv),(ii),(iii),(i)
- D. (a),(b),(c),(d)  
(iv),(iii),(ii),(i)

**Answer: A**



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**1051.** Transplantation of tissues/organs to save certain patients often fails due to rejection of such tissues/organs by the patient. Which type of immune response is responsible for such rejections?

- A. Autoimmune response
- B. Cell-mediated immune response
- C. Hormonal immune response
- D. Physiological immune response

**Answer: B**



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**1052.** Spliceosomes are not found in cell of

- A. Plants
- B. Fungi
- C. Animals



D. Bacteria

**Answer: D**



**Watch Video Solution**

**1053.** An example of colonial alga is

A. Chlorella

B. Volvox

C. Ulothrix

D. Spirogyra

**Answer: B**



**Watch Video Solution**

**1054.** Which of the following represents order of Horse ?

A. Equidae

B. Perissodactyla

C. Caballus

D. Ferus

**Answer: B**



**Watch Video Solution**

**1055.** Which of the following cell organelles is responsible for extracting energy from carbohydrates to form ATP?

A. Lysosome

B. Ribosome

C. Chloroplast

D. Mitochondrion

**Answer: D**

**1056.** The process of separation and purification of expressed protein before marketing is called

- A. Upstream processing
- B. Downstream processing
- C. Bioprocessing
- D. Postproduction processing

**Answer: B**

**1057.** Mycorrhizae are the example of

- A. Fungistasis
- B. Amensalism

C. Antibiosis

D. Mutualism

**Answer: D**



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**1058.** Viroids differ from viruses in having

A. DNA molecules with protein coat

B. DNA molecules without protein coat

C. RNA molecules with protein coat

D. RNA molecules without protein coat

**Answer: D**



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**1059.** Root hairs develop from

- A. Maturation
- B. Elongation
- C. Root cap
- D. Meristematic activity

**Answer: A**



**Watch Video Solution**

**1060.** Coconut fruit is a

- A. Drupe
- B. Berry
- C. Nut
- D. Capsule

**Answer: A**



**Watch Video Solution**

**1061.** Plants, which produce characteristic pneumatophores and show vivipary belong to

- A. Mesophytes
- B. Halophytes
- C. Psammophytes
- D. Hydrophytes

**Answer: B**



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**1062.** Which one of the following is related to Ex-situ conservation of threatened animals and plants

- A. Wildlife Safari parks
- B. Biodiversity hot spots
- C. Amazon rainforests
- D. Himalayan region

**Answer: A**



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**1063.** Select the mismatch

- A. Pinus – Dioecious
- B. Cycas – Dioecious
- C. Salvinia – Heterosporous
- D. Equisetum – Homosporous

**Answer: A**



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**1064.** Which of the following facilitates opening of stomatal aperture ?

- A. Contraction of outer wall of guard cells
- B. Decrease in turgidity of guard cells
- C. Radial orientation of cellulose microfibrils in the cell wall of guard cells
- D. Longitudinal orientation of cellulose microfibrils in the cell wall of guard cells

**Answer: C**



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**1065.** The association of histone  $H_1$  with a nucleosome indicates

- A. Transcription is occurring



- B. DNA replication is occurring
- C. The DNA is condensed into a Chromatin Fibre
- D. The DNA double helix is exposed

**Answer: C**



**Watch Video Solution**

**1066.** DNA fragments are

- A. Positively charged
- B. Negatively charged
- C. Neutral
- D. Either positively or negatively charged depending on their size

**Answer: B**



**Watch Video Solution**

**1067.** Capacitation occurs in

- A. Rete testis
- B. Epididymis
- C. Vas deferens
- D. Female Reproductive tract

**Answer: D**



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**1068.** Which ecosystem has the maximum biomass ?

- A. Forest ecosystem
- B. Grassland ecosystem
- C. Pond ecosystem
- D. Lake ecosystem

**Answer: A**



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**1069.** A disease caused by an autosomal primary non-disjunction is

- A. Down's syndrome
- B. Klinefelter's syndrome
- C. Turner's syndrome
- D. Sickle cell anemia

**Answer: A**



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**1070.** Life cycle of Ectocarpus and Fucus respectively are

- A. Haplontic, Diplontic

B. Diplontic, Haplodiplontic

C. Haplodiplontic, Diplontic

D. Haplodiplontic, Haplontic

**Answer: C**



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**1071.** If there are 999 bases in RNA that codes for a protein with 333 amino acids, and the base at position 901 is deleted such that the length of the RNA becomes 998 bases, how many codons will be altered

A. 1

B. 11

C. 33

D. 333

**Answer: C**



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**1072.** The pivot joint between atlas and axis is a type of

- A. Fibrous joint
- B. Cartilaginous joint
- C. Synovial joint
- D. Saddle joint

**Answer: C**



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**1073.** A gene whose expression helps to identify transformed cell is known as

- A. Selectable marker
- B. Vector

C. Plasmid

D. Structural gene

**Answer: A**



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**1074.** Presence of plants arranged into well-defined vertical layers depending on their height can be seen best in

A. Tropical Savannah

B. Tropical Rain Forest

C. Grassland

D. Temperate Forest

**Answer: B**



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**1075.** The genotypes of husband and wife are  $I^A I^B$  and  $I^A i$ . Among the blood groups of their children how many different genotypes and phenotypes are possible

- A. 3 genotypes , 3 phenotypes
- B. 3 genotypes , 4 phenotypes
- C. 4 genotypes , 3 phenotypes
- D. 4 genotypes , 4 phenotypes

**Answer: C**



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**1076.** Zygotic meiosis is characteristic of

- A. Marchantia
- B. Fucus
- C. Funaria

D. Chlamydomonas

**Answer: D**



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**1077.** Which of the following is correctly matched for the product produced by them

- A. Acetobacter aceti : Antibiotics
- B. Methanobacterium : Lactic acid
- C. Penicillium notatum : Acetic acid
- D. Saccharomyces cerevisiae : Ethanol

**Answer: D**



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**1078.** Frog's heart when taken out of the body continues to beat for sometime .

Select the best option from the following statements .

I . Frog is a poikilotherm .

II . Frog does not have any coronary circulation.

III . Heart is autoexcitable .

A. Only (c)

B. Only (d)

C. (a) & (b)

D. (c) & (d)

**Answer: D**



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**1079.** Which statement is wrong for Krebs' cycle ?

- A. There are three points in the cycle where  $NAD^+$  is reduced to  $NADH + H^+$
- B. There is one point in the cycle where  $FAD^+$  is reduced to  $FADH_2$
- C. During conversion of succinyl CoA to succinic acid, a molecule of GTP is synthesised
- D. The cycle starts with condensation of acetyl group (acetyl CoA) with pyruvic acid to yield citric acid

**Answer: D**



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**1080.** In case of poriferans, the spongocoel is lined with flagellated cells called

- A. Ostia
- B. Oscula

C. Choanocytes

D. Mesenchymal cells

**Answer: C**



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**1081.** Which of the following RNAs should be most abundant in animal cell ?

A. r-RNA

B. t-RNA

C. m-RNA

D. mi-RNA

**Answer: A**



**Watch Video Solution**

**1082.** Which among these is correct combination of aquatic mammals

- A. Seals, Dolphins, Sharks
- B. Dolphins, Seals, Trygon
- C. Whales, Dolphins, Seals
- D. Trygon, Whales, Seals

**Answer: C**



**Watch Video Solution**

**1083.** With reference to factors affecting the rate of photosynthesis, which of the following statements is not correct ?

- A. Light saturation for  $CO_2$  fixation occurs at 10% of full sunlight
- B. Increasing atmospheric  $CO_2$  concentration upto 0.05% can enhance  $CO_2$  fixation rate

C.  $C_3$  plants responds to higher temperatures with enhanced photosynthesis while  $C_4$  plants have much lower temperature optimum

D. Tomato is a greenhouse crop which can be grown in  $CO_2$  - enriched atmosphere for higher yield

**Answer: C**



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**1084.** Asymptote in a logistic growth curve is obtained when

A. the value of 'r' approaches zero

B.  $K = N$

C.  $K > N$

D.  $K < N$

**Answer: B**



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**1085.** Out of 'X' pairs of ribs in humans only 'Y' pairs are true ribs. Select the option that correctly represents values of X and Y and provides their explanation

- A.  $X = 12$ ,  $Y = 7$  True ribs are attached dorsally to vertebral column and ventrally to the sternum
- B.  $X = 12$ ,  $Y = 5$  True ribs are attached dorsally to vertebral column and sternum on the two ends
- C.  $X = 24$ ,  $Y = 7$  True ribs are dorsally attached to vertebral column but are free on ventral side
- D.  $X = 24$ ,  $Y = 12$  True ribs are dorsally attached to vertebral column but are free on ventral side

**Answer: A**



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**1086.** The DNA fragments separated on an agarose gel can be visualised after staining with

- A. Bromophenol blue
- B. Acetocarmine
- C. Aniline blue
- D. Ethidium bromide

**Answer: D**



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**1087.** Functional megaspore in an angiosperm develops into

- A. Ovule
- B. Endosperm
- C. Embryo sac

D. Embryo

**Answer: C**



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**1088.** Among the following characters, which one was not considered by Mendel in his experiment on pea

- A. Stem – Tall or Dwarf
- B. Trichomes – Glandular or non-glandular
- C. Seed – Green or Yellow
- D. Pod – Inflated or Constricted

**Answer: B**



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**1089.** Lungs are made up of air-filled sacs, the alveoli . They do not collapse even after forceful expiration because of

- A. Residual Volume
- B. Inspiratory Reserve Volume
- C. Tidal Volume
- D. Expiratory Reserve Volume

**Answer: A**



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**1090.** GnRH, a hypothalamic hormone, needed in reproduction acts on

- A. Anterior pituitary gland and stimulates secretion of LH and oxytocin
- B. Anterior pituitary gland and stimulates secretion of LH and FSH
- C. Posterior pituitary gland and stimulates secretion of oxytocin and

FSH

D. Posterior pituitary gland and stimulates secretion of LH and relaxin

**Answer: B**



**Watch Video Solution**

**1091.** In Bougainvillea, thorns are the modifications of

A. Stipules

B. Adventitious root

C. Stem

D. Leaf

**Answer: C**



**Watch Video Solution**

**1092.** Which one form those given below is the periods for Mendel's hybridization experiments

- A. 1856 - 1863
- B. 1840 - 1850
- C. 1857 - 1869
- D. 1870 - 1877

**Answer: A**



**Watch Video Solution**

**1093.** Good vision depends on adequate intake of cacotene rich food

Select the best option from the following statements

- (A) Vitamin A derivatives are formed from carotene
- (B) The photopigments are embedded in the membrane discs of the ineer segment

(C) Retinal is a derivative of Vitamin A

(D) Retinal is a light absorbing part of all the visual photopigments

A. (a) & (b)

B. (a), (c), & (d)

C. (a) & (c)

D. (b),(c) & (d)

**Answer: B**



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**1094.** Which one of the following statements is not valid for aerosols?

A. They are harmful to human health

B. They alter rainfall and monsoon patterns

C. They cause increased agricultural productivity

D. They have negative impact on agricultural land

**Answer: C**



**Watch Video Solution**

**1095.** A decrease in blood pressure / volume will not cause the release of

- A. Renin
- B. Atrial Natriuretic Factor
- C. Aldosterone
- D. ADH

**Answer: B**



**Watch Video Solution**

**1096.** Homozygous purelines in cattle can be obtained by

- A. mating of related individuals of same breed

- B. mating of unrelated individuals of same breed
- C. mating of individuals of different breed
- D. mating of individuals of different species

**Answer: A**



**Watch Video Solution**

**1097.** The vascular cambium normally gives rise to

- A. Phelloderm
- B. Primary phloem
- C. Secondary xylem
- D. Periderm

**Answer: C**



**Watch Video Solution**

**1098.** Which of the following statements is correct?

- A. The ascending limb of loop of Henle is impermeable to water
- B. The descending limb of loop of Henle is impermeable to water
- C. The ascending limb of loop of Henle is permeable to water
- D. The descending limb of loop of Henle is permeable to electrolytes

**Answer: A**



**Watch Video Solution**

**1099.** Which of the following prevents falling of fruits

OR

Fruit and leaf drop at early stages can be prevented by the application

- A. Cytokinins
- B. Ethylene
- C. Auxins

D. Gibberellic acid

**Answer: C**



**Watch Video Solution**

**1100.** The Primary denition in human differ from permanent denition is not having one of the folloiw n type of teeth

or

A baby boy aged two years years is admitted to play school and passes through a dental observed that boy that had twenty teeth. Which teeth were absent absent

A. Incisors

B. Canines

C. Pre-molars

D. Molars

**Answer: C**





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**1101.** An important characteristic that hemichordates share with chordates is

- A. Absence of notochord
- B. Ventral tubular nerve cord
- C. Pharynx with gill slits
- D. Pharynx without gill slits

**Answer: C**



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**1102.** Artificial selection to obtain cows yielding higher milk output represents

- A. Stabilizing selection as it stabilizes this character in the population

- B. Directional as it pushes the mean of the character in one direction
- C. Disruptive as it splits the population into two one yielding higher output and the other lower output
- D. Stabilizing followed by disruptive as it stabilizes the population to produce higher yielding cows

**Answer: B**



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**1103.** Select the correct route for the passage of sperms in male frogs

- A. Testes → Bidder's canal → Kidney → Vasa efferentia →  
Urinogenital duct → Cloaca
- B. Testes → Vasa efferentia → Kidney → Seminal Vesicle →  
Urinogenital duct → Cloaca

C. Testes → Vasa efferentia → Bidder's canal → Ureter →

Cloaca

D. Testes → Vasa efferentia → Kidney → Bidder's canal →

Urinogenital duct → Cloaca

**Answer: D**



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**1104.** Which of the following options best represents the enzymes composition of pancreatic juice?

A. Amylase, peptidase, trypsinogen, rennin

B. Amylase, pepsin, trypsinogen, maltase

C. Peptidase, amylase, pepsin, rennin

D. Lipase, amylase, trypsinogen, procarboxy- peptidase

**Answer: D**

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**1105.** PEP is primary  $CO_2$  acceptor in

- A.  $C_3$  plants
- B.  $C_4$  plants
- C.  $C_2$  plants
- D.  $C_3$  and  $C_4$  plants

**Answer: B**

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**1106.** The morphological nature of the edible part of coconut is

- A. Perisperm
- B. Cotyledon
- C. Endosperm

D. Pericarp

**Answer: C**



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**1107.** Anaphase promoting complex (APC) is a protein degradation machinery necessary for proper mitosis of animal cells. If APC is defective in a human cell, which of the following is expected to occur

- A. Chromosomes will not condense
- B. Chromosomes will be fragmented
- C. Chromosomes will not segregate
- D. Recombination of chromosome arms will occur

**Answer: C**



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**1108.** MALT constitutes about \_\_\_\_\_ percent of the lymphoid tissue in human body

A. 50 %

B. 20 %

C. 70 %

D. 10 %

**Answer: A**



**Watch Video Solution**

**1109.** Receptor sites for neurotransmitters are present on

A. Membranes of synaptic vesicles

B. Pre-synaptic membrane

C. Tips of axons

D. Post-synaptic membrane

**Answer: D**



**Watch Video Solution**

**1110.** Hypersecretion of Growth Hormone in adults does not cause further increase in height, because

- A. Growth Hormone becomes inactive in adults
- B. Epiphyseal plates close after adolescence
- C. Bones lose their sensitivity to Growth Hormone in adults
- D. Muscle fibres do not grow in size after birth

**Answer: B**



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**1111.** Alexander Von Humbolt described for the first time

- A. Ecological Biodiversity
- B. Laws of limiting factor
- C. Species area relationships
- D. Population Growth equation

**Answer: C**



**Watch Video Solution**

**1112.** Myelin sheath is produced by

or

Myelin of the nerve fibres of the central nervous system is produced and maintained by

- A. Schwann Cells and Oligodendrocytes
- B. Astrocytes and Schwann Cells
- C. Oligodendrocytes and Osteoclasts
- D. Osteoclasts and Astrocytes



**Answer: A**



**Watch Video Solution**

**1113.** In case of a couple where the male is having a very low sperm count, which technique will be suitable for fertilisation

- A. Intrauterine transfer
- B. Gamete intracytoplasmic fallopian transfer
- C. Artificial Insemination
- D. Intracytoplasmic sperm injection

**Answer: C**



**Watch Video Solution**

**1114.** Which of the following components provides sticky character to the bacterial cell

- A. Cell wall
- B. Nuclear membrane
- C. Plasma membrane
- D. Glycocalyx

**Answer: D**



**Watch Video Solution**

**1115.** DNA replication in bacteria occurs

- A. During S-phase
- B. Within nucleolus
- C. Prior to fission
- D. Just before transcription

**Answer: C**



**Watch Video Solution**

**1116.** The function of copper ions in copper releasing IUD's is

- A. They suppress sperm motility and fertilising capacity of sperms
- B. They inhibit gametogenesis
- C. They make uterus unsuitable for implantation
- D. They inhibit ovulation

**Answer: A**



**Watch Video Solution**

**1117.** Which of the following in sewage treatment removes suspended solids?

- A. Tertiary treatment
- B. Secondary treatment
- C. Primary treatment

D. Sludge treatment

**Answer: C**



**Watch Video Solution**

**1118.** The water potential of pure water is

- A. Zero
- B. Less than zero
- C. More than zero but less than one
- D. More than one

**Answer: A**



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**1119.** Identify the wrong statement in context of heartwood

- A. Organic compounds are deposited in it
- B. It is highly durable
- C. It conducts water and minerals efficiently
- D. It comprises dead elements with highly lignified walls

**Answer: C**



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**1120.** Thalassemia and sickle cell anemia are caused due to a problem in globin molecule synthesis. Select the correct statement

- A. Both are due to a qualitative defect in globin chain synthesis
- B. Both are due to a quantitative defect in globin chain synthesis
- C. Thalassemia is due to less synthesis of globin molecules
- D. Sickle cell anemia is due to a quantitative problem of globin molecules

**Answer: C**



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**1121.** Flowers which have single ovule in the ovary and are packed into inflorescence are usually pollinated by

- A. Water
- B. Bee
- C. Wind
- D. Bat

**Answer: C**



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**1122.** If Mendel had studied 7 traits using a plant with 12 chromosomes instead of 14, he would have

- A. He could not discovered independent assortment
- B. He might have discovered linkage
- C. He might have discovered crossing over
- D. He might have not observed dominance

**Answer: A**



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**1123.** Contraction in gall bladder stimulated by :

- A. CCK
- B. PZ
- C. Secretin
- D. Enterogastrin

**Answer: A**



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**1124.** Water is essential in bryophyta:-

- A. For fertilization and homosporos nature
- B. Water should be filled in archegonium for fertilization
- C. Water is necessary for movement of sperm
- D. For dissemination of spores

**Answer: C**



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**1125.** Which of the following yields citric acid :

- A. *Penicillium citricum*
- B. *Aspergillus niger*
- C. *Saccharomyces*



D. Azospirillum

**Answer: B**



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**1126.** *Saccharomyces cerevisiae* is used in the formation of

A. Ethanol

B. Methanol

C. Acetic acid

D. Antibiotics

**Answer: A**



**Watch Video Solution**

**1127.** AABbCc genotype forms how many types of gametes :-

A. 4

B. 8

C. 2

D. 6

**Answer: A**



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**1128.** Indicator of water pollution :

A. E. Coli

B. Chlorella

C. Beggiatoa

D. Ulothrix

**Answer: A**



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**1129.** DNA of E.Coli :

- A. ds circular
- B. ss circular
- C. ds Linear
- D. ss Linear

**Answer: A**



**Watch Video Solution**

**1130.** Nucleic acid in HIV.

- A. ss RNA
- B. ds RNA
- C. ss DNA

D. ds DNA

**Answer: A**



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**1131. Knife of DNA :**

A. DNA–ligase

B. Restriction endonuclease

C. Exonuclease

D. Peptidase

**Answer: B**



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**1132. Genetic engineering involves :**

- A. Use of restriction endonuclease on bacterial DNA and formation of new traits
- B. Use of Ligase for cutting DNA
- C. Developing instruments
- D. Use of statistic in genetics

**Answer: A**



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**1133.** Which is wrong for cytochrome P-450

- A. It contains Fe
- B. It concern with oxidation
- C. It is a pigment
- D. It is a coloured cell

**Answer: D**



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**1134.** Enamel of teeth is secreted by : —

- A. Ameloblast
- B. Odontoblast
- C. Osteoblast
- D. Osteoclast

**Answer: A**



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**1135.** If a female having gene for haemophilia and colour-blindness on its one X-chromosome marries a normal male then what are the chances in their offsprings :

- A. 50% son diseased and 50% normal

- B. All normal offsprings
- C. 100% daughters are carrier
- D. 100% son diseased

**Answer: A**



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**1136.** First child of a normal pigmented couple is albino. The possibility of a second child being an albino is

- A. 25 %
- B. 50 %
- C. 75 %
- D. 100 %

**Answer: A**



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**1137.** Species separated by geographical barriers are called :-

- A. Allopatric
- B. Sympatric
- C. Sibling
- D. Endemic

**Answer: A**



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**1138.** Point mutation is induced by :-

- A. Adenine
- B. Guanine
- C. 3-cytosine
- D. Bromouracil



**Answer: D**



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**1139.** Reason for trisomy in down's syndrome

- A. Non disjunction during sperm formation
- B. Non disjunction during egg formation
- C. Non disjunction at the time of egg or sperm formation
- D. Addition of one extra chromosome during mitosis

**Answer: C**



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**1140.** Multivalent chromosome form by :

- A. Inversion

B. Deletion

C. Reciprocal translocation

D. Point mutation

**Answer: C**



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**1141.** A bacterium divides every 35 minutes. If a culture containing  $10^5$  cells/ml is grown for 175 minutes. What will be the cell concentration / ml after 175 minutes

A.  $2 \times 10^5$

B.  $5 \times 10^5$

C.  $32 \times 10^5$

D.  $16 \times 10^5$

**Answer: C**



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**1142.** Deficiency of protein leads to

- A. Rickets
- B. Scurvy
- C. Kwashiorker
- D. Carotenemia

**Answer: C**



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**1143.** lactose is composed of

- A. Glucose + galactose
- B. Glucose + fructose
- C. Glucose + glucose

D. Glucose + mannose

**Answer: A**



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**1144.** true statement for cellulose molecule is

- A.  $\beta - 1 - 4$  linkage, unbranched
- B.  $\beta - 1 - 4$  linkage, branched
- C.  $\alpha - 1 - 4$  linkage, branched
- D.  $\beta - 1 - 6$  linkage, unbranched

**Answer: A**



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**1145.** True statement for Ulothrix :

- A. Filamentous thallus and flagellated reproductive structures
- B. Branched thallus
- C. Flagellated cells absent
- D. None of the above

**Answer: A**



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**1146.** Which of the following exercise a control over transcription :

- A. Operator
- B. Regulator
- C. Promoter
- D. Recon

**Answer: B**



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**1147.** Vitamin which induced maturation of R.B.C. : —

A.  $B_1$

B. A

C.  $B_{12}$

D. D

**Answer: C**



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**1148.** The lower jaw in mammals is made up of

A. Dentary

B. Maxilla

C. Premaxilla

D. Palatine

**Answer: A**



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**1149.** The total number of bones in your right arm is

" " Or

Total number of bones in the hind limb of a man is

A. 14

B. 24

C. 26

D. 30

**Answer: D**



**Watch Video Solution**

**1150.** Which of the following stimulates the secretion of gastric juice :

- A. Gastrin
- B. Enterogasterone
- C. Secretin
- D. Hepatocrinin

**Answer: A**



**Watch Video Solution**

**1151.** Age of Dryopithecous :

- A. 2.46 crore years
- B. 2.46 lakh year
- C. 1 lakh year
- D. 1 crore year



**Answer: A**



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**1152.** Which of the following statement is true :

- A. Homo erectus is direct ancestor of Homo sapiens
- B. Neanderthal man is direct ancestor of modern man
- C. Australopithecous is direct ancestor of modern man
- D. Fossils of cromagnon man first found in Ethiopia

**Answer: A**



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**1153.** Which statement is wrong for Cycas :

- A. Xylem have vessels

B. Female flowers well developed

C. It has coralloid roots

D. Circinate ptyxis

**Answer: A**



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**1154.** During development mammalian heart is initially two chambered, then three chambered and finally four chambered. It is explained by

A. Biogenetic law of Haeckel

B. Lamarckism

C. Hardy weinberg's law

D. Neo Darwinism

**Answer: A**



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**1155.** What is necessary for ripening of fruits :

- A. 80% of ethylene
- B. Abscissic acid
- C. 2, 4 D
- D. A.M.O. – 16

**Answer: A**



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**1156.** Which of the following induces morphogenesis in tissue culture :

- A. Gibberline
- B. Cytokinin
- C. IAA
- D. Ethylene

**Answer: B**



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**1157.** Which weedicide can defoliate the complete forest?

A. 2, 4-D

B. AMO-1618

C. MH

D. ABA

**Answer: A**



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**1158.** Heterosis (Hybrid Vigor) desirable in vegetatively propagated plants, because :-

- A. Heterosis is maintained for a longer duration
- B. These plants are easy to cultivate
- C. Vegetative reproduction help to multiply fast
- D. It is due to homozygosity

**Answer: A**



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**1159.** What is correct for stages of Puccinia :

- A. Telia and aecia on wheat
- B. Telia and uredo stage on wheat
- C. Telia and aecia on barberry
- D. None

**Answer: B**



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**1160.** Typhoid is caused by

- A. Rickettsiae
- B. Chlamydia
- C. Salmonella typhi
- D. Mycobacterium

**Answer: C**



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**1161.** Agent orange is :

- A. Biodegradable insecticide
- B. Di auxin (2–4,D and 2, 4, 5 T) weedicide
- C. Biofertilizer

D. Biopesticide

**Answer: B**



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**1162.** Largest sperm of :

A. Pinus

B. Cycas

C. Ephedra

D. Sequoia

**Answer: B**



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**1163.** Hollow air - filled bones ( pneumatic bones ) occurs in

A. Mammals

B. Reptiles

C. Urodela

D. Aves

**Answer: D**



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**1164.** Non-symbiotic nitrogen fixing bacteria :

A. Rhizobium

B. Azospirillum

C. Azotobacter

D. Nitrosomonas

**Answer: C**



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**1165.** Extrastelar secondary growth takes place by :

- A. Vascular cambium
- B. Phellogen
- C. Phellem
- D. Phelloderm

**Answer: B**



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**1166.** If  $CO_2$  is absent in the atmosphere of earth, then

- A. Temperature will decrease
- B. Temperature will increase
- C. Plants will flourish well

D. No effect

**Answer: A**



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**1167.** Acacia, Prosopis and Caparis belongs to:-

A. Deciduous forest

B. Tropical forest

C. Thorn forest

D. Evergreen forest

**Answer: C**



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**1168.** Animals of desert are :

- A. Arboreal
- B. Fossorial
- C. Crepuscular
- D. Nocturnal

**Answer: B**



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**1169.** Which part not have only involuntary muscles :

- A. Urethra
- B. Irish
- C. Heart muscles
- D. Blood vessels

**Answer: A**



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**1170.** Solenocytes occur in :

- A. Platyhelminthes
- B. Arthropoda
- C. Annelida
- D. Aschelminthes

**Answer: A**



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**1171.** For life cycle of Obelia, most appropriate term used is

- A. Metagenesis
- B. Morphogenesis
- C. Apolysis

D. Pedogeny

**Answer: A**



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**1172.** In angiosperm, characters of flowers are used in classification because :

- A. Characters of flowers are conservative
- B. Flowers are large
- C. Flowers are attractive
- D. None of the above

**Answer: A**



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**1173.** The exchange of gases in the alveoli of the lungs takes place by

- A. Active transport
- B. Passive transport
- C. Simple diffusion
- D. None

**Answer: C**



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**1174.** Oral contraceptives contain :-

- A. Progesterone
- B. LH
- C. Oxytocin
- D. Steroles

**Answer: A**



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**1175.** In S-phase, DNA is replicated in a medium containing radioactive thymidine, radioactivity will be observed in :

- A. Euchromatin
- B. Heterochromatin
- C. Both
- D. Nucleolus

**Answer: C**



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**1176.** CO is harmful because

- A. It forms stable compound with hemoglobin
- B. It blocks mitosis
- C. It is mutagenic
- D. It causes defoliation

**Answer: A**



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**1177. Function of thyrocalcitonin :**

- A. To reduce the calcium level in blood
- B. To increase the calcium level in blood
- C. Oppose the action of thyroxine
- D. Maturation of gonads

**Answer: A**



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**1178.** Water potential and osmotic potential of pure water are

- A. 0 and 0
- B. 0 and 1
- C. 100 and 0
- D. 100 and 100

**Answer: A**



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**1179.** A normal leaf cell have how many genomes :

- A. 1
- B. 2
- C. 3

D. 4

**Answer: B**



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**1180.** Which of the following is the contractile protein of a muscle?

A. Actin

B. Myosin

C. Troponin

D. Tropomysin

**Answer: A**



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**1181.** Unit of contraction :

- A. Sarcomere
- B. Muscle fiber
- C. Actin
- D. None

**Answer: A**



**Watch Video Solution**

**1182.** From the oxidation of one molecule of palmitic acid (fatty acid), the number of ATP molecules gained are

- A. 129 ATP
- B. 132 ATP
- C. 36 ATP
- D. 76 ATP

**Answer: A**



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**1183.** Total amount of energy trapped by green plants in food is called:-

- A. Gross primary production
- B. Net primary production
- C. Standing crop
- D. Standing state

**Answer: A**



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**1184.** Role of microtubules :

- A. To help in cell division
- B. Cell membrane formation
- C. Respiration

D. Pinocytosis

**Answer: A**



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**1185.** Difference between eukaryotes and prokaryotes:

- A. ss circular DNA in prokaryotes
- B. Histone with prokaryotic DNA
- C. Operon in eukaryotes
- D. Membrane bound organelles in eukaryotes

**Answer: D**



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**1186.** According to five kingdom system blue green algae belongs to :

A. Metaphyta

B. Monera

C. Protista

D. Algae

**Answer: B**



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**1187.** Bacteria are essential in carbon cycle as:-

A. Decomposer

B. Synthesizer

C. Consumer

D. Pri. Producer

**Answer: A**



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**1188.** What occurs in crossing over :

- A. Recombination
- B. Mutation
- C. Independent assortment
- D. None

**Answer: A**



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**1189.** Histamine is secreted by

- A. Mast cells
- B. Fibroblast
- C. Histiocytes

D. Plasma cells

**Answer: A**



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**1190.** Arterial blood pressure in human beings :

- A. 120 and 80 mm Hg
- B. 150 and 100 mm Hg
- C. 50 and 100 mm Hg
- D. None

**Answer: A**



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**1191.** Which of the following survives a temperature of  $104$  to  $106^{\circ}C$  :



- A. Marine Archabacteria
- B. Hot water spring thermophiles
- C. Seeds of angiosperms
- D. Eubacteria

**Answer: B**



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**1192.** Mental retardness in man occur due to :

- A. Loss of one X chromosome
- B. Addition of one X chromosome
- C. Slight growth in Y
- D. Overgrowth in Y

**Answer: B**



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**1193.** Symptoms of Lathyrism :

- A. Bone deformation
- B. Muscular dystrophy and paralysis
- C. Asphyxia
- D. Cordiac arrest

**Answer: B**



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**1194.** A cell 'A' with D.P.D. = 8 is surrounded by three cells 'B', 'C' and 'D' with D.P.D. respectively 4, 6 and 5. What shall be the direction of water movement :

$$\begin{array}{ccccc} A & B & \rightarrow & A & \leftarrow C \\ & & & \uparrow & \\ & & & D & \end{array}$$

$$B. A \rightarrow B \rightarrow C \rightarrow D$$

C.  $D \rightarrow C \rightarrow B \leftarrow A$

D.  $A \rightarrow B \leftarrow C \rightarrow D$

**Answer: A**



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**1195.** What change occurs during conversion of proto chlorophyll to chlorophyll :

A. Addition of 2H in one pyrrole ring

B. Loss of 2H

C. Addition of Mg

D. Loss of Mg

**Answer: A**



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**1196.** Transduction in bacteria is mediated by

- A. Bacteriophage
- B. B.G.A.
- C. Mycoplasma
- D. Rickettsiae

**Answer: A**



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**1197.** Which of the following most used in genetic engineering :

- A. E. coli and Agrobacterium
- B. Mycobacteria and Salmonella
- C. Aspergillus
- D. Penicillium

**Answer: A**



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**1198.** Variations in proteins are due to

- A. Sequence of amino acids
- B. Number of amino acids
- C. R-group
- D. None

**Answer: A**



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**1199.** Genetic drift in mendelian population takes place in :-

- A. Small population

- B. Large population
- C. Oceanic population
- D. Never occurs

**Answer: A**



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**1200.** The embryo in sunflower has

- A. Two cotyledons
- B. One cotyledons
- C. Eight cotyledons
- D. Cotyledons absent

**Answer: A**



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**1201.** Effect of light and dark rhythm on plants :

- A. Photonasty
- B. Phototropism
- C. Photoperiodism
- D. Photomorphogenesis

**Answer: C**



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**1202.** ABO blood group have :

- A. Two codominant and one recessive allele
- B. Two codominant and two recessive allele
- C. Two incompletely dominant genes
- D. Two pseudo alleles

**Answer: A**



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**1203.** Adiantum is called "walking fern" due to

- A. Dispersal by animals
- B. Reproduction by spores
- C. Vegetative reproduction
- D. Power of locomotion

**Answer: C**



**Watch Video Solution**

**1204.** Modern farmer's can increase the yield of paddy upto 50% by the use of :-



- A. Cyanobacteria
- B. Rhizobium
- C. Cyanobacteria in *Azolla pinnata*
- D. Farm yard manure

**Answer: C**



**Watch Video Solution**

**1205.** Which destroys the acetyl choline esterase :

- A. Malathione
- B. CO
- C. KCN
- D. Colchicine

**Answer: A**



**Watch Video Solution**

**1206.** Growth of leaf primordia :

- A. First apical then marginal
- B. Only apical
- C. Only marginal
- D. Lateral

**Answer: A**



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**1207.** Reason for elimination of wild life is:-

- A. Deforestation
- B. Forest fire
- C. Floods

D. Less Rain fall

**Answer: A**



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**1208.** Beside  $CH_4$  and  $CO_2$  other green house gas from agriculture area:-

A.  $SO_2$

B.  $NH_3$

C.  $NO_2$

D. CFC

**Answer: C**



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**1209.** In which biome a new plant may adapt soon:-

A. Tropical rain forest

B. Desert

C. Mangroove

D. Sea island

**Answer: A**



**Watch Video Solution**

**1210.** In present times the origin of life is not possible from inorganic compounds due to :

A. Raw material not available

B. High conc. Of  $O_2$  in atmosphere

C. Decrease in temperature

D. Excess of pollution

**Answer: B**



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**1211.** On galapagos island Darwin observed variation in beaks of birds (Darwin's finches) and he concluded :

- A. Inter species variation
- B. Intraspecies variation
- C. Natural selection according to food
- D. Inheritance of acquired characters

**Answer: C**



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**1212.** An orchid resembles female of an insect so as to get pollinated. The phenomenon is

- A. Mimicry

B. Pseudo copulation

C. Pseudo pollination

D. None

**Answer: A**



**Watch Video Solution**

**1213.** Correct sequence of embryo development :

A. Gamete → Zygote → Morula → Blastula → Gastrula

B. Gamete → Zygote → Blastula → Morula → Gastrula

C. Gamete → Neurula → Gastrula

D. Gamete → Neurula → Morula

**Answer: A**



**Watch Video Solution**

**1214.** Segments of DNA which can move in genome :

A. Transposons

B. Introns

C. Exons

D. Cistrons

**Answer: A**



**Watch Video Solution**

**1215.** Botulism affects :

A. Digestive system

B. Blood vascular system

C. Nervous system

D. Respiratory system

**Answer: C**



**Watch Video Solution**

**1216.** Temperature variation in Pacific Ocean in present time is called

- A. Cyclone effect
- B. Alnino effect
- C. Green house effect
- D. Gaudikov's effect

**Answer: B**



**Watch Video Solution**

**1217.** Sewage purification is performed by

- A. Microbes



B. Fertilisers

C. Antibiotics

D. Antiseptics

**Answer: A**



**Watch Video Solution**

**1218.** Effect of anaesthetics on body :

A. Inhibits Na–K pump

B. Kills nerves

C. Stops brain functions

D. Inactivates skin cells

**Answer: A**



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**1219.** Two opposite forces operating in growth and development of every population. One of them has ability to reproduce at a given rate. The opposing force is

- A. Fecundity
- B. Environmental resistances
- C. Biotic control
- D. Mortality

**Answer: B**



**Watch Video Solution**

**1220.** Transfusion tissue, a modified vascular tissue is found in leaves of

- A. Pinus
- B. Dryopteris
- C. Cycas

D. Both (1) and (3)

**Answer: D**



**Watch Video Solution**

**1221.** periderm includes

A. Secondary phloem

B. Cork

C. Cambium

D. All of these

**Answer: B**



**Watch Video Solution**

**1222.** Most stable pesticides

A. Organophosphates

B. Organochlorines

C. Bordeaux mixture

D. Azadirectnin

**Answer: B**



**Watch Video Solution**

**1223.** Best economic method to harvest the solar energy:-

A. Solar cell

B. Energy plantation

C. Cultivation of sugar cane then energy obtain by burning it

D. Solar cooke

**Answer: B**



**Watch Video Solution**

**1224.** Main reason of disturbance of biological diversity

- A. Green house effect
- B. Hunting
- C. Soil erosion
- D. Destruction of natural habitats

**Answer: D**



**Watch Video Solution**

**1225.** Best method to preserve the wild relatives of plants:-

- A. By growing them in natural habitats
- B. Gene library
- C. By storing seeds

D. Cryopreservation

**Answer: A**



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**1226.** Practical purpose of taxonomy or classification:-

- A. Facilitate the identification of unknown species
- B. Explain the origin of organisms
- C. To know the evolutionary history
- D. Identification of medicinal plants

**Answer: A**



**Watch Video Solution**

**1227.** Koch's postulates not applicable to

A. Mycobacterium leprae

B. Tuberculosis

C. Pneumonia

D. Cholera

**Answer: A**



**Watch Video Solution**

**1228.** Amount of cellular DNA increases during

A. Cytokinesis

B. Fertilization

C. Mutation

D. Respiration

**Answer: B**



**Watch Video Solution**

**1229.** Initiation codon in eukaryotes

- A. UGA
- B. CCA
- C. AGA
- D. AUG

**Answer: D**



**Watch Video Solution**

**1230.** Transition of exarch bundles of root to endarch bundles of stem occurs in

- A. Epicotyl
- B. Hypocotyl
- C. Apical bud



D. Coleoptile

**Answer: B**



**Watch Video Solution**

**1231.** Which induces the development of corpus luteum :

A. LH

B. Oestrogen

C. FSH

D. LTH

**Answer: A**



**Watch Video Solution**

**1232.** Plant pathogenic bacteria are mostly:

A. Gram + Non spore forming

B. Gram – Non spore forming

C. Gram + spore forming

D. Gram (–) spore forming

**Answer: B**



**Watch Video Solution**

**1233.** First transgenic plant:

A. Potato

B. Tomato

C. Tobacco

D. maize

**Answer: C**



**Watch Video Solution**

**1234.** Dolly sheep was obtained by

- A. Cloning the udder cell (somatic cell) fused with unnucleated oocyte
- B. Cloning of gametes
- C. Tissue culture
- D. None

**Answer: A**



**Watch Video Solution**

**1235.** Cholecystokinin and secretin are secreted by

- A. Stomach
- B. Ileum
- C. Duodenum

D. Colon

**Answer: C**



**Watch Video Solution**

**1236.** Suspensory ligaments are found in

A. Brain

B. Eyes

C. Liver

D. Pancrease

**Answer: B**



**Watch Video Solution**

**1237.** Life span of worker honey bee

A. 30 days

B. 15 days

C. 90 days

D. 10 days

**Answer: C**



**View Text Solution**

**1238.** Para thormone deficiency leads to

A. Decrease of  $Ca^{+2}$  level in blood

B. Increase of  $Ca^{+2}$  level in blood

C. Osteoporosis

D. Hypercalemia

**Answer: A**



**Watch Video Solution**

**1239.** Gene composed of

- A. Amino acids
- B. Polynucleotide
- C. Fatty acid
- D. Nitrogen bases

**Answer: B**



**Watch Video Solution**

**1240.** Ornithophilly takes place in :

- A. Yellow flower having nectaries
- B. Scented flower
- C. Flower with charming colour

D. Modified corolla tube

**Answer: A**



**Watch Video Solution**

**1241.** The Bhopal Gas Tragedy is related with

A. Methane

B. Carban mono oxide

C. Methyl Iso cyanate (MIC)

D.  $SO_2$

**Answer: C**



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**1242.** Concentration of DDT is highest in:-

A. Primary consumer

B. Producers

C. Top consumer

D. Decomposer

**Answer: C**



**Watch Video Solution**

**1243.** Percentage energy transferred to higher trophic level in food chain is:-

A. 0.01

B. 0.1

C. 0.9

D. 1

**Answer: B**





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**1244.** What change occurs by changing one base in DNA

- A. Always a change of one amino acid in protein
- B. Change in complex sequence of amino acid
- C. Always a change in property of protein
- D. Does not necessarily change the phenotype

**Answer: D**



[Watch Video Solution](#)

**1245.** HIV infects

- A. RBC
- B. T – helper cells
- C. B - cells

D. Basophils

**Answer: B**



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**1246.** Which of the following statement is true for bryophyta?

- A. Along with water absorption roots also provide anchorment to plants
- B. Sporophyte is dominant
- C. Gametophyte is dominant and sporophyte is mostly parasitic
- D. Gametophyte is parasitic

**Answer: C**



**Watch Video Solution**

**1247.** Lichens can be used as:-

- A. Bio-indicator for water and air pollution
- B. Initial vegetation for waste lands
- C. Source of wood
- D. To check the air pollution

**Answer: A**



**Watch Video Solution**

**1248.** Biotic and abiotic components form:-

- A. Community
- B. Society
- C. Population
- D. Species

**Answer: A**



**Watch Video Solution**

**1249.** The endosperm of gymnosperm is

- A. Polyploid
- B. Diploid
- C. Triploid
- D. Haploid

**Answer: D**



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**1250.** The plant having the largest flower is:-

- A. Total stem parasite

B. Epiphyte

C. Total root parasite

D. Partial stem parasite

**Answer: C**



**Watch Video Solution**

**1251.** Anabaena is associated with Azolla's

A. Stem

B. Leaves

C. Roots

D. Flowers

**Answer: B**



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**1252.** The allele for tallness is dominant over that of dwarfness. This is called

- A. Law of independent assortment
- B. Law of segregation
- C. Law of unit character
- D. Law of dominance

**Answer: D**



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**1253.** Oxytocin is mainly help in:-

- A. Milk production
- B. Child birth
- C. Diuresis
- D. Gametogenesis

**Answer: B**



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**1254.** What ratio is expected in offsprings if father is colour blind and mother's father was colour blind

- A. 50% daughter – colour blind
- B. All the sons are colour blind
- C. All the daughters colour blind
- D. All the sons are normal

**Answer: A**



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**1255.** When AABbCc is crossed with AaBbCc then the ratio of hybrid for all the three genes is

A.  $\frac{1}{8}$

B.  $\frac{1}{4}$

C.  $\frac{1}{16}$

D.  $\frac{1}{32}$

**Answer: A**



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**1256.** Which hormone is concerned with the concentration of urine :

A. Oxytocin

B. Vassopressin

C. Prolactin

D. Cortisol

**Answer: B**



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**1257.** Ventricular contraction in command of : —

- A. S.A. Node
- B. A.V. Node
- C. Purkinje fibers
- D. Papillary muscles

**Answer: A**



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**1258.** Which of the following does not contain met

- A. Glycoproteins
- B. Ferritin
- C. Cytochromes

D. Chromoproteins

**Answer: A**



**Watch Video Solution**

**1259.** Double unit membrane is absent in

A. Ribosomes

B. Nucleus

C. Plastids

D. E.R.

**Answer: A**



**Watch Video Solution**

**1260.** Function of Nucleases :

- A. Break the polynucleotide chain by breaking the each terminal nucleotide
- B. Breaks phosphodiester bond
- C. Breaks peptide bonds
- D. Breaks ester bonds

**Answer: B**



**Watch Video Solution**

**1261.** What is phytotron?

- A. A device to grow the plants in controlled environment
- B. Growing plants in green house
- C. Radiation chamber to induce the mutations
- D. Apparatus to study the effect of light on plants

**Answer: A**



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**1262.** Species diversity is maximum in:-

- A. Tropical rain forest
- B. Temperate forest
- C. Deserts
- D. Hill slopes

**Answer: A**



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**1263.** Exponential growth is shown by

- A. Unicellular forms
- B. A cell in tissue culture
- C. Embryo

D. Multicellular plants

**Answer: B**



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**1264.** Which of the following is a secondary air pollutant?

A. PAN

B. CO

C.  $NO_2$

D.  $SO_2$

**Answer: A**



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**1265.** Forest cover of India according to "State of Forest Report 1997" of Ministry of Environment and Forest is :

- A. 0.11
- B. 0.195
- C. 0.17
- D. 0.187

**Answer: B**



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**1266.** During injury mast cells secrete

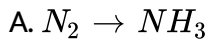
- A. Histamine
- B. Heparin
- C. Prothrombin
- D. Antibodies

**Answer: A**

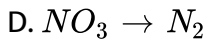
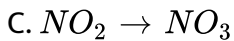


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**1267.** Nitrogen fixing bacteria convert:-



B.  $NH_4^+$  to Nitrates



**Answer: A**



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**1268.** Insulin differs from growth hormone in the fact that it

A. Increases activity of m-RNA and Ribosomes

- B. Increase the permeability of cell membrane
- C. Affects metabolism of fats by inducing lipogenesis
- D. Increasing protein synthesis

**Answer: C**



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**1269.** Homologous organs are

- A. Wings of cockroach and wings of bats
- B. Wings of insects and wings of birds
- C. Air bladder of fishes and lungs of frog
- D. Pectoral fins of fishes and forelimbs of horse

**Answer: D**



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1270. Which arrangement is in correct ascending order?

- A. Species < genus < order < family
- B. Genus It species It family It order
- C. Order It family It genus It species
- D. *Species < ≥ vs < family < or der*

Answer: D



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1271. In stomach, after physical and chemical digestion, food is called

- A. Chyme
- B. Chyle
- C. Amino acid
- D. Bolus

**Answer: A**



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**1272.** Exchange of bicarbonates and chloride ions between RBC and plasma is called : —

- A. Chloride shift
- B. Bohr's effect
- C. Haldane's effect
- D. Intra cellular respiration

**Answer: A**



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**1273.** Which gland decreases in size with increasing age

A. Thyroid

B. Adrenal

C. Thymus

D. Pituitary

**Answer: C**



**View Text Solution**

**1274.** Which one is the principal cation in the plasma of blood ?

A.  $K^{+}$

B.  $Mg^{+2}$

C.  $Ca^{+2}$

D.  $Na^{+}$

**Answer: D**



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**1275.** Large scale death of fishes occur in

- A. Saline lake
- B. Oligotrophic lake
- C. Eutrophic lake
- D. Shallow lake

**Answer: C**



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**1276.** A normal human being requires how much calories per day?

- A. 2500 k. cal
- B. 4000 k. cal
- C. 5000 k. cal

D. 686 k. cal

**Answer: A**



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**1277.** Which of the following yield maximum energy

- A. By glycolysis in a sprinter
- B. Aerobic respiration in germinating seeds
- C. Fermentation by yeast
- D. Anaerobic respiration

**Answer: B**



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**1278.** Main reason of water bloom in rivers, lakes, sea etc. is:

- A. Brown algae and green algae
- B. Cyanobacteria and dinoflagellates
- C. Eicchornia
- D. Fishes

**Answer: B**



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**1279.** Insectivorous plants grow in soil which is deficient in:

- A. Mg
- B. Ca
- C. P
- D. N<sub>2</sub>

**Answer: D**



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**1280.** Which pair is of insectivorous plants

- A. Drosera and Vallisneria
- B. Utricularia and Hydrilla
- C. Allobandra and Utricularia
- D. Rafflesia and Dionea

**Answer: C**



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**1281.** What shall be the water potential of a root hair cell absorbing water from the soil

- A. Zero
- B. Less than zero
- C. More than zero

D. Infinite

**Answer: B**



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**1282.** Deficiency of oxygen affects most the

A. Brain

B. Skin

C. Kidney

D. Intestine

**Answer: A**



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**1283.** Maximum DDT is present in birds feeding on



A. Fishes

B. Meat

C. Insects

D. Seeds

**Answer: A**



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**1284.** Fully digested food reaches to liver by

A. Hepatic portal vein

B. Hepatic artery

C. Hepatic vein

D. All the above

**Answer: A**



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**1285.** Fraternal twin one baby is haemophilic while baby's brother is normal then which statement is true

- A. Baby is male
- B. Baby is female
- C. Mother is heterozygous
- D. Mother is homozygous

**Answer: C**



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**1286.** Which of these is a pollution related occupational health hazard?

- A. Fluorosis
- B. Pneumoconiosis
- C. Silicosis

D. Asthma

**Answer: B**



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**1287.** Azolla is used in the cultivation of :

A. Maize

B. Sorghum

C. Wheat

D. Rice

**Answer: D**



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**1288.** Which one produce gas by decomposing the gobar (Dung) in gobar gas

- A. Fungus
- B. Virus
- C. Methanogenic bacteria
- D. Algae

**Answer: C**



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**1289.** Pantothenic acid & Biotin associated with

- A. Vitamin D
- B. Vitamin B complex
- C. Vitamin K
- D. Vitamin E

**Answer: B**



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**1290.** Which one is wrong pair : —

- A. Scurvy – Vitamin C
- B. Rickets – Vitamin D
- C. Night blindness (Xerophthalmia) – Vitamin A
- D. Beriberi – Vitamin K

**Answer: D**



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**1291.** Maximum photosynthesis takes place by :

- A. Phytoplankton

B. Zooplankton

C. Marsh plants

D. Woody plants

**Answer: A**



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**1292.** Reptiles like mammals originated in

A. Jurassic

B. Triassic

C. Cretaseus

D. Permian

**Answer: B**



**View Text Solution**

**1293.** Dental formula of adolescent human being before 17 years : —

A.  $\frac{2122}{2122}$

B.  $\frac{2123}{2123}$

C.  $\frac{2102}{2102}$

D.  $\frac{2023}{1023}$

**Answer: A**



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**1294.** Molecular weight of DNA in yeast is

A.  $2.56 \times 10^9$

B.  $0.5 \times 10^9$

C.  $7 \times 10^7$

D.  $6 \times 10^6$

**Answer: A**



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**1295.** Minute quantity of hormones & steroid are detected by :

- A. Electrophoresis
- B. Radio immunoassay
- C. Electro encephalogram
- D. Fractional analysis

**Answer: B**



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**1296.** Hybridoma is

- A. Collection of DNA from DNA



B. Collection of RNA from DNA

C. A fusion of tumour sex cell with non tumour sex cell

D. A fusion of tumour somatic cell with non tumour somatic cell

**Answer: D**



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**1297.** Which substance can be used as male contraceptive in future :-

A. FSH

B. LH

C. Testosterone

D. Progesterone

**Answer: D**



**Watch Video Solution**

**1298.** Genetic material of prokaryotic cell

- A. Non histonic double stranded DNA
- B. Histonic double stranded DNA
- C. Histone & DNA both are absent
- D. Histone without DNA

**Answer: A**



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**1299.** Ligament consist of

- A. Yellow fibres + Elastic fibres
- B. Yellow fibres + Collagen (white) fibres
- C. Yellow fibres + Muscle fibres
- D. White fibres + Muscle fibres

**Answer: B**



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**1300.** Tendon consist of

- A. Non Elastic connective tissue
- B. White Elastic tissue
- C. Collagen (white) fibres + Muscle fibres
- D. Only collagen fibres

**Answer: D**



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**1301.** Industrial melanism is an example of

- A. Natural selection

B. Mutation

C. Racial difference

D. Predation

**Answer: A**



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**1302.** where do the casparian bands occur

A. Endodermis

B. Pericycle

C. Periderm

D. Cortex

**Answer: A**



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**1303.** Funaria's male gametes are

- A. Poly flagellate
- B. Mono flagellate
- C. Biflagellate
- D. Tetra flagellate

**Answer: C**



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**1304.** E. coli are used in production of:

- A. Rifampicin
- B. LH
- C. Ecodyson
- D. Interferon

**Answer: D**



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**1305.** Which one is obtained by S. Miller in his experiments on origin of life before 1953

A. Simple sugars

B. Amino acids

C. Nucleotide

D. Peptides

**Answer: B**



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**1306.** which protein is found in maximum amount ?

- A. Catalase
- B. Zinc carbonic anhydrase
- C. Transferase
- D. RUBISCO

**Answer: D**

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**1307.** After ovulation follicles converted into :-

- A. Corpus luteum
- B. Corpus albicans
- C. Corpus cavernosa
- D. Corpus calosum

**Answer: A**

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**1308.** Minor change in gene's structure is called

- A. Reversible mutation
- B. Point mutation
- C. Forward mutation
- D. Back ward mutation

**Answer: B**



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**1309.** Green house effect is

- A. Gardening outside the house
- B. Global cooling
- C. Global warming



D. Green colour house

**Answer: C**



**Watch Video Solution**

**1310.** What will happen if the number of organism increased at a place:-

- A. Inter species competition
- B. Intra species competition
- C. Both
- D. None

**Answer: C**



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**1311.** What is vaccine

A. Treated bacteria, virus & protein

B. Treated algae

C. Treated fungi

D. Treated plasmodium

**Answer: A**



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**1312.** Shell of egg in bird becomes thin (not properly formed) due to the pollution of pesticides. This is due to interference in the activity of

A. Ca ATPase

B. Mg ATPase

C. Calmodulin

D. None

**Answer: C**



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**1313.** Agglutination occurs in blood present in a test tube. This indicate

- A. Antibodies are present in plasma
- B. Antigens are present on R.B.C.
- C. Antigens are present in plasma
- D. Antibodies are present on R.B.C.

**Answer: B**



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**1314.** Secondary structure of protein, which is attached to lipid layer and lining the pores of cell membrane will be

- A.  $\alpha$  - Helix
- B.  $\beta$  - Strand

C.  $\beta$  - chain

D. Random

**Answer: A**



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**1315.** Recently extinct animal from India is

A. Acinonyx

B. Rhinoceros unicornius

C. Panthera leo

D. Panthera tigris

**Answer: A**



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**1316.** Simplest reflex action in human is

- A. Mono synaptic
- B. Bi synaptic
- C. Tri synaptic
- D. Poly synaptic

**Answer: A**



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**1317.** In inducible operon, regulatory gene synthesizes:

- A. Promoter
- B. Operator
- C. Repressor
- D. Aporepressor

**Answer: C**



**Watch Video Solution**

**1318.** Neuroglial cells associated with

- A. Heart
- B. Kidney
- C. Brain
- D. Eyes

**Answer: C**



**Watch Video Solution**

**1319.** Diatomaceous earth is used as heat insulator in boilers and steam pipes because the cell wall of diatom-

- A. Composed of iron
- B. Composed of silicon dioxide
- C. Composed of silicon dioxide
- D. Is bad conductor of electricity

**Answer: B**



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**1320.** What would be the number of chromosomes in the cell of the aleurone layer in a plant species with 8 chromosomes in its synergids

- A. 16
- B. 24
- C. 32
- D. 8

**Answer: B**

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**1321.** Pineapple (ananas) fruit develops from

- A. a unilocular polycarpellary flower
- B. a multipistillate syncarpous flower
- C. a cluster of compactly borne flowers on a common axis
- D. a multilocular monocarpellary flower

**Answer: C**

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**1322.** Golden rice is a promising transgenic crop. When released for cultivation , it will help in:

- A. Alleviation of vitamin A deficiency
- B. Pest resistance



C. Herbicide tolerance

D. Producing a petrol-like fuel from rice

**Answer: A**



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**1323.** Parthenocarpic tomato fruits can be produced by

A. Removing androecium of flowers before pollen grains are released

B. Treating the plants with low concentrations of gibberellic acid and auxins

C. Raising the plants from vernalized seeds

D. Treating the plants with phenylmercuric acetate

**Answer: B**



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**1324.** How does pruning help in making the hedge dense

- A. It induces the differentiation of new shoots from the rootstock
- B. It frees axillary buds from apical dominance
- C. The apical shoot grows faster after pruning
- D. It released wound hormones

**Answer: B**



**Watch Video Solution**

**1325.** The blue baby syndrome results from

- A. Excess of chloride
- B. Methemoglobin
- C. Excess of dissolved oxygen
- D. Excess of TDS (total dissolved solids)

**Answer: B**



**Watch Video Solution**

**1326.** Praying mantis is a good example of

- A. Mullerian mimicry
- B. Warning colouration
- C. Social insects
- D. Camouflage

**Answer: D**



**Watch Video Solution**

**1327.** Which one of the following statements is correct ?

- A. Neurons regulate endocrine activity, but not vice versa (

- B. Endocrine glands regulate neural activity, and nervous system regulates endocrine glands (
- C. Neither hormones control neural activity nor the neurons control endocrine activity
- D. Endocrine glands regulate neural activity, but not vice versa

**Answer: B**



**View Text Solution**

**1328.** Examination of blood of a person suspected of having anaemia, shows large, immature, nucleated erythrocytes without haemoglobin. Supplementing his diet with which of the following is likely to alleviate his symptoms

- A. Thiamine
- B. Folic acid and cobalamine
- C. Riboflavin

## D. Iron compounds

**Answer: B**



**Watch Video Solution**

**1329.** Farmers in a particular region were concerned that pre-mature yellowing of leaves of a pulse crop might caused decrease in the yield. Which treatment could be most be most beneficial to obtain maximum seed yield?

- A. Frequent irrigation of the crop
- B. Treatment of the plants with cytokinins alongwith a small dose of nitrogenous fertilizer (
- C. Removal of all yellow leaves and spraying the remaining green leaves with 2,4,5trichlorophenoxy acetic acid
- D. Application of iron and magnesium to promote synthesis of chlorophyll

**Answer: D**



**Watch Video Solution**

**1330.** In which of the following fruits is the edible part the aril ?

- A. Custard apple
- B. Pomegranate
- C. Orange
- D. Litchi

**Answer: D**



**Watch Video Solution**

**1331.** Which one of the following amino-acids was not found to be synthesized in Miller's experiment

- A. Glycine
- B. Aspartic acid
- C. Glutamic acid
- D. Alanine

**Answer: C**



**Watch Video Solution**

**1332.** Crop plants grown in monoculture are

- A. Low in yield
- B. Free from intraspecific competition
- C. Characterised by poor root system
- D. Highly prone to pests

**Answer: D**



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**1333.** Montreal protocol which calls for appropriate action to protect the ozone layer from human activities was passed in the year:

A. 1986

B. 1987

C. 1988

D. 1985

**Answer: B**



**Watch Video Solution**

**1334.** The formula for exponential population growth is

A.  $\frac{dt}{dN} = rN$

B.  $\frac{dN}{rN} = dt$

C.  $\frac{rN}{dN} = dt$



D.  $dN/dt = rN$

**Answer: D**



**Watch Video Solution**

**1335.** Which one of the following is not used for construction of ecological pyramids?

- A. Dry weight
- B. Number of individuals
- C. Rate of energy flow
- D. Fresh weight

**Answer: D**



**Watch Video Solution**

**1336.** Niche overlap indicates

- A. Active cooperation between two species
- B. Two different parasites on the same host
- C. Sharing of one or more resources between the two species
- D. Mutualism between two species

**Answer: C**



**Watch Video Solution**

**1337.** In photosystem-I the first electron acceptor is

- A. Ferredoxin
- B. Cytochrome
- C. Plastocyanin
- D. An iron sulphur protein

**Answer: D**



**Watch Video Solution**

**1338.** Treatment of seed at low temperature under moist conditions to break its dormancy is called

- A. Scarification
- B. Vernalization
- C. Chelation
- D. Stratification

**Answer: D**



**Watch Video Solution**

**1339.** Which one of the following is the most suitable medium for culture of *Drosophila melanogaster*

A. Moist bread

B. Agar-agar

C. Ripe banana

D. cow dung

**Answer: C**



**Watch Video Solution**

**1340.** Which one of the following is not included under in situ conservation?

A. Sanctuary

B. Botanical garden

C. Biosphere reserve

D. National park

**Answer: B**



[Watch Video Solution](#)

**1341.** Antibiotic inhibiting interaction between tRNA and mRNA during protein synthesis in bacteria

- A. Erythromycin
- B. Neomycin
- C. Streptomycin
- D. Tetracycline

**Answer: B**



[Watch Video Solution](#)

**1342.** Phenotype of an organism is result of

- A. Mutations and linkages
- B. Cytoplasmic effects and nutrition

C. Environmental changes and sexual dimorphism

D. Genotype and environment interactions

**Answer: D**



**Watch Video Solution**

**1343.** Photochemical smog does not contain

A. Ozone

B. Nitrogen dioxide

C. Carbon dioxide

D. PAN (peroxy acyl nitrate)

**Answer: C**



**Watch Video Solution**

**1344.** Moss peat is used as a packing material for sending flowers and live plants to distant places because

- A. It is easily available
- B. It is hygroscopic
- C. It reduces transpiration
- D. It serves as a disinfectant

**Answer: B**



**Watch Video Solution**

**1345.** A common structural feature of vessel elements and sieve tube elements is

- A. Thick secondary walls
- B. Pores on lateral wall
- C. Presence of p-protein

D. Enucleate condition

**Answer: D**



**Watch Video Solution**

**1346.** The thalloid body of a slime mould (Myxomycetes) is known as

A. Protonema

B. Plasmodium

C. Fruiting body

D. Mycelium

**Answer: B**



**Watch Video Solution**



**1347.** In which mode of inheritance do you expect more maternal influence among the offspring

- A. Autosomal
- B. Cytoplasmic
- C. Y-linked
- D. X-linked

**Answer: B**



**Watch Video Solution**

**1348.** What type of placentation is seen in sweet pea

- A. Basal
- B. Axile
- C. Free central
- D. Marginal

**Answer: D**



**Watch Video Solution**

**1349.** Long filamentous threads protruding at the end of a young cob of maize are-

- A. Anthers
- B. Styles
- C. Ovaries
- D. Hairs

**Answer: B**



**Watch Video Solution**

**1350.** Conifers differ from grasses in the

- A. Production of seeds from ovules
- B. Lack of xylem tracheids
- C. Absence of pollen tubes
- D. Formation of endosperm before fertilization

**Answer: D**



**Watch Video Solution**

**1351.** How many different kinds of gametes will be produced by a plant having the genotype AABbCC ?

- A. Three
- B. Four
- C. Nine
- D. Two

**Answer: D**



[Watch Video Solution](#)

**1352.** In maize, hybrid vigour is exploited by:

- A. Bombarding the protoplast with DNA
- B. Crossing of two inbred parental lines
- C. Harvesting seeds from the most productive plants
- D. Inducing mutations

**Answer: B**



[Watch Video Solution](#)

**1353.** Which of the following statements regarding mitochondrial membrane is NOT correct ?

- A. The outer membrane is permeable to all kinds of molecules

- B. The enzymes of the electron transfer chain are embedded in the outer membrane (
- C. The inner membrane is highly convoluted forming a series of infoldings
- D. The outer membrane resembles a sieve

**Answer: B**



**Watch Video Solution**

**1354.** Amino acid sequence, in protein synthesis is decided by the sequence of

- A. tRNA
- B. mRNA
- C. cDNA
- D. rRNA

**Answer: B**



**Watch Video Solution**

**1355.** How many ATP molecules could maximally be generated from one molecule of glucose, if the complete oxidation of one mole of glucose to  $CO_2$  and  $H_2O$  yields 686 kcal and the useful chemical energy available in the high energy phosphate bond of one mole of ATP is 12 kcal

- A. Two
- B. Thirty
- C. Fifty-seven
- D. One

**Answer: C**



**Watch Video Solution**

**1356.** An organic substance bound to an enzyme and essential for its activity is called

- A. Coenzyme
- B. Holoenzyme
- C. Apoenzyme
- D. isoenzyme

**Answer: A**



**Watch Video Solution**

**1357.** Bowman's glands are found in

- A. Olfactory epithelium
- B. External auditory canal
- C. Cortical nephrons only
- D. Juxtamedullary nephrons

**Answer: A**



**Watch Video Solution**

**1358.** The bacterium (*Clostridium botulinum*) that causes botulism is

- A. A facultative anaerobe
- B. An obligate anaerobe
- C. A facultative aerobe
- D. An obligate aerobe

**Answer: B**



**Watch Video Solution**

**1359.** Which one of the following is the correctly matched pair of an endangered animal and a National Park ?



- A. Lion – Corbett National Park
- B. Rhinoceros – Kaziranga National Park
- C. Wild Ass – Dudhwa National Park
- D. Great Indian – Keoladeo National Park Bustard

**Answer: B**



**Watch Video Solution**

**1360.** A person showing unpredictable moods, out-bursts of emotions, quarrelsome behavior and conflicts with others is suffering from

- A. Schizophrenia
- B. Borderline Personality Disorder (BPD)
- C. Mood disorders
- D. Addictive disorders

**Answer: B**



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**1361.** Sulphur is an important nutrient for optimum growth and productivity in

- A. Pulse crops
- B. Cereals
- C. Fibre crops
- D. Oilseed crops

**Answer: D**



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**1362.** Pentamerous actinomorphic flowers, bicarpellary ovary with oblique septa, and fruit a capsule or berry, are characteristic features of

- A. Asteraceae

B. Brassicaceae

C. Solanaceae

D. Liliaceae

**Answer: C**



**Watch Video Solution**

**1363.** In a moss the sporophyte

A. is partially parasitic on the gametophyte

B. produces gametes that given rise to the gametophyte

C. Arises from a spore produced from the gametophyte

D. Manufactures food for itself, as well as for the gametophyte

**Answer: A**



**Watch Video Solution**

**1364.** Curing of tea leaves is brought about by the activity of

- A. Bacteria
- B. vernalization
- C. Viruses
- D. Fungi

**Answer: A**



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**1365.** People living at sea level have around 5 million RBC per cubic millimetre of their blood whereas those living at an altitude of 5400 metres have around 8 million. This is because at high altitude.

- A. People get pollution-free air to breathe and more oxygen is available

- B. Atmospheric  $O_2$  level is less and hence more RBCs are needed to absorb the required amount of  $O_2$  to survive
- C. There is more UV radiation which enhances RBC production
- D. People eat more nutritive food, therefore more RBCs are formed

**Answer: B**



**Watch Video Solution**

**1366.** An important evidence in favour of organic evolution is the occurrence of :

- A. Homologous and vestigial organs
- B. Analogous and vestigial organs
- C. Homologous organs only
- D. Homologous and analogous organs

**Answer: A**



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**1367.** Which one of the following is not a living fossil?

- A. King crab
- B. Sphenodon
- C. Archaeopteryx
- D. Peripatus

**Answer: C**



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**1368.** A major breakthrough in the study of cells came with the development of electron microscope. This is because

- A. The resolution power of the electron microscope is much higher than that of the light microscope

- B. The resolving power of the electron microscope is 200-350 nm as compared to 0.1-0.2 nm for the light microscope
- C. Electron beam can pass through thick materials, whereas light microscopy requires thin sections
- D. The electron microscope is more powerful than the light microscope as it uses a beam of electrons which has wavelength much longer than that of photons

**Answer: C**



**Watch Video Solution**

**1369.** Which one of the following is a matching set of a phylum and its three examples?

- A. Cnidaria – Bonellia, Physalia, Aurelia
- B. Platyhelminthes-Planaria, Schistosoma, Enterobius

C. Mollusca-Loligo, Teredo, Octopus

D. Porifera-Spongilla, Euplectella, Pennatula

**Answer: A**



**Watch Video Solution**

**1370.** Metameric segmentation is the characteristic of

A. Platyhelminthes and Arthropoda

B. Echinodermata and Annelida

C. Annelida and Arthropoda

D. Mollusca and Chordata

**Answer: C**



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**1371.** Which of the following pairs of an animal and a plant represent endangered organism in India

- A. *Bentinckia nicobarica* and Red Panda
- B. Tamarind and Rhesus monkey
- C. Cinchona and Leopard
- D. Banyan and Black buck

**Answer: C**



**Watch Video Solution**

**1372.** Jurassic period of the Mesozoic era is characterised by

- A. Gymnosperms are dominant plants and first birds appear
- B. Radiation of reptiles and origin of mammal like reptiles
- C. Dinosaurs become extinct and angiosperms appear
- D. Flowering plants and first dinosaurs appear

**Answer: A**



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**1373.** What is common about Trypanosoma, Noctiluca Monocystis and Giardia

- A. These are all unicellular protists
- B. They have flagella
- C. They produce spores
- D. These are all parasites

**Answer: A**



**Watch Video Solution**

**1374.** Which of the following statements regarding cilia is not correct

- A. The organized beating of cilia is controlled by fluxes of  $Ca^{2+}$  across the membrane
- B. Cilia are hair-like cellular appendages
- C. Microtubules of cilia are composed of tubulin
- D. Cilia contain an outer ring of nine doublet microtubules surrounding two single microtubules

**Answer: A**



**Watch Video Solution**

**1375.** Two microbes found to be very useful in genetic engineering are-

- A. *Escherichia coli* and *Agrobacterium tumefaciens*
- B. *Vibrio cholerae* and a tailed bacteriophage
- C. *Diplococcus* sp. and *Pseudomonas* sp.
- D. Crown gall bacterium and *Caenorhabditis elegans*

**Answer: A**



**Watch Video Solution**

**1376.** Which of the following environment conditions are essential for optimum growth of *Mucor* on a piece of bread

- A. Temperature of about  $25^{\circ}C$
- B. Temperature of about  $5^{\circ}C$
- C. Relative humidity of about 5%
- D. Relative humidity of about 95%
- E. A shady place
- F. A brightly illuminated place

Choose the answer from the following options

- A. A, C and E only
- B. A, D and E only
- C. B, D and E only
- D. B, C and F only

**Answer: B**



**Watch Video Solution**

**1377.** The evolutionary history of an organism is known as

- A. Phylogeny
- B. Ancestry
- C. Paleontology
- D. Ontogeny

**Answer: A**



**Watch Video Solution**

**1378.** Which one is a hot spot of biodiversity

- A. Western Ghats

B. Indo-Gangetic Plain

C. Eastern Ghats

D. Aravalli Hills

**Answer: A**



**Watch Video Solution**

**1379.** During photorespiration, the oxygen consuming reaction (s) occur in

A. Stroma of chloroplasts and mitochondria

B. Stroma of chloroplasts and peroxisomes

C. Grana of chloroplasts and peroxisomes

D. Stroma of chloroplasts

**Answer: B**



**Watch Video Solution**

**1380.** Which one of the following is an example of polygenic inheritance ?

- A. Flower colour in *Mirabilis jalapa*
- B. Production of male honey bee
- C. Pod shape in garden pea
- D. Skin colour in humans

**Answer: D**



**Watch Video Solution**

**1381.** Which one of the following does not act as a neurotransmitter ?

- A. Acetylcholine
- B. Epinephrine
- C. Norepinephrine
- D. Cortisone

**Answer: D**



**Watch Video Solution**

**1382.** Sertoli cells are regulated by the pituitary hormone known as

- A. FSH
- B. GH
- C. Prolactin
- D. LH

**Answer: A**



**Watch Video Solution**

**1383.** A steroid hormone which regulates glucose metabolism is

Or

Excess of which of the following hormones causes Cushing's syndrome



- A. Cortisol
- B. Corticosterone
- C. 11-deoxycorticosterone
- D. Cortisone

**Answer: A**



**Watch Video Solution**

**1384.** ATPase enzyme needed for muscle contraction is located in

" " Or

The contractile protein of skeletal muscle involving ATPase activity is

- A. Tropomyosin
- B. Myosin
- C.  $\alpha$ -Actin
- D. Troponin

**Answer: B**



**Watch Video Solution**

**1385.** Which one of the following is not a second messenger in hormone action

- A. cGMP
- B. Calcium
- C. Sodium
- D. cAMP

**Answer: C**



**Watch Video Solution**

**1386.** In Mendel's experiments with Garden Pea, round seed shape (RR) was dominant over wrinkled seeds (rr), yellow cotyledons (YY) was

dominant over green cotyledons(yy). What are expected phenotypes in  $F_2$  generation  $RRYY \times rryy$  ?

- A. Only round seeds with green cotyledons
- B. Only wrinkled seeds with yellow cotyledons
- C. Only wrinkled seeds with green cotyledons
- D. Round seeds with yellow cotyledons, and wrinkled seeds with yellow cotyledons

**Answer: D**



**Watch Video Solution**

**1387.** One-gene-one enzyme hypothesis was proposed by :-

- A. R. Franklin
- B. Hershey and Chase
- C. A.Garrod

D. Beadle and Tatum

**Answer: D**



**Watch Video Solution**

**1388.** One turn of the helix in a B-form DNA is approximately-

- A. 20 nm
- B. 0.34 nm
- C. 3.4 nm
- D. 2 nm

**Answer: C**



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**1389.** Test cross involves-

- A. Crossing between two genotypes with recessive trait
- B. Crossing between two  $F^1$  hybrids
- C. Crossing the  $F^1$  hybrid with a double recessive genotype
- D. Crossing between two genotypes with dominant trait

**Answer: C**



**Watch Video Solution**

**1390.** Antiparallel strands of a DNA molecule means that :

- A. One strand turns anti-clockwise
- B. The phosphate groups of two DNA stands, at their ends, share the same position
- C. The phosphate groups at the start of two DNA strands are in opposite position (pole)
- D. One strand turns clockwise

**Answer: C**



**Watch Video Solution**

**1391.** Areolar connective tissue joins

- A. Fat body with muscles
- B. Integument with muscles
- C. Bones with muscles
- D. Bones with bones

**Answer: B**



**Watch Video Solution**

**1392.** Mast cells secrete :-

- A. Hippurin

B. Myoglobin

C. Histamine

D. Heamoglobin

**Answer: C**



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**1393.** If a colourblind woman marries a normal visioned man, their sons will be -

A. All normal visioned

B. One-half colourblind and one-half normal

C. Three-fourths colourblind and one-fourth normal

D. All colourblind

**Answer: D**



**Watch Video Solution**

**1394.** Cri-du-chat syndrome in humans is caused by the :

- A. Fertilization of an XX egg by a normal Y-bearing sperm
- B. Loss of half of the short arm of chromosome 5
- C. Loss of half of the long arm of chromosome 5
- D. Trisomy of 21<sup>st</sup> chromosome

**Answer: B**



**Watch Video Solution**

**1395.** Restriction endonuclease -

- A. Cuts the DNA molecule randomly
- B. Cuts the DNA molecule at specific sites
- C. Restricts the synthesis of DNA inside the nucleus
- D. Synthesizes DNA



**Answer: B**



**Watch Video Solution**

**1396.** Antibodies in our body are complex

- A. Lipoproteins
- B. Steroids
- C. Prostaglandins
- D. Glycoproteins

**Answer: D**



**Watch Video Solution**

**1397.** Limit of BOD prescribed by Central Pollution Control Board for the discharge of industrial and municipal waste water into natural surface water:

A. It 3.0 ppm

B. It 10 ppm

C. It 100 ppm

D. It 30 ppm

**Answer: D**



**Watch Video Solution**

**1398.** Earthworms are commonly

A. Ureotelic when plenty of water is available

B. Uricotelic when plenty of water is available

C. Uricotelic under conditions of water scarcity

D. Ammonotelic when plenty of water is available.

**Answer: D**



**Watch Video Solution**

**1399.** Which of the following is an accumulation and release centre of neurohormones

- A. Posterior pituitary lobe
- B. Intermediate lobe of the pituitary
- C. Hypothalamus
- D. Anterior pituitary lobe

**Answer: A**



**Watch Video Solution**

**1400.** Withdrawal of which hormone is the immediate cause of menstruation

- A. Estrogen
- B. FSH

C. FSH-RH

D. Progesterone

**Answer: D**



**Watch Video Solution**

**1401.** Which one of the following statements is incorrect ?

- A. The residual air in lungs slightly decreases the efficiency of respiration in mammals (
- B. The presence of non-respiratory air sacs, increases the efficiency of respiration in birds
- C. In insects, circulating body fluids serve to distribute oxygen to tissues
- D. The principle of countercurrent flow facilitates efficient respiration in gills of fishes

**Answer: B**



**View Text Solution**

**1402.** Which one of the following has an open circulatory system ?

- A. Pheretima
- B. Periplaneta
- C. Hirudinaria
- D. Octopus

**Answer: B**



**Watch Video Solution**

**1403.** Which hormone causes dilation of blood vessels, increased oxygen consumption and glucogenesis?

A. ACTH

B. Insulin

C. Adrenalin

D. Glucagon

**Answer: C**



**Watch Video Solution**

**1404.** The causative agent of mad-cow disease is a

A. Bacterium

B. Prion

C. Worm

D. Virus

**Answer: B**



**Watch Video Solution**

**1405.** The translocation of organic solutes in sieve tube members is supported by

- A. Root pressure and transpiration pull
- B. P-proteins
- C. Mass flow involving a carrier and ATP
- D. Cytoplasmic streaming

**Answer: C**



**Watch Video Solution**

**1406.** Biradial symmetry and lack of cnidoblasts are the characteristics of

- A. Starfish and sea anemone
- B. Ctenoplana and Beroë
- C. Aurelia and Paramecium

D. Hydra and starfish

**Answer: B**



**Watch Video Solution**

**1407.** The arrangement of the nuclei in a normal embryo sac in the dicot plants is-

A.  $2 + 4 + 2$

B.  $3 + 2 + 3$

C.  $2 + 3 + 3$

D.  $3 + 3 + 2$

**Answer: B**



**Watch Video Solution**



**1408.** An enzyme that can stimulate germination of barley seeds is

- A.  $\alpha$ - amylase
- B. Lipase
- C. Protease
- D. Invertase

**Answer: A**



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**1409.** In a cereal grain the single cotyledon of embryo is represented by

- A. Coleorhiza
- B. Scutellum
- C. Prophyll
- D. Coleoptile

**Answer: B**



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**1410.** The majority of carbon dioxide produced by our body cells is transported to the lungs -

- A. Dissolved in the blood
- B. As bicarbonates
- C. As carbonates
- D. Attached to hemoglobin

**Answer: B**



**Watch Video Solution**

**1411.** Triticale, the first man-made cereal, crop has been obtained by crossing wheat with

- A. Rye
- B. Pearl millet
- C. Sugarcane
- D. Barley

**Answer: A**



**Watch Video Solution**

**1412.** In order to obtain virus-free plants through tissue culture the best method is :-

- A. Protoplast culture
- B. Embryo rescue
- C. Anther culture
- D. Meristem culture

**Answer: D**



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**1413.** HIV that causes AIDS, first starts destroying

- A. B-lymphocytes
- B. Leucocytes
- C. Thrombocytes
- D. Helper T-lymphocytes

**Answer: D**



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**1414.** In which one of the following sets of animals do all the four give birth to young ones

- A. Lion, Bat, Whale, Ostrich
- B. Platypus, Penguin, Bat, Hippopotamus

C. Shrew, Bat, Cat, Kiwi

D. Kangaroo, Hedgehog, Dolphin, Loris

**Answer: D**



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**1415.** Sickle cell anemia has not been eliminated from African population as

- A. It is controlled by recessive genes
- B. It is not a fatal disease
- C. It provides immunity against malaria
- D. It is controlled by dominant genes

**Answer: C**



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**1416.** Two common characters found in Centipede, Cockroach and Crab are

- A. Compound eyes and anal cerci
- B. Jointed legs and chitinous exoskeleton
- C. Green gland and tracheae
- D. Book lungs and antennae

**Answer: B**



**Watch Video Solution**

**1417.** Both sickle cell anaemia and Huntington's chorea are

- A. ) Bacteria-related diseases
- B. Congenital disorders
- C. Pollutant-induced disorders
- D. Virus-related diseases

**Answer: B**



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**1418.** Angiotensinogen is a protein produced and secreted by

- A. Macula densa cells
- B. Endothelial cells (cells lining the blood vessels)
- C. Juxtaglomerular (JG) cells
- D. Liver cells

**Answer: C**



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**QUESTION**

1. In vitro fertilization is a technique that involves transfer of which one of the following into the fallopian tube?

- A. Embryo only, upto 8 cell stage
- B. Either zygote or early embryo upto 8 cell stage
- C. Embryo of 32 cell stage
- D. Zygote only

**Answer: B**



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2. Which one of the following structures between two adjacent cells is an effective transport pathway ?

- A. Plasmodesmata
- B. Plastoquinones
- C. Endoplasmic reticulum



D. Plasmalemma

**Answer: A**



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**3. Single-celled eukaryotes are included in:**

A. Protista

B. Fungi

C. Archaea

D. Monera

**Answer: A**



**View Text Solution**

**4. The genetically -modified (GM) brinjal in India has been developed for**

- A. Insect-resistance
- B. Enhancing shelf life
- C. Enhancing mineral content
- D. Drought-resistance

**Answer: A**



**Watch Video Solution**

**5. In unilocular ovary with a single ovule the placentation is**

- A. Marginal
- B. Basal
- C. Free Central
- D. Axile

**Answer: B**



**Watch Video Solution**

6. An element playing important role in nitrogen fixation is

- A. Molybdenum
- B. Copper
- C. Manganese
- D. Zinc

**Answer: A**



**Watch Video Solution**

7. Sertoli cells are found in

- A. ovaries and secrete progesterone
- B. adrenal cortex and secrete adrenaline
- C. seminiferous tubules and provide nutrition to germ cells

D. pancreas and secrete cholecystokinin

**Answer: C**



**Watch Video Solution**

8. Which one of the following cannot be explained on the basis of Mendel's Law of dominance

- A. The discrete unit controlling a particular character is called a factor
- B. Out of one pair of factors one is dominant, and the other recessive
- C. Alleles do not show any blending and both the characters recover as such in F<sub>2</sub> generation
- D. Factors occur in pairs

**Answer: C**



**Watch Video Solution**

9. Apomictic embryos in citrus arise from

- A. Synergids
- B. Maternal sporophytic tissue in ovule
- C. Antipodal cells
- D. Diploid egg

**Answer: B**



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10. One example of animals having a single opening to the outside that serves both as mouth as well as anus is

- A. Octopus
- B. Asterias
- C. Ascidia
- D. Fasciola

**Answer: D**



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**11.** Select the correct statement from the ones given below

- A. Barbiturates when given to criminals make them tell the truth
- B. Morphine is often given to persons who have undergone surgery as a pain killer
- C. Chewing tobacco lowers blood pressure and heart rate
- D. Cocaine is given to patients after surgery as it stimulates recovery

**Answer: B**



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**12.** The chief water conducting elements of xylem in gymnosperms are

A. Vessels

B. Fibres

C. Transfusion tissue

D. Tracheids

**Answer: D**



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**13. Ringworm in humans is caused by:**

A. Bacteria

B. Fungi

C. Nematodes

D. Viruses

**Answer: B**



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**14.** Which one of the following is not a micronutrient

A. Molybdenum

B. Magnesium

C. Zinc

D. Boron

**Answer: B**



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**15.** Membrane bound organelles are absent in

A. Saccharomyces

B. Streptococcus

C. Chlamydomonas



D. Plasmodium

**Answer: B**



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**16.** Vasa efferentia are the ductules leading from:

- A. Testicular lobules to rete testis
- B. Rete testis to vas deferens
- C. Vas deferens to epididymis
- D. Epididymis to urethra

**Answer: B**



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**17.** Select the correct statement from the following

- A. Biogas is produced by the activity of aerobic bacteria on animal waste
- B. Methanobacterium is an aerobic bacterium found in rumen of cattle
- C. Biogas, commonly called gobar gas, is pure methane
- D. Activated sludge-sediment in settlement tanks of sewage treatment plant is a rich source of aerobic bacteria

**Answer: D**



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**18.** Select the two correct statements out of the four (1-4) given below about lac operon.

1. Glucose or galactose may bind with the repressor and inactivate it
2. In the absence of lactose the repressor binds with the operator region
3. The z-gene codes for permease

4. This was elucidated Francois Jacob and Jacque Monod

The correct statements are :

- A. Glucose or galactose may bind with the repressor and inactivate it
- B. In the absence of lactose the repressor binds with the operator region
- C. The z-gene codes for permease
- D. This was elucidated by Francois Jacob and Jacque Monod

**Answer: C**



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19. Keel is characteristic of the flower of

- A. Gulmohur
- B. Cassia
- C. Calotropis

D. Bean

**Answer: D**



**Watch Video Solution**

**20.** The kind of epithelium which forms inner walls of blood vessels is

- A. cuboidal epithelium
- B. columnar epithelium
- C. ciliated columnar epithelium
- D. squamous epithelium

**Answer: D**



**Watch Video Solution**

**21.** Which one of the following has its own DNA?

A. Mitochondria

B. Dictyosome

C. Lysosome

D. Peroxisome

**Answer: A**



**Watch Video Solution**

**22.** Transfer of pollen grains from anther to the stigma of another flower on the same plant is called

A. Xenogamy

B. Geitonogamy

C. Karyogamy

D. Autogamy

**Answer: B**



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23. The genotype of a plant showing the dominant phenotype can be determined by –

- A. Test cross
- B. Dihybrid cross
- C. Pedigree analysis
- D. Back cross

**Answer: A**



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24. PGA as the first  $CO_2$  fixation product was discovered in photosynthesis of

- A. Bryophyte

B. Gymnosperm

C. Angiosperm

D. Algae

**Answer: D**



**Watch Video Solution**

**25.** Study the four statements (a–d) given below and select the two correct ones out of them –

A.) A lion eating a deer and a sparrow feeding on grain are ecologically similar in being consumers

B. Predator star fish *Pisaster* helps in maintaining species diversity of some invertebrates

C. Predators ultimately lead to the extinction of prey species

D. Production of chemicals such as nicotine, strychnine by the plants  
are metabolic disorders

**Answer: D**



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**26.** Seminal plasma in human males is rich in –

- A. fructose and calcium
- B. glucose and calcium
- C. DNA and testosterone
- D. ribose and potassium

**Answer: A**



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27. ABO blood groups in humans are controlled by the gene I. It has three alleles –  $I^A$ ,  $I^B$  and  $i$ . Since there are three different alleles, six different genotypes are possible. How many phenotypes can occur –

- A. Three
- B. One
- C. Four
- D. Two

**Answer: C**



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28. Breeding of crops with high levels of minerals , vitamins and proteins is called

- A. Somatic hybridisation
- B. Biofortification

C. Biomagnification

D. Micorpropagation

**Answer: B**



**Watch Video Solution**

**29.** A common biocontrol agent for the control of plant diseases is –

A. Baculovirus

B. Bacillus thuringiensis

C. Glomus

D. Trichoderma

**Answer: D**



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**30.** Widal test is used for the diagnosis of –

- A. Malaria
- B. Pneumonia
- C. Tuberculosis
- D. Typhoid

**Answer: D**



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**31.** Injury to adrenal cortex is not likely to affect the secretion of which one of the following ?

- A. Aldosterone
- B. Both Androstenedione and Dehydroepiandrosterone
- C. Adrenaline
- D. Cortisol

**Answer: C**



**Watch Video Solution**

**32.** Low  $Ca^{+}$  in the body fluid may be the cause of

- A. Tetany
- B. Anaemia
- C. Angina pectoris
- D. Gout

**Answer: A**



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**33.** Which one of the following pairs is incorrectly matched ?

- A. Glucagon – Beta cells (source)

- B. Somatostatin – Delta cells (source)
- C. Corpus luteum – Relaxin (secretion)
- D. Insuling – Diabetes mellitus (disease)

**Answer: A**



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**34.** Select the correct statements from the ones given below with respect to dihybrid cross

- A. Tightly linked genes on the same chromosome show higher recombinations
- B. Genes far apart on the same chromosome show very few recombinations
- C. Genes loosely linked on the same chromosome show similar recombinations as the tightly linked ones

D. Tightly linked genes on the same chromosome show very few recombination

**Answer: D**



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**35.** Which one of the following statements in regard to the excretion by the human kidneys is correct?

- A. Descending limb of Loop of Henly is impermeable to water
- B. Distal convoluted tubule is incapable in reabsorbing  $HCO_3$
- C. nearly 99 percent of the glomerular filtrate is reabsorbed by the renal tube
- D. Ascending limb of Loop of Henly is impermeable to electrolytes

**Answer: C**



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**36.** The nerve centres which control the body temperature and the urge for eating are contained in

- A. Hypothalamus
- B. Pons
- C. Cerebellum
- D. Thalamus

**Answer: A**



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**37.** The biomass available for consumption by the herbivores and the decomposers is called

- A. Net primary productivity
- B. Secondary productivity

C. Standing crop

D. Gross primary productivity

**Answer: A**



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**38.** If due to some injury the chordae tendineae of the tricuspid valve of the human heart is partially non-functional, what will be the immediate effect ?

A. The flow of blood into the aorta will be slowed down

B. The pacemaker will stop working

C. The blood will tend to flow back into the left atrium

D. The flow of blood into the pulmonary artery will be reduced

**Answer: D**



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**39.** The ovary is half inferior in flowers of

- A. Guava
- B. Plum
- C. Brinjal
- D. Cucumber

**Answer: B**



**Watch Video Solution**

**40.** Which one of the following is used as vector for cloning genes into higher organisms ?

- A. Baculovirus
- B. *Salmonella typhimurium*
- C. *Rhizopus nigricans*

D. Retrovirus

**Answer: D**



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**41.** The one aspect which is not a salient feature of genetic code, is its being

A. Degenerate

B. Ambiguous

C. Universal

D. Specific

**Answer: B**



**Watch Video Solution**

42. Which one of the following is an example of ex-situ conservation?

- A. Wild life sanctuary
- B. Seed bank
- C. Sacred groves
- D. National park

**Answer: B**



**Watch Video Solution**

43. Which one of the following palindromic base sequences in DNA can be easily cut at about the middle by some particular restriction enzyme.

- A. 5' \_\_\_\_\_ CG TTCG \_\_\_\_\_ 3' 3' \_\_\_\_\_ ATGGTA \_\_\_\_\_ 5'
- B. 5' \_\_\_\_\_ GATATG \_\_\_\_\_ 3' 3' \_\_\_\_\_ CTACTA \_\_\_\_\_ 5'
- C. 5' \_\_\_\_\_ GAATTC \_\_\_\_\_ 3' 3' \_\_\_\_\_ CTTAAG \_\_\_\_\_ 5'
- D. 5' \_\_\_\_\_ CACGTA \_\_\_\_\_ 3' 3' \_\_\_\_\_ CTCAGT \_\_\_\_\_ 5'

**Answer: C**



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**44.** Which one of the following statements is correct with respect to AIDS?

- A. The HIV can be transmitted through eating food together with an infected person
- B. Drug addicts are least susceptible to HIV infection
- C. AIDS patients are being fully cured cent per cent with proper care and nutrition
- D. The causative HIV retrovirus enters helper T-lymphocytes thus reducing their numbers

**Answer: D**



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**45.** Phototropic curvature is result of uneven distribution of

- A. Gibberellin
- B. Phytochrome
- C. Cytokinins
- D. Auxin

**Answer: D**



**Watch Video Solution**

**46.** Male and female gametophytes are independent and free-living in

- A. Mustard
- B. Castor
- C. Pinus
- D. sphagnum

**Answer: D**



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**47.** The technical term used for the androecium in a flower of China rose (*Hibicus rosa-sinensis*) is

- A. Monoadelphous
- B. Diadelphous
- C. Polyandrous
- D. Polyadelphous

**Answer: A**



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**48.** Virus envelope is known as

- A. Capsid
- B. Virion
- C. Nucleoprotein
- D. Core

**Answer: A**



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**49.** The permissible use of the technique amniocentesis is for :

- A. detecting sex of the unborn foetus
- B. artificial insemination
- C. transfer of embryo into the uterus of a surrogate mother
- D. Detecting any genetic abnormality

**Answer: D**



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50. During mitosis ER and nucleolus begin to disappear at

- A. Late prophase
- B. Early metaphase
- C. Late metaphase
- D. Early prophase

**Answer: A**



**Watch Video Solution**

51. One of the free-living, anaerobic nitrogen-fixer is

Or

which of the following is a photoautotrophic bacterium

- A. Beijernickia
- B. Rhodospirillum



C. Rhizobium

D. Azotobacter

**Answer: B**



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**52. DNA or RNA segment tagged with a radioactive molecule is called :**

A. Vector

B. Probe

C. Clone

D. Plasmid

**Answer: B**



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**53.** Darwin's finches were a good example of

- A. Industrial melanism
- B. Connecting link
- C. Adaptive radiation
- D. Convergent evolution

**Answer: C**



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**54.** The signals for parturition originate from:

- A. placenta only
- B. placenta as well as fully developed foetus
- C. oxytocin released from maternal pituitary
- D. fully developed foetus only

**Answer: B**



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**55.** Which of the following statement is true about RBCs in humans?

- A. They carry about 20-25 per cent of  $CO_2$
- B. They transport 99.5 per cent of  $O_2$
- C. They transport about 80 per cent oxygen only and the rest 20 per cent of its transported in dissolved state in blood plasma
- D. They do not carry  $CO_2$  at all

**Answer: A**



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**56.** The main arena of various types of activities of a cell is

A. Plasma membrane

B. Mitochondrion

C. Cytoplasm

D. Nucleus

**Answer: C**



**Watch Video Solution**

**57. The common nitrogen-fixer in paddy fields is**

A. Rhizobium

B. Azospirillum

C. Oscillatoria

D. Frankia

**Answer: C**



**Watch Video Solution**

58. The principal nitrogenous excretory compound in humans is synthesised

- A. in kidneys but eliminated mostly through liver
- B. in kidneys as well as eliminated by kidneys
- C. in liver and also eliminated by the same through bile
- D. in the liver, but eliminated mostly through kidneys

**Answer: D**



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59. Carrier ions like  $Na^+$  facilitate the absorption of substance like

- A. amino acids and glucose
- B. glucose and fatty acids
- C. fatty acids and glycerol

D. fructose and some amino acids

**Answer: D**



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**60.** Which one of the following symbols and its representation, used in human pedigree analysis is correct

A. 

B. 

C. 

D. 

**Answer: A**



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**61.** Which two of the following changes (A-B) usually tend to occur in the plain dwellers when they move to high altitudes (3500 m or more )

- (A) Increase in red blood cell size
- (B) Increase in red blood cell production
- ( C ) Increased breathing rate
- (D) Increase in thrombocyte count

A. (b) and (c)

B. (c) and (d)

C. (a) and (d)

D. (a) and (b)

**Answer: A**



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**62.** Toxic agents present in food which interfere with thyroxine synthesis lead to the development of

- A. toxic goitre
- B. cretinism
- C. simple goitre
- D. thyrotoxicosis

**Answer: C**



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**63.** If for some reason our goblet cells are non-functional, this will adversely effect

- A. production of somatostatin
- B. secretion of sebum from the sebaceous glands
- C. maturation of sperms
- D. smooth movement of food down the intestine

**Answer: D**





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**64.** The plasma membrane consists mainly of

- A. phospholipids embedded in a protein bilayer
- B. proteins embedded in a phospholipid bilayer
- C. proteins embedded in a polymer of glucose molecules
- D. proteins embedded in a carbohydrate bilayer

**Answer: B**



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**65.** Which one of the following statements about all the four of Spongilla, leech, dophin and penguin is correct ?

- A. Penguin is homoiothermic while the remaining three are poikilothermic

- B. Leech is fresh water form while all others are marine
- C. Spongilla has special collared cells called choanocytes, not found in the remaining three
- D. All are bilaterally symmetrical

**Answer: C**



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**66.** The first movements of the fetus and appearance of hair on its head are usually observed during which month of pregnancy?

- A. Fourth month
- B. Fifth month
- C. Sixth month
- D. Third month

**Answer: B**



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**67.** The scutellum observed in a grain of wheat or maize is comparable to which part of the seed in other monocotyledons

- A. Cotyledon
- B. Endosperm
- C. Aleurone layer
- D. Plumule

**Answer: A**



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**68.** Which one of the following kinds of animals are triploblastic

- A. Flat worms
- B. Sponges

C. Ctenophores

D. Corals

**Answer: A**



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**69.** Which one of the following statements about certain given animals is correct?

A. Round worms (Aschelminthes) are pseudocoelomates

B. Molluces are acoelomates

C. Insects are pseudocoelomates

D. Flat worms (Platyhelminthes) are coelomates

**Answer: D**



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**70.** Cu ions released from copper-releasing intra uterine devices (IUDs)

- A. make uterus unsuitable for implantation
- B. increase phagocytosis of sperms
- C. suppress sperm motility
- D. prevent ovulation

**Answer: C**



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**71.** The energy releasing metabolic process in which substrate is oxidised without an external electron acceptor is called.

- A. Glycolysis
- B. Fermentation
- C. Aerobic respiration
- D. Photorespiration

**Answer: B**



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**72.** Restriction endonucleases are enzymes which:

- A. make cuts at specific positions within the DNA molecule
- B. recognize a specific nucleotide sequence for binding of DNA ligase
- C. restrict the action of the enzyme DNA polymerase
- D. remove nucleotides from the ends of the DNA molecule

**Answer: A**



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**73.** Which one of the following is not a lateral meristem

- A. Intrafascicular cambium

B. Interfascicular cambium

C. Phellogen

D. Intercalary meristem

**Answer: D**



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**74.** A renewable inexhaustible natural resource is

A. Coal

B. Petroleum

C. Minerals

D. Forest

**Answer: D**



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75. Photoperiodism was first characterized in

- A. Tobacco
- B. Potato
- C. Tomato
- D. Cotton

**Answer: A**



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76.  $C_4$  plants are more efficient in photosynthesis than  $C_3$  plants due to

- A. Higher leaf area
- B. Presence of large number of chloroplasts in the leaf cells
- C. Presence of thin cuticle
- D. Lower rate of photorespiration



**Answer: D**



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**77.** Algae have cell wall made up of

- A. Cellulose, galactans and mannans
- B. Hemicellulose, pectins and proteins
- C. Pectins, cellulose and proteins
- D. Cellulose, hemicellulose and pectins

**Answer: A**



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**78.** Some hyperthermophilic organisms that grow in highly acidic ( $pH2$ ) habitats belong to the two groups

- A. Eubacteria and archea
- B. Cyanobacteria and diatoms
- C. Protists and mosses
- D. Liverworts and yeasts

**Answer: A**



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**79.** Genetic engineering has been successfully used for producing

- A. transgenic mice for testing safety of polio vaccine before use in humans
- B. transgenic models for studying new treatments for certain cardiac disease
- C. transgenic Cow-Rosie which produces high fat milk for making ghee
- D. Animals like bulls for farm work as they have super power

**Answer: A**



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**80.** Some of the characteristics of Bt-cotton are :

- A. Long fibre and resistance to aphids
- B. Medium yield, long fibre and resistance to beetle pests
- C. High yield and production of toxic protein crystals which kill dipteran pests
- D. High yield and resistance to bollworms

**Answer: D**



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**81.** heart wood differs from sapwood in

- A. Presence of rays and fibres
- B. Absence of vessels and parenchyma
- C. Having dead and non-conducting elements
- D. Being susceptible to pests and pathogens

**Answer: C**



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**82. Satellite DNA is useful tool in**

- A. Organ transplantation
- B. Sex determination
- C. Forensic science
- D. Genetic engineering

**Answer: C**



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**83.** The second maturation division of the mammalian ovum occurs

- A. Shortly after ovulation before the ovum makes entry into the Fallopian tube
- B. Until after the ovum has been penetrated by a sperm
- C. Until the nucleus of the sperm has fused with that of the ovum
- D. in the Graafian follicle following the first maturation division

**Answer: B**



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**84.** Which one of the following does not follow the central dogma of molecular biology

- A. Pea
- B. Mucor

C. Chlamydomonas

D. HIV

**Answer: D**



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**85.** Which is correct about human sperm

- A. Acrosome has a conical pointed structure used for piercing and penetrating the egg, resulting in fertilisation
- B. The sperm lysins in the acrosome dissolve the egg envelope facilitating fertilisation
- C. Acrosome serves as a sensory structure leading the sperm towards the ovum
- D. Acrosome serves no particular function

**Answer: B**



**86.** Consider the following four statements (i-iv) regarding kidney transplant and select the two correct ones out of these

- (i) Even if a kidney transplant is proper the recipient may need to take immuno-suppressants for a long time
- (ii) The cell-mediated immune response is responsible for the graft rejection
- (iii) The B-lumphocytes are responsible for rejection of the graft
- (iv) The acceptance or rejection of a kidney transplant depends on specific interferons

The correct statements are

- A. (b) and (c)
- B. (c) and (d)
- C. (a) and (c)
- D. (a) and (b)

**Answer: D**



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**87.** Wind pollinated flowers are

- A. small, brightly coloured, producing large number of pollen grains
- B. small, producing large number of dry pollen grains
- C. large producing abundant nectar and pollen
- D. small, producing nectar and dry pollen

**Answer: B**



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**88.** dB is a standard abbreviation used for the quantitative expression of :

- A. the density of bacteria in a medium



- B. a particular pollutant
- C. the dominant Bacillus in a culture
- D. a certain pesticide

**Answer: B**



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**89.** Which one of the following is one of the characteristics of a biological community?

- A. Stratification
- B. Natality
- C. Mortality
- D. Sex-ratio

**Answer: A**



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90. Which one of the following statements about morula humans is correct?

- A. It has almost equal quantity of cytoplasm as an uncleaved zygote but much more DNA
- B. It has far less cytoplasm as well as less DNA than in an uncleaved zygote
- C. It has more or less equal quantity of cytoplasm and DNA as in uncleaved zygote
- D. It has more cytoplasm and more DNA than an uncleaved zygote

**Answer: A**



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91. Coiling of garden pea tendrils around any support is an example of

- A. Thigmotaxis
- B. Thigmonasty
- C. Thigmotropism
- D. Thermotaxis

**Answer: C**



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**92.** The two gases making highest relative contribution to the greenhouse gases are:

- A.  $CO_2$  and  $CH_4$
- B.  $CH_4$  and  $N_2O$
- C.  $CFC_5$  and  $N_2O$
- D.  $CO_2$  and  $N_2O$

**Answer: A**



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**93.** Which one of the following is not used in organic farming ?

- A. Glomus
- B. Earthworm
- C. Oscillatoria
- D. Snail

**Answer: D**



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**94.** Stirred-tank bioreactors have been designed for

- A. Addition of preservatives to the product
- B. Purification of the product
- C. Ensuring anaerobic conditions in the culture vessel

D. Availability of oxygen throughout the process

**Answer: D**



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**95.** The part of Fallopian tube closest to the ovary is:

A. Isthmus

B. Infundibulum

C. Cervix

D. Ampulla

**Answer: B**



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**96.** An improved variety of transgenic basmati rice

- A. Does not require chemical fertilizers and growth hormones
- B. gives high yield and is rich in vitamin A
- C. is completely resistant to all insect pests and disease of paddy
- D. gives high yield but has no characteristic atoms

**Answer: B**



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**97. Infectious proteins are presents in**

- A. Gemini viruses
- B. Prions
- C. Viroids
- D. Satellite viruses

**Answer: B**



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**98.** Oxygen is not produced during photosynthesis by

- A. Cycas
- B. Nostoc
- C. Green sulphur bacteria
- D. Chara

**Answer: C**



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**99.** Double fertilization is

- A. Fusion of two male gametes with one egg
- B. Fusion of one male gamete with two polar nuclei

C. Fusion of two male gametes of a pollen tube with two different eggs

D. Syngamy and triple fusion

**Answer: D**



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**100.** Which one of the following plants shows a very close relationship with a species of moth, where none of the two can complete its life cycle without the other

A. Banana

B. Yucca

C. Hydrilla

D. Viola

**Answer: B**





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**101.** Pollen grains can be stored for several years in liquid nitrogen having a temperature of

A.  $-196^{\circ}C$

B.  $-80^{\circ}C$

C.  $-120^{\circ}C$

D.  $-160^{\circ}C$

**Answer: A**



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**102.** Which of the following elements is responsible for maintaining turgor in cells

A. Potassium

B. Sodium

C. Magnesium

D. Calcium

**Answer: A**



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**103.** What is the role  $NAD^+$  in cellular respiration ?

A. It is nucleotide source for ATP synthesis

B. It functions as an electron carrier

C. It functions as an enzyme

D. It is the final electron acceptor for anaerobic respiration

**Answer: B**



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**104.** In which of the following forms is iron absorbed by plants

- A. Free element
- B. Ferrous
- C. Ferric
- D. Both Ferric and Ferrous

**Answer: C**



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**105.** Which of the following is commonly used as a vector for introducing a DNA fragment in human lymphocytes?

- A.  $\lambda$  phage
- B. Ti plasmid
- C. Retrovirus
- D. pBR 322

**Answer: C**



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**106.** Use of bioresources by multinationals companies and organisation without authorisation from the concerned country and its people is called the concerned country and its people is called

- A. Biodegradation
- B. Biopiracy
- C. Bio-infringement
- D. Bioexploitation

**Answer: B**



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**107.** In india organisation responsible for assessing the safety of introducing genetically modified organisms for public use is

- A. Research Committee on Genetic Manipulation (RCGM)
- B. Council for Scientific and Industrial Research (CSIR)
- C. Indian Council of Medical Research (ICMR)
- D. Genetic Engineering Appraisal Committee (GEAC)

**Answer: D**



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**108.** The correct order of steps in Polymerase Chain Reaction (PCR) is

- A. Denaturation, Extension, Annealing
- B. Annealing, Extension, Denaturation
- C. Extension, Denaturation, Annealing
- D. Denaturation, Annealing, Extension

**Answer: D**



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**109.** Select the correct match

A. T.H. Morgan -Transduction

B.  $F_2 \times$  Recessive parent -Dihybrid cross

C. Ribozyme -Nucleic acid

D. G.Mendel -Transformation

**Answer: C**



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**110.** A new variety of rice was patented by a foreign company, though such varieties have been present in india for a long time. This is related to

A. Lerma Rojo

B. Sharbati Sonora

C. Co-667

D. Basmati

**Answer: D**



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**111.** Which of the following pairs is wrongly matched ?

A. XO type sex determination-Grasshopper

B. ABO blood grouping :Co-dominance

C. Starch synthesis in pea-Multiple alleles

D. T.H. Morgan -Linkage

**Answer: C**



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**112.** Select the correct statement

- A. Spliceosomes takes part in translation
- B. Punnett square was developed by a British scientist
- C. Franklin Stahl coined the term "linkage".
- D. Transduction was discovered by S. Altman

**Answer: B**



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**113.** The experimental proof for semiconservative replication of DNA was first shown in a

- A. Plant
- B. Bacterium
- C. Fungus



D. Virus

**Answer: B**



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**114.** Which of the following flowers only once in its life-time

A. Mango

B. Jackfruit

C. Bamboo species

D. Papaya

**Answer: C**



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**115.** Offsets are produced by

- A. Parthenocarpny
- B. Mitotic divisions
- C. Meiotic divisions
- D. Parthenogenesis

**Answer: B**



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**116.** Select the correct match

- A. Matthew Meselson and F. Stahl - Pisum sativum
- B. Alfred Hershey and Martha Chase - TMV
- C. Alec Jeffreys - Streptococcus pneumoniae
- D. Francois Jacob and Jacques Monod - Lac operon

**Answer: D**



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**117.** Which of the following has proved helpful in preserving pollen of fossils

- A. Oil content
- B. Cellulosic intine
- C. Pollenkitt
- D. Sporopollenin

**Answer: D**



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**118.** Natality refers to

- A. Number of individuals leaving the habitat
- B. Birth rate
- C. Death rate

D. Number of individuals entering a habitat

**Answer: B**



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**119.** World Ozone Day is celebrated on

A. 16<sup>th</sup> September

B. 21<sup>st</sup> April

C. 5<sup>th</sup> June

D. 22<sup>nd</sup> April

**Answer: A**



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**120.** Which of the following is a secondary pollutant ?

A.  $SO_2$

B.  $CO_2$

C.  $CO$

D.  $O_3$

**Answer: D**



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**121. Niche is**

A. the range of temperature that the organism needs to live

B. the range of temperature that the organism needs to live

C. all the biological factors in the organism's environment

D. the functional role played by the organism where it lives

**Answer: D**



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**122.** What type of ecological pyramid would be obtained with the following data ?

Secondary consumer : 120 g

Primary consumer : 60 g

Primary producer : 10 g

A. Upright pyramid of numbers

B. Pyramid of energy

C. Inverted pyramid of biomass

D. Upright pyramid of biomass

**Answer: C**



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**123.** In stratosphere , which of the following element acts as a catalyst in degradation of ozone an release of molecular oxygen ?

A. Fe

B. Cl

C. Carbon

D. Oxygen

**Answer: B**



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**124.** The two functional groups characteristic of sugars are

A. Carbonyl and phosphate

B. Carbonyl and methyl

C. Hydroxyl and methyl

D. Carbonyl and hydroxyl

**Answer: D**



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**125.** Which among the following is not a prokaryote?

- A. Nostoc
- B. Mycobacterium
- C. Saccharomyces
- D. Oscillatoria

**Answer: C**



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**126.** The Golgi complex participates in

- A. Respiration in bacteria
- B. Respiration in bacteria
- C. Fatty acid breakdown



D. Activation of amino acid

**Answer: B**



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**127.** Which of the following is not a product of light reaction of phtosynthesis

A. NADPH

B. NADH

C. ATP

D. Oxygen

**Answer: B**



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**128.** Which of the following is true for nucleolus?

- A. It takes part in spindle formation
- B. It is a membrane-bound structure
- C. Larger nucleoli are present in dividing cells
- D. It is a site for active ribosomal RNA synthesis

**Answer: D**



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**129.** Stomatal movement is not affected by

- A.  $O_2$  concentration
- B. Light
- C. Temperature
- D.  $CO_2$  concentration

**Answer: A**



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**130.** The stage during which separation of the paired homologous chromosomes begin is

- A. Diakinesis
- B. Diplotene
- C. Pachytene
- D. Zygotene

**Answer: B**



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**131.** Stomata in grass leaf are

- A. Rectangular
- B. Kidney shaped
- C. Dumb-bell shaped
- D. Barrel shaped

**Answer: C**



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**132.** Secondary xylem and phloem in dicot stem are produced by

- A. Phellogen
- B. Vascular cambium
- C. Apical meristems
- D. Axillary meristems

**Answer: B**



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**133.** Pneumatophores occur in

- A. Carnivorous plants
- B. Free-floating hydrophytes
- C. Halophytes
- D. Submerged hydrophytes

**Answer: C**



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**134.** Casparian strips are present in the \_\_\_\_\_ of the root

- A. Cortex
- B. Pericycle
- C. Epidermis

D. Endodermis

**Answer: D**



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**135.** Plants having little or no secondary growth are

A. Conifers

B. Deciduous angiosperms

C. Grasses

D. Cycads

**Answer: C**



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**136.** Sweet potato is a modified

- A. Tap root
- B. Adventitious root
- C. Stem
- D. Rhizome

**Answer: B**



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**137.** Which of the following statements is correct ?

- A. Horsetails are gymnosperms
- B. Selaginella is heterosporous, while Salvinia is homosporous
- C. Ovules are not enclosed by ovary wall in gymnosperms
- D. Stems are usually unbranched in both Cycas and Cedrus

**Answer: C**



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**138.** Select the wrong statement :

- A. Pseudopodia are locomotory and feeding structures in Sporozoans
- B. Mushrooms belong to Basidiomycetes
- C. Cell wall is present in members of Fungi and Plantae
- D. Mitochondria are the powerhouse of the cell in all kingdoms except Monera

**Answer: A**



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**139.** After karyogamy followed by meiosis, spores are produced exogenously in

- A. Agaricus
- B. Alternaria



C. Neurospora

D. Saccharomyces

**Answer: A**



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**140.** Match the items given in Column I with those in Column II and select the correct option given below:



A. 

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
<i>ii</i>	<i>iv</i>	<i>iii</i>	<i>i</i>

B. 

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
<i>iii</i>	<i>ii</i>	<i>i</i>	<i>iv</i>

C. 

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
<i>i</i>	<i>iv</i>	<i>iii</i>	<i>ii</i>

D. 

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
<i>iii</i>	<i>iv</i>	<i>i</i>	<i>ii</i>

**Answer: D**



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**141.** Winged pollen grains are present in

- A. Mango
- B. Cycas
- C. Mustard
- D. Pinus

**Answer: D**



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**142.** Which one is wrongly matched?

- A. Gemma cups – Marchantia
- B. Biflagellate zoospores– Brown algae
- C. Uniflagellate gametes – Polysiphonia
- D. Unicellular organism – Chlorella

**Answer: C**



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**143.** Which of the following options correctly represents the lung conditions in asthma and emphysema, respectively

- A. Increased respiratory surface, Inflammation of bronchioles
- B. Increased number of bronchioles, Increased respiratory surface
- C. Inflammation of bronchioles, Decreased respiratory surface
- D. Decreased respiratory surface, Inflammation of bronchioles

**Answer: C**



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**144.** Match the items given in Column I with those in Column II and select the correct option given below :



- A.  $\begin{matrix} a & b & c \\ i & ii & iii \end{matrix}$
- B.  $\begin{matrix} a & b & c \\ i & iii & ii \end{matrix}$
- C.  $\begin{matrix} a & b & c \\ iii & i & ii \end{matrix}$
- D.  $\begin{matrix} a & b & c \\ ii & i & iii \end{matrix}$

**Answer: C**



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**145.** Match the items given in Column I with those in Column II and select the correct option given below:



- A.  $\begin{matrix} a & b & c & d \\ i & iv & ii & iii \end{matrix}$
- B.  $\begin{matrix} a & b & c & d \\ iii & i & iv & ii \end{matrix}$
- C.  $\begin{matrix} a & b & c & d \\ iii & ii & i & iv \end{matrix}$

D.  $\begin{matrix} a & b & c & d \\ iv & iii & ii & i \end{matrix}$

**Answer: B**



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**146.** The transparent lens in the human eye is held in its place by

- A. smooth muscles attached to the iris
- B. ligaments attached to the iris
- C. ligaments attached to the ciliary body
- D. smooth muscles attached to the ciliary body

**Answer: C**



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**147.** Which of the following is an amino acid derived hormone ?

- A. Estradiol
- B. Ecdysone
- C. Epinephrine
- D. Estriol

**Answer: C**



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**148.** Which of the following hormones can play a significant role in osteoporesis

- A. Estrogen and Parathyroid hormone
- B. Progesterone and Aldosterone
- C. Aldosterone and Prolactin
- D. Parathyroid hormone and Prolactin

**Answer: A**



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**149.** which of the following structures or regions is incorrectly paired with its function.

- A. Hypothalamus : production of releasing hormones and regulation of temperature, hunger and thirst.
- B. Limbic system : consists of fibre tracts that interconnect different regions of brain, controls movement.
- C. Medulla oblongata : controls respiration and cardiovascular reflexes.
- D. Corpus callosum : band of fibers connecting left and right cerebral hemispheres

**Answer: B**



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**150.** The amnion of mammalian embryo is derived from

- A. mesoderm and trophoblast
- B. endoderm and mesoderm
- C. ectoderm and mesoderm
- D. ectoderm and endoderm

**Answer: C**



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**151.** Hormones secreted by the placenta to maintain pregnancy are

- A. hCG, hPL, progestogens, estrogens
- B. hCG, hPL, estrogens, relaxin, oxytocin
- C. hCG, hPL, progestogens, prolactin
- D. hCG, progestogens, estrogens, glucocorticoids



**Answer: A**



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**152.** The difference between spermiogenesis and spermiation is

- A. In spermiogenesis spermatozoa from sertoli cells are released into the cavity of seminiferous tubules, while in spermiation spermatozoa are formed.
- B. In spermiogenesis spermatozoa are formed, while in spermiation spermatids are formed.
- C. In spermiogenesis spermatids are formed, while in spermiation spermatozoa are formed.
- D. In spermiogenesis spermatozoa are formed, while in spermiation spermatozoa are released from sertoli cells into the cavity of seminiferous tubules.

**Answer: D**



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**153.** The contraceptive 'SAHELI'

A. is an IUD.

B. increases the concentration of estrogen and prevents ovulation in females.

C. blocks estrogen receptors in the uterus, preventing eggs from getting implanted.

D. is a post-coital contraceptive

**Answer: C**



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**154.** Ciliates differ from all other protozoans in

- A. using pseudopodia for capturing prey
- B. having a contractile vacuole for removing excess water
- C. using flagella for locomotion
- D. having two types of nuclei

**Answer: D**



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**155.** Identify the vertebrate group of animals characterized by crop and gizzard in its digestive system

- A. Aves
- B. Reptilia
- C. Amphibia
- D. Osteichthyes

**Answer: A**



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**156.** Which of the following features is used to identify a male cockroach from a female cockroach

- A. Forewings with darker tegmina
- B. Presence of caudal styles
- C. Presence of a boat shaped sternum on the 9<sup>th</sup> abdominal segment
- D. Presence of anal cerci

**Answer: B**



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**157.** Which one of these animals is not a homoetherm ?

- A. Camelus
- B. Chelone

C. Macropus

D. Psittacula

**Answer: B**



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**158.** Which of the following animals does not undergo metamorphosis

A. Moth

B. Tunicate

C. Earthworm

D. Starfish

**Answer: C**



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**159.** Which of the following organisms are known as chief producers in the oceans ?

- A. Cyanobacteria
- B. Diatoms
- C. Dinoflagellates
- D. Euglenoids

**Answer: B**



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**160.** Which one of the following population interactions is widely used in medical science for the production of antibiotics?

- A. Parasitism
- B. Mutualism
- C. Commensalism

D. Amensalism

**Answer: D**



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**161.** All of the following are included in 'Ex-situ conservation' except

- A. Botanical gardens
- B. Sacred groves
- C. Wildlife safari parks
- D. Wildlife safari parks

**Answer: B**



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**162.** Match the items given in Column I with those in Column II and select the correct option given below :



- A.  $\begin{array}{cccc} a & b & c & d \\ iii & iv & i & ii \end{array}$
- B.  $\begin{array}{cccc} a & b & c & d \\ i & iii & iv & ii \end{array}$
- C.  $\begin{array}{cccc} a & b & c & d \\ ii & i & iii & iv \end{array}$
- D.  $\begin{array}{cccc} a & b & c & d \\ i & ii & iv & iii \end{array}$

**Answer: A**



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**163.** In a growing population of a country ,

- A. reproductive and pre-reproductive individuals are equal in number.
- B. reproductive individuals are less than the post-reproductive individuals.



C. pre-reproductive individuals are more than the reproductive individuals.

D. pre-reproductive individuals are less than the reproductive individuals.

**Answer: C**



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**164.** Which part of poppy plant is used to obtain the drug 'Smack'?

A. Roots

B. Latex

C. Flowers

D. Leaves

**Answer: B**



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**165.** All of the following are part of an operon except

- A. an enhancer
- B. structural genes
- C. an operator
- D. a promoter

**Answer: A**



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**166.** A woman has an X-linked condition on one of her X chromosomes.

This chromosome can be inherited by

- A. Only grandchildren
- B. Only sons
- C. Only daughters

D. Both sons and daughters

**Answer: D**



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**167.** According to Hugo de Vries, the mechanism of evolution is

- A. Phenotypic variations
- B. Saltation
- C. Multiple step mutations
- D. Minor mutations

**Answer: B**



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**168.** AGGTATCGCAT is a sequence from the coding strand of a gene. What will be the corresponding sequence of the transcribed mRNA?

- A. ACCUAUGCGAU
- B. UGGTUTCGCAT
- C. AGGUAUCGCAU
- D. UCCAUAGCGUA

**Answer: C**



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**169.** Match the items given in Column I with those in Column II and select the correct option given below :



- A. 

<i>a</i>	<i>b</i>	<i>c</i>
<i>ii</i>	<i>iii</i>	<i>i</i>
- B. 

<i>a</i>	<i>b</i>	<i>c</i>
<i>i</i>	<i>iii</i>	<i>ii</i>

- C.  $\begin{matrix} a & b & c \\ iii & ii & i \end{matrix}$
- D.  $\begin{matrix} a & b & c \\ iii & i & ii \end{matrix}$

**Answer: A**



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**170.** Match the items given in Column I with those in Column II and select the correct option given below :



- A.  $\begin{matrix} a & b & c & d \\ ii & iii & i & iv \end{matrix}$
- B.  $\begin{matrix} a & b & c & d \\ i & ii & iii & iv \end{matrix}$
- C.  $\begin{matrix} a & b & c & d \\ iii & ii & iv & i \end{matrix}$
- D.  $\begin{matrix} a & b & c & d \\ iv & i & ii & iii \end{matrix}$

**Answer: D**



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171. Match the items given in Column I with those in Column II and select the correct option given below:



- A.  $\begin{matrix} a & b & c & d \\ v & iv & i & ii \end{matrix}$
- B.  $\begin{matrix} a & b & c & d \\ iv & i & ii & iii \end{matrix}$
- C.  $\begin{matrix} a & b & c & d \\ iv & v & ii & iii \end{matrix}$
- D.  $\begin{matrix} a & b & c & d \\ v & iv & i & iii \end{matrix}$

Answer: B



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172. Which of the following gastric cells indirectly help in erythropoiesis ?

- A. Goblet cells
- B. Mucous cells

C. Chief cells

D. Parietal cells

**Answer: D**



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**173.** Match the items given in Column I with those in Column II and select the correct option given below :



A.  $\begin{array}{ccc} a & b & c \\ i & ii & ii \end{array}$

B.  $\begin{array}{ccc} a & b & c \\ i & ii & iii \end{array}$

C.  $\begin{array}{ccc} a & b & c \\ iii & ii & i \end{array}$

D.  $\begin{array}{ccc} a & b & c \\ ii & iii & i \end{array}$

**Answer: D**



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**174.** Which of the following is an occupational respiratory disorder

- A. Botulism
- B. Silicosis
- C. Anthracis
- D. Emphysema

**Answer: B**



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**175.** Calcium is important in skeletal muscle contraction because it

- A. Detaches the myosin head from the actin filament
- B. Activates the myosin ATPase by binding to it.
- C. Binds to troponin to remove the masking of active sites on actin for myosin.



D. Prevents the formation of bonds between the myosin cross bridges and the actin filament.

**Answer: C**



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**176.** Nissl bodies are mainly composed of

- A. Nucleic acids and SER
- B. DNA and RNA
- C. Proteins and lipids
- D. Free ribosomes and RER

**Answer: D**



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**177.** Which of these statements is incorrect.

- A. Glycolysis operates as long as it is supplied with NAD that can pick up hydrogen atoms
- B. Glycolysis occurs in cytosol
- C. Enzymes of TCA cycle are present in mitochondrial matrix
- D. Oxidative phosphorylation takes place in outer mitochondrial membrane

**Answer: D**



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**178.** Select the incorrect match.

- A. Submetacentric chromosomes – L-shaped chromosomes
- B. Allosomes – Sex chromosomes

C. Lampbrush chromosomes– Diplotene bivalents

D. Polytene chromosomes– Oocytes of amphibians

**Answer: D**



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**179.** Which of the following terms describe humans dentition ?

A. Pleurodont, Monophyodont, Homodont

B. Thecodont, Diphyodont, Heterodont

C. Thecodont, Diphyodont, Homodont

D. Pleurodont, Diphyodont, Heterodont

**Answer: B**



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**180.** Which of the following events does not occur in rough endoplasmic reticulum,

- A. Cleavage of signal peptide
- B. Protein glycosylation
- C. Protein folding
- D. Phospholipid synthesis

**Answer: D**



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**181.** Many ribosomes may associate with a single mRNA to form multiple copies of a polypeptide simultaneously. Such strings of ribosomes are termed as

- A. Plasmidome
- B. Polyhedral bodies

C. Polysome

D. Nucleosome

**Answer: C**



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**182.** In which disease does mosquito transmitted pathogen cause chronic inflammation of lymphatic vessels

A. Ringworm disease

B. Ascariasis

C. Elephantiasis

D. Amoebiasis

**Answer: C**



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**183.** Which of the following is not an autoimmune disease?

- A. Alzheimer's disease
- B. Rheumatoid arthritis
- C. Psoriasis
- D. Vitiligo

**Answer: A**



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**184.** Among the following sets of examples for divergent evolution, select the incorrect option

- A. Brain of bat, man and cheetah
- B. Heart of bat, man and cheetah
- C. Forelimbs of man, bat and cheetah
- D. Eye of octopus, bat and man

**Answer: D**



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**185.** Conversion of milk to curd improves its nutritional value of increasing the amount of

A. Vitamin  $B^{12}$

B. Vitamin A

C. Vitamin D

D. Vitamin E

**Answer: A**



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**186.** The term for similarity in organ structure seen in great diversity is

Or

The similarity of bone structure in the forelimbs of many vertebrates is an example on

- A. Convergent evolution
- B. Analogy
- C. Homology
- D. Adaptive radiation

**Answer: C**



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**187.** Which of the following characteristics represent 'Inheritance of blood groups' in humans?

- a. Dominance
- b. Co-dominance
- c. Multiple allele
- d. Incomplete dominance
- e. Polygenic inheritance



A. b, d and e

B. a, b and c

C. b, c and e

D. a, c and e

**Answer: B**



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**188.** Match List-I with List-II.

101. Match List - I with List - II.

List - I		List - II	
(a)	Protoplast fusion	(i)	Totipotency
(b)	Plant tissue culture	(ii)	Pomato
(c)	Meristem culture	(iii)	Somaclones
(d)	Micropropagation	(iv)	Virus free plants

Correct answer from the options given

Choose the correct answer from the options given below:

A. a(iii), b(iv), c(i), d(ii)

B. a(iv), b(iii), c(ii), d(i)

C. a(iii), b(iv), c(ii), d(i)

D. a(ii), b(i), c(iv), d(iii)



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**189.** The only type of pollination which during pollination brings genetically different types of pollen grains to the stigma, is:

A. chasmogamy

B. Cleistogamy

C. Xenogamy

D. Geitonogamy



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**190.** The factor that leads to founder effect in a population is:

- A. Mutation
- B. Genetic drift
- C. Natural selection
- D. Genetic recombination



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191. Match List-I with List-II.

Match List - I with List - II.

List - I		List - II	
(a)	Cohesion	(i)	More attraction in liquid phase
(b)	Adhesion	(ii)	Mutual attraction among water molecules
(c)	Surface tension	(iii)	Water loss in liquid phase
(d)	Guttation	(iv)	Attraction towards polar surfaces

Choose the correct answer from the options given below:

A. c(iii), a(i), d(iv), b(ii)

B. b(ii), a(i), d(iv), c(iii)

C. b(ii), d(iv), a(i), c(iii)

D. d(iv), c(iii), b(ii), a(i)



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**192.** In the equation  $GPP - R = NPP$ , R represents:

- A. Environmental factor
- B. Respiration losses
- C. Radiant energy
- D. Retardation factor



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**193.** Plants follow different pathways in response to environmental or phases of life to form different kinds of structures. This ability is called:

- A. Plasticity
- B. Maturity
- C. Elasticity
- D. Flexibility



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**194.** Which of the following is an incorrect statement?

- A. The perinuclear space forms a barrier between the materials present inside the nucleus and that of the cytoplasm
- B. Nuclear pores act as passages for proteins and RNA molecules in both directions between nucleus and cytoplasm
- C. Mature sieve tube elements possess a conspicuous nucleus and usual cytoplasmic organelles
- D. Microbodies are present both in plant and animal cells



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**195.** Which of the following is an incorrect statement?

- A. The perinuclear space forms a barrier between the materials present inside the nucleus and that of the cytoplasm
- B. Nuclear pores act as passages for proteins and RNA molecules in both directions between nucleus and cytoplasm
- C. Mature sieve tube elements possess a conspicuous nucleus and usual cytoplasmic organelles
- D. Microbodies are present both in plant and animal cells



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**196. Match List-I with List-II.**

196. Match List - I with List - II.

List - I	List - II
(a) Cells with active cell division capacity	(i) Vascular tissues
(b) Tissue having all cells similar in structure and function	(ii) Meristematic tissue
(c) Tissue having different types of cells	(iii) Sclereids
(d) Dead cells with highly thickened walls and narrow lumen	(iv) Simple tissue

Choose the correct answer from the options given below:

A. a(i), b(ii), c(iii), d(iv)

B. c(iii), b(ii), d(iv), a(i)

C. b(ii), d(iv), a(i), c(iii)

D. d(iv), c(iii), b(ii), a(i)



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**197.** The production of gametes by the parents, formation of zygotes, the F1 and F2 plants, can be understood from a diagram called:

A. Punnett square

B. Net square

C. Bullet square

D. Punch square



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198. The first stable product of CO<sub>2</sub> fixation in sorghum is:

- A. Succinic acid
- B. Phosphoglyceric acid
- C. Pyruvic acid
- D. Oxaloacetic acid



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199. Match List-I with List-II

129. Match List - I with List - II.

List - I		List - II	
(a)	Cristae	(i)	Primary constriction in chromosome
(b)	Thylakoids	(ii)	Disc-shaped sacs in Golgi apparatus
(c)	Centromere	(iii)	Infoldings in mitochondria
(d)	Cisternae	(iv)	Flattened membranous sacs in stroma of plastids

the options given

A. c(iii), d(iv). a(i). b(ii)

B. b(ii), c(iii), d(iv), a(i)

C. d(iv), c(iii), b(ii), a(i)

D. a(i), d(iv), c(iii), b(ii)



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**200.** Which of the following statements is not correct ? Choose the correct options from the given below.

A. Pyramid of energy is always upright

B. Pyramid of numbers in a grassland ecosystem is upright

C. Pyramid of biomass in sea is generally inverted

D. Pyramid of biomass in sea is generally upright



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**201.** When the centromere is situated in the middle of two equal arms of chromosomes, the chromosome is referred to as:

- A. Sub-metacentric
- B. Acrocentric
- C. Metacentric
- D. Telocentric



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**202.** Which of the following is not an application of PCR (Polymerase Chain Reaction) ?

- A. Purification of isolated proteins
- B. Detection of Gene Mutation
- C. Molecular Diagnosis

## D. Gene Amplification



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**203.** Genera like *Selaginella* and *Salvinia* produce two kinds of spores.

Such plants are known as:

- A. Homosporous
- B. Heterosporous
- C. Homosorus
- D. Heterosorus



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**204.** In spite of interspecific competition in nature, which mechanism the competing species might have evolved for their survival ?

A. Mutualism

B. Predation

C. Resource Partitioning

D. Competitive release



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**205.** Gemmae are present in:

A. Some Gymnosperms

B. Some Liverworts

C. Mosses

D. Pteridophytes



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**206.** The plant hormone used to destroy weeds in a field is:

A. 2, 4-D

B. IBA

C. IAA

D. NAA



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**207.** A typical angiosperm embryo sac at maturity is:

A. 7-nucleate and 7-celled

B. 8-nucleate and 8-celled

C. 8-nucleate and 7-celled

D. 7-nucleate and 8-celled





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**208.** Amensalism can be represented as:

- A. Species A (-): Species B (-)
- B. Species A (+), Species B (0)
- C. Species A(-): Species B (0)
- D. Species A (+), Species B (+)



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**209.** DNA strands on a gel stained with ethidium bromide when viewed under UV radiation, appear as:

- A. Dark red bands
- B. Bright blue bands
- C. Yellow bands

D. Bright orange bands



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**210.** Which of the following stages of meiosis involves division of centromere?

- A. Anaphase-II
- B. Telophase-II
- C. Metaphase-I
- D. Metaphase-II



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**211.** Which of the following plants is monoecious?



A. *Marchantia polymorpha*

B. *Cycas circinalis*

C. *Carcica papaya*

D. *Chara*



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**212.** The sight of perception of light in plants during photoperiodism is:

A. Axillary bud

B. Leaf

C. Shoot apex

D. Stem



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**213.** Which of the following are not secondary metabolises in plants?

- A. Vinblastin, curcumin
- B. Rubber, gums
- C. Morphine, codeine
- D. Amino acids, glucose



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**214.** Mutation can be induced by

- A. Gamma rays
- B. Zeatin
- C. Kinetin
- D. Infrared rays



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**215.** Which of the following algae produce Carrageen ?

- A. Red algae
- B. Blue- green algae
- C. Green Algae
- D. Brown Algae



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**216.** Which of the following is the correct sequence of PCR (polymerase chain reaction)?

- A. Extension, Denaturation, Annealing
- B. Annealing, Denaturation, Extension
- C. Denaturation, Annealing, Extension

## D. Denaturation, Extension, Annealing



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**217.** Which of the following algae contains mannitol as reserve food material?

- A. Volvox
- B. Ulothrix
- C. Ectocarpus
- D. Gracilaria



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**218.** Diadelphous stamens are found in:

A. Pea

B. China rose and citrus

C. China rose

D. Citrus



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**219.** Complete the flow chart on central dogma.

(a) DNA  $\xrightarrow{(b)}$  mRNA  $\xrightarrow{(c)}$  (d)

A. (a)- Replication,(b)-Transcription,(c)-Trnaslation,(d)-Protein

B. (a)-Transduction'(b)-Translation,(c)-Replication,(d)-Protein

C. (a)-Replication,(b)-Transcription,(c)-Transduction,(d)-Protein

D. (a)-Translation,(b)-Replication,(c)-Transcription,(d)-Transduction



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**220.** When gene targetting involving gene amplification is attempted in an individual's tissue to trat disease, it is known as:

- A. Molecular Diagnosis
- B. Safety-testing
- C. Biopiracy
- D. Gene Therapy



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**221.** Match List -I with List -II. Choose the correct answer from the options given below.

Match List -I with List -II.

List - I		List - II	
(a) Lenticela	(i)	Phellogen	
(b) Cork cambium	(ii)	Suberin deposition	
(c) Secondary cortex	(iii)	Exchange of gases	
(d) Cork	(iv)	Phelloderm	

- A. a(ii), b(iii), c(iv), d(i)

B. a(iv), b(ii), c(i), d(iii)

C. a(iv), b(i), c(iii), d(ii)

D. a(iii), b(i), c(iv), d(ii)



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**222.** Chilled ethyl alcohol is used during DNA technology for

A. Histones

B. Polysaccharides

C. RNA

D. DNA



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223. Match List-I with List-II.

Match List - I with List - II.

List - I		List - II	
(a)	Protein	(i)	C = C double bonds
(b)	Unsaturated fatty acid	(ii)	Phosphodiester bonds
(c)	Nucleic acid	(iii)	Glycosidic bonds
(d)	Polysaccharide	(iv)	Peptide bonds

from the options given

Choose the correct answers from the options given below.

A. a-(ii), b-(i), c-(iv), d-(iii)

B. a-(iv), b-(iii), c-(i), d-(ii)

C. a-(iv), b-(i), c-(ii), d-(iii)

D. a-(i), b-(iv), c-(iii), d-(ii)



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224. Match Column-I with Column-II.

157 Match Column - I with Column - II.	Column - II
Column - I	
(a) $\% \overset{\curvearrowright}{\underset{\curvearrowleft}{Q}} K_{(5)} C_{1+2+(2)} A_{(9)+1} \underline{G}_1$	(i) Brassicaceae
(b) $\oplus \overset{\curvearrowright}{\underset{\curvearrowleft}{Q}} K_{(5)} \widehat{C_{(5)}} A_5 \underline{G}_2$	(ii) Liliaceae
(c) $\oplus \overset{\curvearrowright}{\underset{\curvearrowleft}{Q}} P_{(3+3)} \widehat{A_{3+3}} \underline{G}_{(3)}$	(iii) Fabaceae
(d) $\oplus \overset{\curvearrowright}{\underset{\curvearrowleft}{Q}} K_{2+2} C_4 A_{2-4} \underline{G}_{(2)}$	(iv) Solanaceae

Select the

correct answer from the options given below.

A. a-(ii), b-(iii), c-(iv), d-(i)

B. a-(iv), b-(ii), c-(i), d-(iii)

C. a-(iii), b-(iv), c-(ii), d-(i)

D. a-(i), b-(ii), c-(iii), d-(iv)



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**225.** Plasmid pBR322 has PstI restriction enzyme site within gene amp that confers ampicillin resistance. If this enzyme is used for inserting a gene for Beta-galactosidase production and the recombinant plasmid is inserted in an E.coli strain

- A. it will lead to lysis of host cell.
- B. it will be able to produce a novel protein with dual ability.
- C. it will not be able to confer ampicillin resistance to the host cell.
- D. the transformed cells will have the ability to resist ampicillin as well as produce B-galactoside



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**226.** Which of the following statements is correct?

- A. Organisms that depend on living plants are called saprophytes.

B. Some of the organisms can fix atmospheric nitrogen in specialized cells called sheath cells.

C. Fusion of two cells is called Karyogamy

D. Fusion of protoplasts between two motile on non-motile gametes is called plasmogamy.



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**227.** DNA finger printing involves identifying differences in some specific

A. Single nucleotides

B. Polymorphic DNA

C. Satellite DNA

D. Repetitive DNA



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**228.** Select the correct pair.

- A. Cells of medullary rays that form part of cambial ring - interfascicular cambium
- B. Loose parenchyma cells rupturing the epidermis and forming a lens shaped opening in bark-spongy parenchyma
- C. Large colorless empty cells in the epidermis of grass leaves - Subsidiary cells
- D. In dicot leaves, vascular bundles are surrounded by large thick-walled cells- conjunctive tissue



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**229.** In the exponential growth equation

- A. The base of natural logarithms
- B. The base of geometric logarithms
- C. The base of number logarithms
- D. The base of exponential logarithms



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**230.** Which of the following statements is incorrect?

- A. ATP is synthesized through complex V
- B. Oxidation-reduction reactions produce proton gradient in respiration.
- C. During aerobic respiration, role of oxygen is limited to the terminal stage.
- D. IN ETC, one molecule of  $\text{NADH} + \text{H}^+$  gives rise to 2 ATP molecules, and one  $\text{FADH}_2$  gives rise to 3 ATP molecules



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**231.** Identify the correct statement.

- A. The coding strand in a transcription unit is copied to an mRNA.
- B. Split gene arrangement is characteristic of prokaryotes
- C. In capping, methyl guanosine triphosphate is added to the 3' end of hnRNA.
- D. RNA polymerase binds with Rho factor to terminate the process of transcription in bacteria



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**232.** In some members of which of the following pairs of families, pollen grains retain their viability for months after release?

A. Poaceae, Solanaceae

B. Rosaceae, Leguminosae

C. Poaceae, Rosaceae

D. Poaceae, Leguminosae



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**233.** Which of the following statements is incorrect?

A. Grana lamellae have both PSI and PSII

B. Cyclic photophosphorylation involves both PSI and PS II.

C. Both ATP and  $\text{NADPH} + \text{H}^+$  are synthesized during non-cyclic photophosphorylation

D. Stroma lamellae have PSI and lack NADP reductase



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**234. Match List-I with List - II.**

Match List - I with List - II.

List - I		List - II	
(a)	S phase	(i)	Proteins are synthesized
(b)	G <sub>2</sub> phase	(ii)	Inactive phase
(c)	Quiescent stage	(iii)	Interval between mitosis and initiation of DNA replication
(d)	G <sub>1</sub> phase	(iv)	DNA replication

Choose the correct answers from the option given.

A. a(iv), b(i), c(ii), d(iii)

B. a(ii), b(iv), c(iii), d(i)

C. a(iii), b(ii), c(i), d(iv)

D. a(iv), b(ii), c(iii), d(i)



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**235.** What is the role of RNA polymerase III in the process of transcription in eukaryotes?



- A. Transcribes precursor of mRNA
- B. Transcribes only snRNAs
- C. Transcribes rRNAs (28S, 18S and 5.8S)
- D. Transcribes tRNA, 5S- rRNA and snRNA



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**236.** Now a days it is possible to detect the mutated gene causing cancer by allowing radioactive probe to hybridise its complimentary DNA in a clone of cells, followed by its detection using autoradiography because:

- A. mutated gene does not appear on a photographic film as the probe has no complimentary with it
- B. mutated gene does not appear on photographic film as the probe has complimentary with it
- C. mutated gene partially appears on a photographic film.

D. mutated gene completely and clearly appears on a photographic film.



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237. Match Column -I with Column -II.

Match Column - I with Column - II.

Column - I	Column - II
(a) <i>Nitrococcus</i>	(i) Denitrification
(b) <i>Rhizobium</i>	(ii) Conversion of ammonia to nitrite
(c) <i>Thiobacillus</i>	(iii) Conversion of nitrite to nitrate
(d) <i>Nitrobacter</i>	(iv) Conversion of atmospheric nitrogen to ammonia

Choose the correct answer from the options given below.

A. a(iii), b(i), c(iv), d(ii)

B. a(iv), b(iii), c(ii), d(i)

C. a(ii), b(iv), c(i), d(iii)

D. a(i), b(ii), c(iii), d(iv)



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**238.** The Centriole undergoes duplication during:

- A. Metaphase
- B. Gophase
- C. S-phase
- D. Prophase



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**239.** During the process of gene amplification using PCR, if very high temperature is not maintained in the beginning, then which of the following steps of POR will be affected first?

- A. Denaturation
- B. Ligation

C. Annealing

D. Extension



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**240.** Which one of the following belongs to the family Muscidae?

A. Cockroach

B. Housefly

C. firefly

D. Grasshopper



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**241.** Which of the following statements wrongly represents the nature of smooth muscle?

- A. Communication among the cells is performed by intercalated discs
- B. These muscles are present in the wall of blood vessels
- C. These muscle have no striations
- D. They are involuntary muscles



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**242.** Dobson units are used to measure the thickness of

- A. Ozone
- B. Troposphere
- C. CFCs
- D. Stratosphere



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243. Match List I with List -II.

Match List - I with List - II.

List - I	List - II
(a) <i>Aspergillus niger</i>	(i) Acetic Acid
(b) <i>Acetobacter aceti</i>	(ii) Lactic Acid
(c) <i>Clostridium butylicum</i>	(iii) Citric Acid
(d) <i>Lactobacillus</i>	(iv) Butyric Acid

Choose the correct option from the options given below.

A. a-(ii), b(iii), c(i), d(iv)

B. a-(iv), b(ii), c-(i), d(iii)

C. a(iii), b(i), c(iv), d(ii)

D. a(i), b(ii), c(iii), d(iv)



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244. Succus entericus is referred to as:

A. Gastric juice

B. Chyme

C. Pancreatic juice

D. Intestinal juice



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**245.** Match List I with List II.

Match List - I with List - II.	
List - I	List - II
(a) Metamerism	(i) Coelenterata
(b) Canal system	(ii) Ctenophora
(c) Comb plates	(iii) Annelida
(d) Cnidoblasts	(iv) Porifera

Choose the correct option from options given below.

A. a-(iii), b-(iv), c-(ii), d-(i)

B. a-(iv), b-(i), c-(ii), d-(iii)

C. a-(iv), b-(iii), c-(i), d-(ii)

D. a-(iii), b-(iv), c-(i), d-(ii)



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**246.** Receptors for sperm binding in mammals are present on:

- A. Perivitelline space
- B. Zona pellucida
- C. Corona radiata
- D. Vitelline membrane



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**247.** Which one of the following is an example of Hormone releasing IUD?

- A. Cu7
- B. Multiload 375



C. CuT

D. LNG20



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**248.** Veneral diseases can spread through: (a)Using sterile needles (b)Transfusion of blood from infected person (c) Infected mother to foetus (d) Kissing (e) Inheritance. Choose the correct answer from options given below.

A. b and c only

B. a and c only

C. a, b and c only

D. b, c and d only



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**249.** Which one of the following organisms bears hollow and pneumatic long bones?

- A. Macropus
- B. Ornithorhynchus
- C. Neophron
- D. Hemidactylus



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**250.** The partial pressure (in mm Hg) of oxygen ( $O_2$ ) and carbon dioxide ( $CO_2$ ) at alveoli (the site of diffusion) are:

- A.  $pO_2=95$  and  $pCO_2 = 40$
- B.  $pO_2 = 159$  and  $pCO_2 = 0.3$
- C.  $pO_2=104$  and  $pCO_2 = 40$

D.  $pO_2=40$  and  $pCO_2 = 45$



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**251.** If Adenine makes 30% of the DNA molecule, what will be the percentage of Thymine, Guanine and Cytosine in it?

A. T : 30 , G : 20 , C : 20

B. T : 20 , G : 25 , C : 25

C. T : 20 , G : 30 , C : 20

D. T : 20 , G : 20 , C : 30



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**252.** A couple both carriers of sickle cell anaemia planning to get married, wants to know the chances of having anaemic progeny

A. 0.25

B. 1

C. 0.5

D. 0.75



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**253.** For effective treatment of the disease, early diagnosis and understanding its pathophysiology is very important. Which of the following molecular diagnostic techniques is useful for early detection?

A. ELISA technique

B. Hybridization technique

C. Western blotting technique

D. Southern blotting technique



**254.** Read the following statements.

- (a) Metagenesis is observed in Helminthes
- (b) Echinoderms are triploblastic and coelomate animals
- (c) Roundworms have organ system level of body organization
- (d) Comb plates present in ctenophore help in digestion
- (e) Water vascular system is characteristic of Echinoderms. Choose the correct answer from options given below.

A. (a), (d) and (e) are correct

B. (b), (c) and (e) are correct

C. (c), (d) and (e) are correct

D. (a), (b) and (c) are correct



255. Match List I with List -II.

Match List - I with List - II.

List - I		List - II	
(a)	Vaults	(i)	Entry of sperm through Cervix is blocked
(b)	IUDs	(ii)	Removal of Vas deferens
(c)	Vasectomy	(iii)	Phagocytosis of sperms within the Uterus
(d)	Tubectomy	(iv)	Removal of fallopian tube

Choose the

correct option from options given below.

A. a-(ii), b-(iv), c-(iii), d-(i)

B. a-(iii), b-(i), c-(iv), d-(ii)

C. a-(iv), b-(ii), c-(i), d-(iii)

D. a-(i), b-(iii), c-(ii), d-(iv)



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**256.** Persons with 'AB' blood group are called as "Universal recipients".

This is due to:

- A. Presence of antibodies, anti-A and anti-B, on RBCs
- B. Absence of antibodies, anti-A and anti-B, in plasma
- C. Absence of antigens A and B on surface of RBCs
- D. Absence of antigens A and B in plasma



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**257.** With regard to insulin choose correct option. (a) C-peptide is not present in mature insulin (b) The insulin produced by rDNA technology had C-peptide (c) The pro-insulin has C-peptide (d) A-peptide and B-peptide of insulin are interconnected by disulphide bridges

- A. (a), (c) and (d) only
- B. (a) and (d) only

C. (b) and (d) only

D. (b) and (c) only



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**258.** Auto immune disorder affecting neuromuscular junction leading to fatigue, weakening and paralysis of skeletal muscle is :-

A. Myasthenia gravis

B. Gout

C. Arthritis

D. Muscular dystrophy



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**259.** The organelles that are included in the endomembrane system are:

- A. Golgi complex, Mitochondria, Ribosomes and Lysosomes
- B. Golgi complex, Endoplasmic reticulum, Mitochondria and Lysosomes
- C. Endoplasmic reticulum, Mitochondria, Ribosomes and Lysosomes
- D. Endoplasmic reticulum, Golgi complex, Lysosomes and Vacuoles



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**260.** The fruitfly has 8 chromosomes ( $2n$ ) in each cell. During interphase of mitosis if the number of chromosomes at G1 phase is 8. what would be the number of chromosomes after S phase?

- A. 4
- B. 32
- C. 8



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**261.** Which is the "Only enzyme" that has "Capability" to catalyse Initiation, Elongation and Termination in process of transcription in prokaryotes?

- A. DNA ligase
- B. DNase
- C. DNA dependent DNA polymerase
- D. DNA dependent RNA polymerase



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**262.** Select the favourable conditions required for the formation of oxyhaemoglobin at the alveoli.

- A. High  $pO_2$ , high  $pCO_2$ , less  $H^+$ , higher temperature
- B. Low  $pO_2$ , low  $pCO_2$ , more  $H^+$ , higher temperature
- C. High  $pO_2$ , low  $pCO_2$ , less  $H^+$ , lower temperature
- D. Low  $pO_2$ , high  $pCO_2$ , more  $H^+$ , higher temperature

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**263.** Match the following:

176. Match the following :

List - I		List - II	
(a)	<i>Physalia</i>	(i)	Pearl oyster
(b)	<i>Limulus</i>	(ii)	Portuguese Man of War
(c)	<i>Ancylostoma</i>	(iii)	Living fossil
(d)	<i>Pinctada</i>	(iv)	Hookworm

Choose the correct answer from options given below

- A. a-(ii), b-(iii), c-(iv), d-(i)
- B. a-(i), b-(iv), c-(iii), d-(ii)
- C. a-(ii), b-(iii), c-(i), d-(iv)

D. a-(iv), b-(i), c-(iii), d-(ii)



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**264.** Which of the following RNAs is not required for the synthesis of protien

A. rRNA

B. siRNA

C. mRNA

D. tRNA



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**265.** Which enzyme is responsible for the conversion of inactive fibrinogens to fibrins?

- A. Ephinephrine
- B. Thrombokinese
- C. Thrombin
- D. renin



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**266.** Erythropoietin hormone which stimulates formation is produced by

- A. the cells of bone marrow
- B. juxtaglomerular cells of the kidney
- C. alpha cells of pancreas
- D. the cells of rostral adenohypophysis



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**267.** which stage of meiotic prophase shows terminalisation of chiasmata as its distinctive feature?

- A. Diakinesis
- B. pachytene
- C. leptotene
- D. Zygotene



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**268.** Sphincter of oddi is present at,

- A. gastro oesophageal junction
- B. junction of jejunum and duodenum
- C. deo-caecal junction
- D. junction of hepato pancreatic duct and duodenum



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**269.** which of the following characteristics is incorrect with respect to cockroach

- A. in female 7th , 9th sterna together form a genital pouch
- B. 10th abdominal segment in both sexes, bears a pair of anal cerci
- C. A ring of gastric caeca is present at the junction of midgut and hindgut
- D. hypophaynx lies within the cavity enclosed by the mouth parts



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**270.** which of the following is not an objective of biofortiification in crops

- A. improve vitamin content
- B. improve micronutrients and mineral content
- C. improve protein content
- D. improve resistance to disease

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**271.** identify incorrect pair

- A. lectins — Concanavalin A
- B. Drugs — Ricin
- C. Alkaloids — Codeine
- D. Toxin — Abrin

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**272.** A specific recognition sequence identified by endonuclease to make cut at specific positions within the DNA is

- A. palindrome Nucleotide sequence
- B. Poly (A) tail sequence
- C. Degenerative primer sequence
- D. Okazaki sequence



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**273.** Match the list I with list II.

86/ Match List - I with List - II

List - I	List - II
(a) Allen's Rule	(i) Kangaroo rat
(b) Physiological adaptation	(ii) Desert lizard
(c) Behavioural adaptation	(iii) Marine fish at depth
(d) Biochemical adaptation	(iv) Polar seal

Choose the correct option from options given below.

- A. a-(iv), b-(i), c-(ii), d-(iii)
- B. a-(iv), b-(iii), c-(ii), d-(i)

C. a-(iv), b-(ii), c-(iii), d-(i)

D. a-(iv), b-(i), c-(iii), d-(ii)



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**274.** Statement I : The codon AUG codes for methionine and phenylalanine . Statement II: AAA and AAG both codons code for the amino acid lysine. choose the correct option from the below

A. Statement I is correct but statement II is false

B. Statement I is incorrect but Statement II is true

C. Both the statement I and Statement II are true

D. Bothe the statement I and statement II are false



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275. Match the list I with list II.

88/ Match List - I with List - II.

List - I		List - II	
(a)	Scapula	(i)	Cartilaginous joints
(b)	Cranium	(ii)	Flat bone
(c)	Sternum	(iii)	Fibrous joints
(d)	Vertebral column	(iv)	Triangular flat bone

Choose the

correct option from options given below.

A. a-(iv), b-(ii), c-(iii), d-(i)

B. a-(iv), b-(iii), c-(ii), d-(i)

C. a-(i), b-(iii), c-(ii), d-(iv)

D. a-(ii), b-(iii), c-(iv), d-(i)



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276. Assertion (A) : A person goes to high altitude and experiences " Altitude sickness " with symptoms like breathing difficulty and heart palpitations . Reason (R): Due to low atmospheric pressure at high

altitude, the body does not get sufficient oxygen. In the light of above statement choose the correct options given below

- A. (A) is true but (R) is false
- B. (A) is false but (R) is true
- C. Both (A) and (R) are true and (R) is the correct explanation of (A)
- D. both (A) and (R) are true but (R) is the correct explanation of (A)



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**277.** Following are the statements about prostomium of earthworm .

- a) It serves as a covering for mouth
- b) It helps to open cracks in the soil into which it can crawl
- c) it is one of the sensory structures
- d) it is the first body segment

- A. (a),(b),(C) and (d) are correct
- B. (b) and (c) are correct

C. (a), (b), and (c) are correct

D. (a), (b), and (d) are correct



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**278.** Identify the cell junctions that help to stop the leakage of the substances across a tissue and facilitation of communication with neighbouring cells via rapid transfer and molecules

A. adhering junctions and Tight junctions respectively

B. Adhering junctions and Gap junctions respectively

C. Gap junctions and adhering junctions respectively

D. Tight junctions and Gap junctions respectively



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**279.** Which of these is not an important component of initiation of parturition in humans

- A. Release of Oxytocin
- B. Release of Prolactin
- C. Increase in estrogen and progesterone ratio
- D. synthesis of prostaglandins



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280. Match the list with I with II.

193. Match List - I with List - II.

List - I		List - II	
(a)	Adaptive radiation	(i)	Selection of resistant varieties due to excessive use of herbicides and pesticides
(b)	Convergent evolution	(ii)	Bones of forelimbs in Man and Whale
(c)	Divergent evolution	(iii)	Wings of Butterfly and Bird
(d)	Evolution by anthropogenic action	(iv)	Darwin Finches

Choose the

correct option from options given below.

A. a-(ii), b-(i), c-(iv), d-(iii)

B. a-(i), b-(iv), c-(iii), d-(ii)

C. a-(iv), b-(iii), c-(ii), d-(i)

D. a-(iii), b-(ii), c-(i), d-(iv)



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281. The adenosine deaminase deficiency results into :

- A. Digestive disorder
- B. Addisons disease
- C. Dysfunction of immune system
- D. Parkinsons disease



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282. Match the list I with list II .

196 Match List - I with List - II

List - I		List - II
(a) Filariasis	(i)	<i>Haemophilus influenzae</i>
(b) Amoebiasis	(ii)	<i>Trichophyton</i>
(c) Pneumonia	(iii)	<i>Wuchereria bancrofti</i>
(d) Ringworm	(iv)	<i>Entamoeba histolytica</i>

Choose the correct match from the options given below

choose the correct statement from the options given below

- A. a (i) b (ii) c (iv) d (iii)
- B. a(ii) b (iii) c (i) d (iv)
- C. a (iv) b (i) c (iii) d(ii)



D. a(iii) b (iv) c (i) d (ii)



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**283.** Which of the following is not a step in Multiple Ovulation Embryo Transfer Technology (MOET)?

A. cow is fertilized by artificial insemination

B. Fertilized eggs are transferred to surrogate mothers at 8-32 cell stage

C. cow is administered hormone having LH like activity for super ovulation

D. cow yields about 6-8 eggs at a time



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**284.** During the muscular contraction which of the following events occur? (a) H zone disappears (b) A band widens (c) T band reduces in width (d) Z line attached to actins are pulled inwards (e) Arachidonic acid has 16 carbon atoms. choose the correct answer from the options given below

A. (b),(c),(d),(e) only

B. (b),(d),(e),(a), only

C. (a),(c),(d),(e), only

D. (a),(b),(c),(d),only



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**285.** Following are the statements with reference to lipids. (a)Lipids having only single bond is called unsaturated fatty acids (b)Lecithin is a phospholipid (c)Trihydroxy propane is glycerol (d)Palmitic acid has 20 carbon atoms including carboxyl carbon (e) Arachinoid acid has 16 carbon atoms. choose the correct statemment from the below options

A. (b) and (c) only

B. (b) and (e) only

C. (a) and (b) only

D. (c) and (d) only



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**286.** Which of the following statement about Histone is wrong?

A. Histone are rich in amino acids -Lysine and arginine

B. Histone carry positive charge in the side chain

C. Histones are organised to form aa unit of 8 molecules

D. The pH of histones is slightly acidic



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**287.** Which of the following secretes the hormone, relaxin, during the later phase of pregnancy?

- A. Foetus
- B. Uterus
- C. Graffian follicle
- D. Corpus luteum



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**288.** Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion(A): Polymerase chain reaction is used in DNA amplification

Reason (R):The ampicillin resistant gene is used as a selectable marker to check transformation.

In the light of the above statements, choose the correct answer from the options given below:

- A. Both (A) and (R) are coorect and (R) is the correct explanation of (A)
- B. Both (A) and (R) are coorect BUT (R) is NOT the correct explanation of (A)
- C. (A) is correct but (R) is not correct
- D. (A) is not correct but (R) is correct



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**289.** The process of translation of mRNA to protein begins as soon as:

- A. The small subunit of ribosome encounters mRNA
- B. The larger subunit of the ribosome encounters mRNA
- C. both the subunits join together to bind with mRNA
- D. the tRNA is activated and the larger subunit of ribosome encounters mRNA



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**290.** The gaseous plant growth regulator is used in plants to

- A. speed up the malting process
- B. promote root growth and root hair formation to increase the absorption surface
- C. help overcome apical dominance
- D. kill dicotyledenous weeds in the fields



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**291.** Exoskeleton of arthropods is composed of :

- A. cutin
- B. cellulose

C. chitin

D. glucosamine



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**292.** Which of the following is not observed during apoplastic pathway?

A. movement of water occurs through intercellular spaces and wall of the cells

B. the movement does not involve crossing of cell membrane

C. the movement is aided by cytoplasmic streaming

D. apoplast is continuous and does not provide any barrier to water movement



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**293.** Which of the following is not a method of ex.situ conservation

A. in vitro fertilisation

B. national parks

C. micropropagation

D. cryopreservation



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**294. Match List-I with List-II**

**List - I**

- (a) Manganese
- (b) Magnesium
- (c) Boron
- (d) Iron

**List - II**

- (i) Activates the enzyme catalase
- (ii) Required for pollen germination
- (iii) Activates enzymes of respiration
- (iv) Functions in splitting of water during photosynthesis

Choose the **correct answer** from the options given below :

- A. (a)-(iii),(b)-(iv),(c)-(i),(d)-(ii)
- B. (a)-(iv),(b)-(iii),(c)-(ii),(d)-(i)
- C. (a)-(iv),(b)-(i),(c)-(ii),(d)-(iii)
- D. (a)-(iii),(b)-(i),(c)-(ii),(d)-(iv)



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**295.** Which one of the following statement is not true regarding gel electrophoresis technique?

- A. the process of extraction of separated DNA strands from gel is called elution
- B. the separated DNA fragments are stained by using ethidium bromide
- C. the presence of chromogenic substrate gives blue coloured DNA bands on the gel
- D. bright orange coloured bands of DNA can be observed in the gel when exposed to UV light



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**296.** Which one of the following is not true regarding the release of energy during ATP synthesis through chemiosmosis? It involves:

- A. breakdown of proton gradient
- B. breakdown of electron gradient
- C. movement of protons across the membrane to the stroma
- D. reduction of NADP to  $NADPH_2$  on the stroma side of the membrane



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**297.** DNA polymorphism forms the basis of :

- A. genetic mapping
- B. DNA fingerprinting
- C. both genetic mapping and DNA fingerprinting
- D. Translation



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**298.** Habitat loss and fragmentation, over exploitation, alien species invasion and co-extinction are causes for:

- A. population explosion
- B. competition
- C. biodiversity loss
- D. natality



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**299.** The device which can remove particulate matter present in the exhaust from a thermal power plant is :

- A. STP
- B. Incinerator

C. Electrostatic precipitator

D. Catalytic Convertor



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**300.** Which one of the following plants does not show plasticity?

A. cotton

B. coriander

C. buttercup

D. maize



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**301.** Which one of the following statements cannot be connected to predation?

- A. it helps in maintaining species diversity in a community
- B. it might lead to extinction of a species
- C. both the interacting species are negatively impacted
- D. it is necessitated by nature to maintain the ecological balance



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**302.** What amount of energy is released from glucose during lactic acid fermentation?

- A. approximately 15 %
- B. more than 18 %
- C. about 10 %

D. less than 7 %



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**303.** Given below are two statements:

Statement I : Mendel studied seven pairs of contrasting traits in pea plants and proposed the Laws of Inheritance

Statement II : Seven characters examined by Mendel in his experiment on pea plants were seed shape and colour, flower colour, pod shape and colour, flower position and stem height.

In the light of the above statements, choose the correct answer from the options given below:

- A. Both Statement I and Statement II are correct
- B. Both Statement I and Statement II are incorrect
- C. Statement I is correct but Statement II is incorrect
- D. Statement I is incorrect but Statement II is correct



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**304.** Given below are two statements:

Statement I : Decomposition is a process in which the detritus is degraded into simpler substances by microbes

Statement II : Decomposition is faster if the detritus is rich in lignin and chitin

In the light of the above statements, choose the correct answer from the options given below:

- A. Both Statement I and Statement II are correct
- B. Both Statement I and Statement II are incorrect
- C. Statement I is correct but Statement II is incorrect
- D. Statement I is incorrect but Statement II is correct



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**305.** Read the following statements and choose the set of correct statements:

- (a) Euchromatin is loosely packed chromatin
- (b) Heterochromatin is transcriptionally active
- (c) histone octamer is wrapped by negatively charged DNA in nucleosome
- (d) histones are rich in lysine and arginine
- (e) a typical nucleosome contains 400 bp of DNA helix

choose the correct answer from the options given below:

- A. (b),(d) and (e) only
- B. (a),(c) and (d) only
- C. (b) and (e) only
- D. (a),(c) and (e) only



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**306.** Which one of the following plants shows vexillary aestivation and diadelphous stamens?

- A. *Colchicum autumnale*
- B. *Pisum sativum*
- C. *Allium cepa*
- D. *Solanum nigrum*



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**307.** In old trees the greater part of secondary xylem is dark brown and resistant to insect attack due to:

- (a) secretion of secondary metabolites and their deposition in the lumen of vessels,
- (b) deposition of organic compounds like tannins and resins in the central layers of stem
- (c) deposition of suberin and aromatic substances in the outer layer of

stem

(d) deposition of tannins,gum,resin and aromatic substances in the peripheral layers of stem

(e) presence of parenchyma cells,functionally active xylem elements and essential oils.

choose the correct answer from the options given below:

A. (a) and (b) only

B. (c) and (d) only

C. (d) and (e) only

D. (b) and (d) only



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**308.** Read the following statements about the vascular bundles:

(a) In roots,xylem and phloem in a vascular bundle are arranged in an alternate manner along the different radii.

(b) conjoint closed vascular bundles do not possess cambium

(c) In open vascular bundles, cambium is present in between xylem and phloem

(d) the vascular bundles of dicotyledonous stem possess endarch protoxylem

(e) in monocotyledonous root, usually there are more than six xylem bundles present

choose the correct answer from the options given below:

A. (a), (b) and (d) only

B. (b), (c), (d) and (e) only

C. (a), (b), (c) and (d) only

D. (a), (c), (d) and (e) only



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**309.** Which one of the following never occurs during mitotic cell division?

- A. spindles fibres attach to kinetochores of chromosome
- B. movement of centrioles towards opposite poles
- C. pairing of homologous chromosome
- D. coiling and condensation of the chromatids



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**310.** Production of cucumber has increased manifold in recent years. Application of which of the following phytohormones has resulted in this increased yield as the hormone is known to produce female flowers in the plants:

- A. ABA
- B. Gibberellin
- C. Ethylene
- D. Cytokinin



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**311.** The flowers are zygomorphic in:

(a) mustard

(b) gulmohar

(c) cassia

(d) datura

(e) chilly

A. (a),(b),(c) only

B. (b),(c) only

C. (d),(e) only

D. (c),(d),(e) only



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**312. Identify the correct set of statements:**

- (a) the leaflets are modified into pointed hard thorns in citrus and bougainvillea
- (b) axillary buds form slender and spirally coiled tendrils in cucumber and pumpkin**
- (c) stem is flattened and fleshy in Opuntia and modified to perform the function of leaves
- (d) Rhizophora shows vertically upward growing roots that help to get oxygen for respiration
- (e) subaerially growing stems in grasses and strawberry help in vegetative propagation

**choose the correct answer from the options given below:**

- A. (b),(c) only**
- B. (a) and (d) only**
- C. (b),(c), (d) and (e) only**
- D. (a),(b),(d) and (e) only**



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**313. Which of the following is incorrectly matched?**

- A. Ectocarpus-fucoxanthin**
- B. Ulothrix-mannitol**
- C. porphyra-floridian starch**
- D. volvox-starch**



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**314. Which one of the following produces nitrogen fixing nodules on the roots of *Alnus*?**

- A. Rhizobium**
- B. Frankia**
- C. Rhodospirillum**
- D. Beijernickia**





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**315. Identify the incorrect statement related to pollination:**

- A. pollination by water is quite rare in flowering plants**
- B. pollination by wind is more common amongst abiotic pollination**
- C. flowers produce foul odours to attract flies and beetles to get pollinated**
- D. moths and butterflies are the most dominant pollinating agents among insects**



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**316. Given below are two statements :**

**Statement I : Cleistogamous flowers are invariably autogamous**

**Statement II : Cleistogamy is disadvantageous as there is no chance for cross pollination**

**In the light of the above statements,choose the correct answer from the options given below:**

- A. Both Statement I and Statement II are correct**
- B. Both Statement I and Statement II are incorrect**
- C. Statement I is correct but Statement II is incorrect**
- D. Statement I is incorrect but Statement II is correct**



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**317. Hydrocolloid carrageen is obtained from:**

- A. chlorophyceae and phaeophyceae**
- B. phaeophyceae and rhodophyceae**
- C. rhodophyceae only**

**D. phaeophyceae only**



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**318. What is the net gain of ATP when each molecule of glucose is converted to two molecules of pyruvic acid?**

**A. four**

**B. six**

**C. two**

**D. eight**



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**319. The appearance of recombination nodules on homologous chromosomes during meiosis characterizes:**

- A. synaptonemal complex
- B. bivalent
- C. sites at which crossing over occurs
- D. terminalization



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320. Given below are two statements :

Statement I : The primary  $CO_2$  acceptor in  $C_4$  plants is phosphoenolpyruvate and is found in the mesophyll cells

Statement II : Mesophyll cells of  $C_4$  plants lack RuBisCo enzyme

In the light of the above statements, choose the correct answer from the options given below:

- A. Both Statement I and Statement II are correct
- B. Both Statement I and Statement II are incorrect
- C. Statement I is correct but Statement II is incorrect

**D. Statement I is incorrect but Statement II is correct**



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**321. “Gridling experiment” was performed by plant physiologists to identify the plant tissue through which:**

- A. water is transported**
- B. food is transported**
- C. for both water and food transportation**
- D. osmosis is observed**



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**322. XO type of sex determination can be found in:**

**A. drosophilla**

**B. birds**

**C. grasshoppers**

**D. monkeys**



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**323. Addition of more solutes in a given solution will:**

**A. raise its water potential**

**B. lower its water potential**

**C. make its water potential zero**

**D. not affect the water potential at all**



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**324. If a genesticist uses the blind approach for sequencing the whole genome of an organism, followed by assignment of function to different segments,the methodology adopted by him is called as:**

- A. sequence annotation**
- B. gene mapping**
- C. expressed sequence tags**
- D. bioinformatics**



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**325. Which of the following occurs due to the presence of autosome linked dominant trait?**

- A. sicle cell anemia**
- B. myotonic dystrophy**
- C. haemophilia**



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326. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion(A): Mendel's Law of Independent Assortment does not hold good for the genes that are located closely on the same chromosome

Reason (R): Closely located genes assort independently.

In the light of the above statements, choose the correct answer from the options given below:

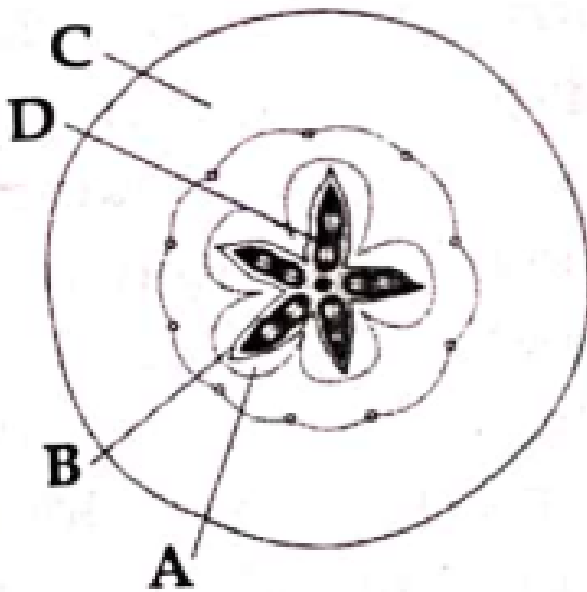
- A. Both (A) and (R) are correct and (R) is the correct explanation of (A)
- B. Both (A) and (R) are correct BUT (R) is NOT the correct explanation of (A)
- C. (A) is correct but (R) is not correct
- D. (A) is not correct but (R) is correct





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327. Which part of the fruit, labelled in the given figure makes it a false fruit ?



A. *A* → Mesocarp

B. *B* → Endocarp

C. *C* → Thalamus

D. *D* → Seed



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**328. Read the following statements on lipids and fixed out correct set of statements:**

- (a) Lecithin found in thr plasma membrane is a glycolipid**
  - (b) Saturated fatty acids possess one or more  $c = c$  bonds**
  - (c)gingely oil has lower melting point, hence remains as oil in winter**
  - (d) lipids are generally insoluble in water but soluble in some organic solvents**
  - (e) when fatty acid is esterified with glycerol,monoglycerides are formed**
- choose the correct answer from the options given below:**

**A. (a),(b),(c) only**

**B. (a),(d),(e) only**

**C. (c),(d),(e) only**

**D. (a),(b),(d) only**



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329. Transposons can be used during which one of the following?

- A. polymerase chain reaction
- B. gene silencing
- C. autoradiography
- D. gene sequencing



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330. While explaining interspecific interaction of population, (+) sign is assigned for beneficial interaction, (-) sign is assigned for detrimental interaction and (0) for neutral interaction. Which of the following interactions can be assigned (+) for one species and (-) for another species involved in the interaction?

**A. predation**

**B. amensalism**

**C. commensalism**

**D. competition**



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**331. In the following palindromic base sequences of DNA, which one can be cut easily by particular restriction enzyme?**

**A. 5' GATACT 3' , 3' CTATGA 5'**

**B. 5' GAATTC 3' , 3' CTTAAG 5'**

**C. 5' CTCAGT 3' , 3' GAGTCA5'**

**D. 5' GTATTC 3' , 3' CATAAG 5'**



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**332. Which one of the following will accelerate phosphorus cycle?**

- A. burning of fossil fuels**
- B. volcanic activity**
- C. weathering of rocks**
- D. Rainfall and storms**



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**333. The entire fleet of buses in delhi were converted to CNG from diesel.**

**In reference to this, which one of the following statement is false?**

- A. CNG burns more efficiently than diesel**
- B. the same diesel engine is used in CNG buses making the cost of conversion low**

C. it is cheaper than diesel

D. it can not be adulterated like diesel



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334. Match the plant with the kind of life cycle it exhibits:

**List - I**

**List - II**

- |                      |   |
|----------------------|---|
| (a) <i>Spirogyra</i> | (i) Dominant diploid sporophyte vascular plant, with highly reduced male or female gametophyte        |
| (b) Fern             | (ii) Dominant haploid free-living gametophyte   |
| (c) <i>Funaria</i>   | (iii) Dominant diploid sporophyte alternating with reduced gametophyte called prothallus              |
| (d) <i>Cycas</i>     | (iv) Dominant haploid leafy gametophyte alternating with partially dependent multicellular sporophyte |

Choose the correct answer from the options given below:

A. (a)-(iv),(b)-(i),(c)-(ii),(d)-(iii)

B. (a)-(ii),(b)-(iii),(c)-(iv),(d)-(i)

C. (a)-(iii),(b)-(iv),(c)-(i),(d)-(ii)

D. (a)-(ii),(b)-(iv),(c)-(i),(d)-(iii)



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335. Match List - I with List - II

List - I	List - II
(a) Metacentric chromosome	(i) Centromere situated close to the end forming one extremely short and one very long arms
(b) Acrocentric chromosome	(ii) Centromere at the terminal end
(c) Sub-metacentric	(iii) Centromere in the middle forming two equal arms of chromosomes
(d) Telocentric chromosome	(iv) Centromere slightly away from the middle forming one shorter arm and one longer arm

Choose the correct answer from the options given below:

A. (a)-(iii),(b)-(i),(c)-(iv),(d)-(ii)

**B. (a)-(i),(b)-(iii),(c)-(ii),(d)-(iv)**

**C. (a)-(iii),(b)-(iii),(c)-(iv),(d)-(i)**

**D. (a)-(i),(b)-(ii),(c)-(iii),(d)-(iv)**



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**336. The anatomy of springwood shows some peculiar features. Identify the correct set of statements about springwood.**

**(a) it is also called as the earlywood**

**(b) in spring season cambium produces xylem elements with narrow vessels**

**(c) it is lighter in colour**

**(d) the springwood along with autumnwood shows alternate concentric rings forming annual rings**

**(e) it has lower density**

**A. (a),(b),(d) and (e)only**



B. (a),(c),(d) and (e)only

C. (a),(b),(d) only

D. (c),(d),(e) only



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337. What is the role of large bundle sheath cells found around the vascular bundles in C<sub>4</sub> plants?

A. to provide the site for photorespiratory pathway

B. to increase the number of chloroplast for the operation of Calvin cycle

C. to enable the plant to tolerate high temperature

D. to protect the vascular tissue from high light intensity



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**338. Given below are two statements :**

**Statement I :Fatty acids and glycerols cannot be absorbed into the blood**

**Statement II : Specialised lymphatic capillaries called lacteals carry chylomicrons into lymphatic vessels and ultimately into the blood**

**In the light of the above statements,choose the correct answer from the options given below:**

- A. Both Statement I and Statement II are correct**
- B. Both Statement I and Statement II are incorrect**
- C. Statement I is correct but Statement II is incorrect**
- D. Statement I is incorrect but Statement II is correct**



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**339. Given below are two statements :**

**Statement I :The release of sperms into the seminiferous tubules is called**

spermiation

**Statement II : spermiogenesis is the process of formation of sperms from spermatogonia**

**In the light of the above statements,choose the correct answer from the options given below:**

- A. Both Statement I and Statement II are correct**
- B. Both Statement I and Statement II are incorrect**
- C. Statement I is correct but Statement II is incorrect**
- D. Statement I is incorrect but Statement II is correct**



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**340. Which of the following is not the function of conducting part of respiratory system?**

- A. it clears inhaled air from foreign particles**
- B. inhaled air is humidified**

C. temperature of inhaled air is brought to body temperature

D. provides surface for diffusion of  $O_2$  and  $CO_2$



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341. Identify the microorganisms which is responsible for the production of ab immunosuppressive molecule cyclosporinA:

A. *Trichoderma polysporum*

B. *Clostridium butylicum*

C. *Aspergillus niger*

D. *Streptococcus cerevisiae*



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342. Under normal physiological conditions in human being every 100 ml of oxygenated blood can deliver \_\_\_\_\_ ml of  $O_2$  to the tissues

- A. 2ml
- B. 5ml
- C. 4ml
- D. 10ml



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343. Tegmina is cockroach, arises from:

- A. prothorax
- B. mesothorax
- C. metathorax
- D. prothorax and mesothorax



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**344. In-situ conservation refers to:**

- A. protect and conserve the whole ecosystem**
- B. conserve only high risk species**
- C. conserve only endangered species**
- D. conserve only extinct species**



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**345. Detritivores breakdown detritus into small particles .This process is called:**

- A. catabolism**

B. fragmentation

C. humification

D. decomposition



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346. a dehydration reaction links two glucose molecule to produce maltose. If the formula for glucose is  $C_6H_{12}O_6$  then what is the formula for maltose?

A.  $C_{12}H_{20}O_{10}$

B.  $C_{12}H_{24}O_{12}$

C.  $C_{12}H_{22}O_{11}$

D.  $C_{12}H_{24}O_{11}$



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**347. Identify the asexual reproductive structure associated with penicillium:**

- A. zoospores**
- B. conidia**
- C. gemmules**
- D. buds**



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**348. Select the incorrect statement with reference mitosis:**

- A. all the chromosomes lie at the equator of the metaphase**
- B. spindle fibres attach to centromere of the chromosomes**
- C. chromosomes decondense at telophase**
- D. splitting of centromere occurs at anaphase**





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**349. Which of the following statements with respect to endoplasmic reticulum is incorrect?**

- A. RER has ribosomes attached to ER**
- B. SER is devoid of ribosomes**
- C. In prokaryotes only RER are present**
- D. SER are the sites for lipid synthesis**



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**350. In the taxonomic categories which hierarchial arrangement in ascending is correct in case of animals?**

- A. Kingdom,phylum,class,order,family,genus,species**

B. kingdom,class,phylum,family,order,genus,species

C. kibgdom,order,class,phylum,family,genus,species

D. kingdom,order,phylum,class,family,genus,species



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351. In which of the following animals, digestive tract has additional chambers like crop and gizzard?

A. corvus,columba,chameleon

B. bufo,balaenoptera,bangarus

C. Catla,columba,crocodilus

D. pavo,psittacula,corvus



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**352. Given below are two statements :**

**Statement I :mycoplasma can pass through less than 1 micron filter size**

**Statement II mycoplasma are bacteria with cell wall**

**In the light of the above statements,choose the correct answer from the options given below:**

- A. Both Statement I and Statement II are correct**
- B. Both Statement I and Statement II are incorrect**
- C. Statement I is correct but Statement II is incorrect**
- D. Statement I is incorrect but Statement II is correct**



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**353. Which of the following is not a connective tissue?**

- A. blood**
- B. Adipose tissue**

**C. cartilage**

**D. neuroglia**



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**354. Nitrogenous waste is exercised in the form of pellet or paste by:**

**A. Ornithorhynchus**

**B. Salamandra**

**C. Hippocampus**

**D. pavo, psittacula, corvus**



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355. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

**Assertion(A):** All vertebrates are chordates but all chordates are not vertebrates

**Reason (R):** Notochord is replaced by vertebral column in the adult vertebrates

In the light of the above statements, choose the correct answer from the options given below:

- A. Both (A) and (R) are correct and (R) is the correct explanation of (A)
- B. Both (A) and (R) are correct BUT (R) is NOT the correct explanation of (A)
- C. (A) is correct but (R) is not correct
- D. (A) is not correct but (R) is correct



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356. Which of the following is a correct match for disease and its symptoms?

A. Arthritis-Inflammed joints

B. Tetany-high  $Ca^{2+}$  level causing rapid spasms

C. Myasthenia gravis-genetic disorder resulting in weakening and paralysis of skeletal muscle

D. Muscular dystrophy-an auto immune disorder causing progressive degeneration of skeletal muscle



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357. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion(A):Osteoporosis is characterised by decreased bone mass and increased chances of fractures

Reason (R): Common cause of osteoporosis is increases levels of estrogen

In the light of the above statements, choose the correct answer from the options given below:

- A. Both (A) and (R) are correct and (R) is the correct explanation of (A)
- B. Both (A) and (R) are correct BUT (R) is NOT the correct explanation of (A)
- C. (A) is correct but (R) is not correct
- D. (A) is not correct but (R) is correct



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358. In an E.coli strain *i* gene gets mutated and its product can not bind the inducer molecule. If growth medium is provided with lactose, what will be the outcome?

- A. Only *z* gene will get transcribed
- B. *z, y, a* genes will be transcribed

**C. z,y, a genes will not be translated**

**D. RNA polymerase will bind the promoter region**



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**359. If the length of a DNA molecule is 1.1 metres,what will be the approximate number of base pairs?**

**A.  $3.3 \times 10^9$  bp**

**B.  $6.6 \times 10^9$  bp**

**C.  $3.3 \times 10^6$  bp**

**D.  $6.6 \times 10^6$  bp**



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**360. Which of the following statements are true for spermatogenesis but do not hold true for oogenesis?**

- (a) it results in the formation of haploid gametes**
- (b) differentiation of gamete occurs after the completion of meiosis**
- (c) meiosis occurs continuously in a mitotically dividing stem cell population**
- (d) it is controlled by Leuteinising Hormone (LH) and follicle stimulating hormone (FSH) secreted by anterior pituitary**
- (e) it is initiated at puberty**

**choose the most appropriate answer from the options given below:**

- A. (c) and (e) only**
- B. (b) and (c) only**
- C. (b),(d),and (e) only**
- D. (b),(c) and (e) only**



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**361. Which of the following is present between the adjacent bones of the vertebral column?**

- A. Intercalated discs**
- B. Cartilage**
- C. Areolar tissue**
- D. Smooth muscle**



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**362. Regarding meiosis ,which of the statements is incorrect?**

- A. There are two stages in Meiosis, Meiosis - I and II**
- B. DNA replication occurs in S phase of Meiosis - II**
- C. Pairing of homologous chromosomes and recombination occurs in Meiosis - I**

**D. Four haploid cells are formed at the end of Meiosis - II**



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**363. Given below are two statements:**

**Statement I:**

**Auto immune disorder is a condition where body defense mechanism recognizes its own cells as foreign bodies.**

**Statement II :**

**Rheumatoid arthritis is a condition where body does not attack self cells.**

**In the light of the above statements, choose the most appropriate answer from the options given below:**

- A. Both Statement I and Statement II are correct**
- B. Both Statement I and Statement II are incorrect**
- C. Statement I is correct but Statement II is incorrect**
- D. Statement I is incorrect but Statement II is correct**



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**364. Natural selection where more individuals acquire specific character value other than the mean character value , leads to:**

- A. Stabilising change**
- B. Directional change**
- C. Disruptive change**
- D. Random change**



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**365. Given below are two statements:**

**Statement I:**

**The coagulum is formed of network of threads called thrombins**

**Statement II :**

**Spleen is the graveyard of erythrocytes.**

**In the light of the above statements, choose the most appropriate answer from the options given below:**

- A. Both Statement I and Statement II are correct**
- B. Both Statement I and Statement II are incorrect**
- C. Statement I is correct but Statement II is incorrect**
- D. Statement I is incorrect but Statement II is correct**



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**366. Breeding crops with higher levels of vitamins and minerals or higher proteins and healthier fats is called:**

- A. Bio-magnification**
- B. Bio-remediation**

**C. Bio-fortification**

**D. Bio-accumulation**



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**367. In gene therapy of adenosine deaminase (ADA) deficiency, the patient requires periodic infusion of genetically engineered lymphocytes because:**

- A. Retroviral vector is introduced into these lymphocytes**
- B. Gene isolated from marrow cells producing ADA is introduced into cells at embryonic stages**
- C. Lymphocytes from patient's blood are grown in culture outside the body**
- D. Genetically engineered lymphocytes are not immortal cells**



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**368. At which stage of life the organogenesis process is initiated?**

- A. Puberty**
- B. Embryonic development stage**
- C. Birth**
- D. Adult**



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**369. Lippe's loop is a type of contraceptive used as:**

- A. cervical barrier**
- B. vault barrier**
- C. non-medicated IUD**

**D. non-medicated IUD**



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**370. Which of the following functions is not performed by secretions from salivary glands?**

- A. control bacterial population in mouth**
- B. digestion of complex carbohydrates**
- C. lubrication of oral cavity**
- D. digestion of disaccharides**



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**371. If '8' Drosophila in a laboratory population of '80' died during a week, the death rate in the population is \_\_\_\_ individuals per Drosophila**



per week

A. 0.1

B. 10

C. 1

D. zero



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**372. Given below are two statements:**

**Statement I:**

**Restriction endonucleases recognise specific sequence to cut DNA known as palindromic nucleotide sequence**

**Statement II :**

**Restriction endonucleases cut the DNA strand a little away from the centre of the palindromic site.**

In the light of the above statements, choose the most appropriate answer from the options given below:

- A. Both Statement I and Statement II are correct
- B. Both Statement I and Statement II are incorrect
- C. Statement I is correct but Statement II is incorrect
- D. Statement I is incorrect but Statement II is correct



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**373. Which of the following is a correct statement?**

- A. cyanobacteria are a group of autotrophic organisms classified under kingdom Monera
- B. bacteria are exclusively heterotrophic organisms
- C. slime moulds are saprophytic organisms classified under Kingdom Moner

**D. Mycoplasma have DNA ,ribosome and cell wall**



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**374. Statements related to human insulin are given below. Which statement(s) is/are correct about genetically engineered insulin?**

- (a) Pro-hormone insulin contain extra stretch of C-peptide**
- (b) A-peptide and B-peptide chains of insulin were produced by creating disulphide bond between them.**
- (c) insulin used fro treating Diabetes was extracted from cattles and pigs.**
- (d) pro-hormone insulin needs to be processed for converting into a mature and functional hormone**
- (e) some patients develop allergic reactions to the foreign insulin.**

**choose the most appropriate answer from the options given below :**

**A. (a),(b) and (d) only**

**B. (b) only**

C. (c) and (d) only

D. (c),(d) and (e) only



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**375. Given below are two statements:**

**Statement I:**In a scrubber the exhaust from the thermal plant is passed through the electric wires to charge the dust particles

**Statement II:**Particulate matter (PM 2.5) can not be removed by scrubber but can be removed by an electrostatic precipitator.

**In the light of the above statements,choose the correct answer from the options given below:**

**A. Both Statement I and Statement II are correct**

**B. Both Statement I and Statement II are incorrect**

**C. Statement I is correct but Statement II is incorrect**

**D. Statement I is incorrect but Statement II is correct**



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376. The recombination frequency between the genes a & c is 5 % ,b & c is 15 % ,b & d is 9 % ,a & b is 20 % ,c & d is 24 % and a& d is 29 % .What will be the sequence of these genes on a linear chromosome?

A. a,d,b,c

B. d,b,a,c

C. a,b,c,d

D. a,c,b,d



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377. Match List-I with List-II

List - I	List - II
(a) Diaphragms	(i) Inhibit ovulation and Implantation
(b) Contraceptive Pills	(ii) Increase phagocytosis of sperm within Uterus
(c) Intra Uterine Devices	(iii) Absence of Menstrual cycle and ovulation following parturition
(d) Lactational Amenorrhea	(iv) They cover the cervix blocking the entry of sperms

Choose the correct answer from the options given below :

A. (a)-(iii),(b)-(ii),(c)-(iv),(d)-(i)

B. (a)-(iv),(b)-(ii),(c)-(i),(d)-(iii)

C. (a)-(ii),(b)-(iv),(c)-(iii),(d)-(i)

D. (a)-(iv),(b)-(iii),(c)-(i),(d)-(ii)



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378. Match List-I with List-II

List - I	List - II
(a) Diaphragms	(i) Inhibit ovulation and Implantation
(b) Contraceptive Pills	(ii) Increase phagocytosis of sperm within Uterus
(c) Intra Uterine Devices	(iii) Absence of Menstrual cycle and ovulation following parturition
(d) Lactational Amenorrhea	(iv) They cover the cervix blocking the entry of sperms

Choose the correct answer from the options given below :

A. (a)-(iv),(b)-(i),(c)-(iii),(d)-(ii)

B. (a)-(iv),(b)-(i),(c)-(ii),(d)-(iii)

C. (a)-(ii),(b)-(iv),(c)-(i),(d)-(iii)

D. (a)-(iii),(b)-(ii),(c)-(i),(d)-(iv)



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**379. Which of the following are not the effects of parathyroid hormone?**

- (a) Stimulates the process of bone resorption**
- (b) Decreases  $Ca^{2+}$  level in blood**
- (c) reabsorption of  $Ca^{2+}$  by renal tubules**
- (d) decreases the absorption of  $Ca^{2+}$  from digested food**
- (e) increases metabolism of carbohydrates**

**choose the most appropriate answer from the options given below :**

- A. (a) and (c) only**
- B. (b),(d) and (e) only**
- C. (a) and (e) only**
- D. (b) and (c) only**



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**380. Select the incorrect statement with respect to acquired immunity.**



- A. Primary response is produced when our body encounters a pathogen for the first time
- B. anamnestic response is elicited on subsequent encounters with the same pathogen
- C. anamnestic response is due to memory of first encounter
- D. acquired immunity is non specific type of defense present at the time of birth



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381. Ten E.coli cells with  $^{15}\text{N}$ -dsDNA are incubated in medium containing  $^{14}\text{N}$  nucleotide. After 60 minutes, how many E.coli cells will have DNA totally free from  $^{15}\text{N}$ ?

- A. 20 cells
- B. 40 cells

**C. 60 cells**

**D. 80 cells**



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**382. If a colour blind female marries a man whose mother was also colour blind, what are the chances of her progeny having colour blindness?**

**A. 25 %**

**B. 50 %**

**C. 75 %**

**D. 100 %**



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383. Which of the following is not a desirable feature of a cloning vector?

- A. presence of origin of replication
- B. presence of a marker gene
- C. presence of single restriction enzyme site
- D. presence of two or more recognition sites



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384. Match List-I with List-II

**List - I**

(a) Bronchioles

(b) Goblet cell

(c) Tendons

(d) Adipose Tissue

**List - II**

(i) Dense Regular  
Connective Tissue

(ii) Loose Connective  
Tissue

(iii) Glandular Tissue

(iv) Ciliated Epithelium

Choose the correct answer from the options given below :

A. (a)-(iv),(b)-(iii),(c)-(i),(d)-(ii)

B. (a)-(i),(b)-(ii),(c)-(iii),(d)-(iv)

C. (a)-(ii),(b)-(i),(c)-(iv),(d)-(iii)

D. (a)-(iii),(b)-(iv),(c)-(ii),(d)-(i)



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**385. Which one of the following statements is correct?**

**A. the atrio-ventricular node (AVN) generates an action potential to stimulate atrial contraction**

**B. the tricuspid and the bicuspid valves open due to the pressure exerted by the simultaneous contraction of the atria**

**C. blood moves freely from atrium to the ventricle during joint diastole**

**D. increased ventricular pressure causes closing of the semilunar valves**



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**386. Select the incorrect statement regarding synapses:**

- A. the membranes of presynaptic and post synaptic neurons are in close proximity in an electrical synapse**
- B. electrical current can flow directly from one neuron into the other across the electrical synapse**
- C. chemical synapses use neurotransmitters**
- D. impulse transmission across a chemical synapse is always faster than that across an electrical synapse**



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**387. Which of the following statements is not true?**

- A. analogous structures are a result of convergent evolution**
- B. sweet potato and potato is an example of analogy**
- C. homology indicates common ancestry**
- D. flippers of penguins and dolphins are a pair of homologous organs**



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**388. Movement and accumulation of ions across a membrane against their concentration gradient can be explained by**

- A. facilitated diffusion**
- B. passive transport**
- C. active transport**

**D. osmosis**



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**389. Among 'The Evil Quartet', which one is considered the most important cause driving extinction of species?**

**A. over exploitation for economic gain**

**B. alien species invasions**

**C. co-extinctions**

**D. habitat loss and fragmentation**



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**390. Identify the pair of heterogenous pteridophytes among the following:**

**A. Selaginella and Salvinia**

**B. Psilotum and Salvinia**

**C. Equisetum and Salvinia**

**D. Lycopodium and Selaginella**



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**391. Frequency of recombination between gene pairs on same chromosome as a measure of the distance between genes to map their position on chromosome, was used for the first time by**

**A. Sutton and Boveri**

**B. Alfred Sturtevant**

**C. Henking**

**D. Thomas Hunt Morgan**





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**392. What is the function of tassels in the corn cob?**

- A. To trap pollen grains**
- B. to disperse pollen grains**
- C. to protect seeds**
- D. to attract insects**



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**393. Identify the correct statements:**

- A. Detritivores perform fragmentation.**
- B. the humus is further degraded by some microbes during mineralization.**
- C. Water soluble inorganic nutrients go down into the soil and get precipitated by a process called leaching.**
- D. The detritus food chain begins with living organisms**

**E. Earthworms break down detritus into smaller particles by a process called catabolism.**

**Choose the correct answer from the options given below:**

**A. B,C,D only**

**B. C,D,E only**

**C. D,E,A only**

**D. A,B,C only**



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**394. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:**

**Assertion A: Late wood has fewer xylary elements with narrow vessels.**

**Reason R: Cambium is less active in winters.**

**In the light of the above statements, choose the correct answer from the options given below:**

**A. Both A and R are true but R is not the correct explanation of A**

**B. A is true but R is false**

**C. A is false but R is true**

**D. Both A and R are true and R is the correct explanation of A.**



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**395. The process of appearance of recombination nodules occurs at which sub stage of prophase I in meiosis?**

**A. Pachytene**

**B. Diplotene**

**C. Diakinesis**

**D. Zygotene**



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396. Which of the following stages of meiosis involves division of centromere?

- A. Metaphase II
- B. Anaphase II
- C. Telophase
- D. Metaphase I



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397. During the purification process for recombinant DNA technology, addition of chilled ethanol precipitates out

- A. DNA
- B. Histones
- C. Polysaccharides

## D. RNA



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398. Family Fabaceae differs from Solanaceae and Liliaceae. With respect to the stamens, pick out the characteristics specific to family Fabaceae but not found in Solanaceae or Liliaceae.

- A. Polyadelphous and epipetalous stamens
- B. Monoadelphous and Monothealous anthers
- C. Epiphyllous and Dithealous anthers
- D. Diadelphous and Dithealous anthers



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399. Large, colourful, fragrant flowers with nectar are seen in:

- A. bird pollinated plants**
- B. bat pollinated plants**
- C. wind pollinated plants**
- D. insect pollinated plants**



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**400. Spraying of which of the following phytohormone on juvenile conifers helps in hastening the maturity period,that leads to early seed production?**

- A. Gibberellic acid**
- B. zeatin**
- C. Absciscic Acid**
- D. Indole-3-butyric Acid**



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401. Axile placentation is observed in

- A. China rose, Beans and Lupin
- B. Tomato, Dianthus and Pea
- C. China rose, Petunia and Lemon
- D. Mustard, cucumber and Primrose



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402. Among eukaryotes, replication of DNA takes place in

- A. S phase
- B.  $G_1$  phase
- C.  $G_2$  phase

## D. M phase



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403. How many ATP and  $NADPH_2$  are required for the synthesis of one molecule of Glucose during Calvin cycle?

A. 18 ATP and 12  $NADPH_2$

B. 12 ATP and 16  $NADPH_2$

C. 18 ATP and 16  $NADPH_2$

D. 12 ATP and 12  $NADPH_2$



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404. In gene gun method used to introduce alien DNA into host cells, microparticles of \_\_\_\_\_ metal are used.



**A. zinc**

**B. tungsten or gold**

**C. silver**

**D. copper**



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**405. The thickness of ozone in a column of air in the atmosphere is measured in terms of :**

**A. Decibels**

**B. Decameter**

**C. Kilobase**

**D. Dobson units**



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406. Unequivocal proof that DNA is the genetic material was first proposed by

- A. Alfred Hershey and Martha Chase
- B. Avery, Macleoid and McCarthy
- C. Wilkins and Franklin
- D. Frederick Griffith



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407. In the equation

$$GPP - R = NPP$$

GPP is Gross Primary Productivity

NPP is Net Primary Productivity

R here is \_\_\_\_\_

- A. Respiratory Quotient**
- B. Respiratory loss**
- C. Reproductive allocation**
- D. Photosynthetically active radiation**



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**408. What is the role of RNA polymerase III in the process of transcription in Eukaryotes?**

- A. Transcription of tRNA, 5S rRNA and snRNA**
- B. Transcription of precursor of mRNA**
- C. Transcription of only snRNAs**
- D. Transcription of rRNAs (28S, 18S and 5.8S)**



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409. Which micronutrient is required for splitting of water molecule during photosynthesis?

- A. molybdenum
- B. magnesium
- C. copper
- D. manganese



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410. In angiosperm, the haploid, diploid and triploid structures of a fertilized embryo sac sequentially are:

- A. antipodals, synergids, and primary endosperm nucleus
- B. synergids, zygote and primary endosperm nucleus
- C. synergids, antipodals and polar nuclei

**D. synergids,primary endosperm nucleus and zygote**



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**411. The phenomenon of pleiotropism refers to**

- A. presence of two alleles,each of the two genes controlling a single trait**
- B. a single gene affecting multiple phenotypic expression**
- C. more than two genes affecting a single character**
- D. presence of several alleles of a single gene controlling a single crossover**



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412. Given below are two statements:one is labelled as Assertion A and the other is labelled as Reason R:

**Assertion A:**ATP is used at two steps in glycolysis.

**Reason R:**First ATP is used in converting glucose into glucose-6-phosphate and second ATP is used in conversion of fructose-6-phosphate into fructose-1-6-diphosphate..

In the light of the above statements,choose the correct answer from the options given below:

- A. Both A and R are true but R is not the correct explanation of A
- B. A is true but R is false
- C. A is false but R is true
- D. Both A and R are true and R is the correct explanation of A.



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413. Cellulose does not form blue colour with Iodine because

A. It is a helical molecule

B. it does not contain complex helices and hence cannot hold iodine molecules

C. it breaks down when iodine reacts with it

D. it is a disaccharide



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414. Which hormone promotes internode/petiole elongation in deep water rice.

A. Kinetin

B. Ethylene

C. 2,4-D

D.  $GA_3$



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**415. Expressed Sequence Tags(ESTs) refers to**

- A. All genes that are expressed as proteins**
- B. all genes whether expressed or unexpressed**
- C. certain important expressed genes**
- D. all genes that are expressed as RNA**



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**416. Given below are two statements:**

**Statement I: The forces generated by transpiration can lift a xylem-sized column of water over 130 meters height.**

**Statement II: Transpiration cools leaf surfaces sometimes 10 to 15 degrees, by evaporating cooling**



In the light of the above statements, choose the most appropriate answer from the options given below:

- A. Both Statement I and Statement II are incorrect
- B. Statement I is correct but Statement II is incorrect
- C. Statement I is incorrect but Statement II is correct
- D. Both Statement I and Statement II are correct



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417. Upon exposure to UV radiation, DNA stained with ethidium bromide will show

- A. Bright blue colour
- B. Bright yellow colour
- C. Bright orange colour
- D. Bright red colour



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**418. The historic Convention on Biological Diversity, 'The Earth Summit' was held in Rio de Janeiro in the year:**

**A. 1992**

**B. 1986**

**C. 2002**

**D. 1985**



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**419. The reaction centre in PS II has an absorption maxima at**

**A. 700 nm**

**B. 660 nm**

**C. 780 nm**

**D. 680 nm**



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**420. Given below are two statements:one is labelled as Assertion A and the other is labelled as Reason R:**

**Assertion A:The first stage of gametophyte in the life cycle of moss is protonema stage.**

**Reason R:Protonema develops directly from spores produced in capsule.**

**In the light of the above statements,choose the correct answer from the options given below:**

**A. Both A and R are true but R is not the correct explanation of A**

**B. A is true but R is false**

**C. A is false but R is true**

**D. Both A and R are true and R is the correct explanation of A.**



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**421. In tissue culture experiments, leaf mesophyll cells are put in a culture medium to form callus. The phenomenon may be called as:**

**A. Dedifferentiation**

**B. Development**

**C. Senescence**

**D. Differentiation**



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**422. Given below are two statements:**

**Statement I: Endarch and exarch are the terms often used for describing**

the position of secondary xylem in the plant body.

**Statement II:** Exarch condition is the most common feature of the root system

In the light of the above statements, choose the most appropriate answer from the options given below:

- A. Both Statement I and Statement II are incorrect
- B. Statement I is correct but Statement II is incorrect
- C. Statement I is incorrect but Statement II is correct
- D. Both Statement I and Statement II are correct



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**423. Identify the correct statements**

**A.** Lenticels are the lens-shaped openings permitting the exchange of gases.

**B.** Bark formed early in the season is called hard bark.

**C.Bark is a technical term that refers to all tissues exterior to vascular cambium.**

**D.Bark refers to periderm and secondary phloem**

**E.phellogen is single-layered in thickness.**

**Choose the correct answer from the options given below:**

**A. A and D only**

**B. A,B and D only**

**C. B and C only**

**D. B,C and E only**



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**424. Match List I and List II**

<b>List I</b>		<b>List II</b>	
A.	Cohesion	I.	More attraction in liquid phase
B.	Adhesion	II.	Mutual attraction among water molecules
C.	Surface tension	III.	Water loss in liquid phase
D.	Guttation	IV.	Attraction towards polar surfaces

**Choose the correct answer from the options given below**

**A. A-IV, B-III, C-II, D-I**

**B. A-III, B-I, C-IV, D-II**

**C. A-II, B-I, C-IV, D-III**

**D. A-II, B-IV, C-I, D-III**



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**425. Match List I and List II**

<b>List I</b>		<b>List II</b>	
A.	M Phase	I.	Proteins are synthesized
B.	G <sub>2</sub> Phase	II.	Inactive phase
C.	Quiescent stage	III.	Interval between mitosis and initiation of DNA replication
D.	G <sub>1</sub> Phase	IV.	Equational division

Choose the correct answer from the options given below

A. A-IV, B-II, C-I, D-III

B. A-IV, B-I, C-II, D-III

C. A-II, B-IV, C-I, D-III

D. A-III, B-II, C-IV, D-I



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**426. Which of the following statements are correct about Klinefelter's syndrome?**

**A.This disorder was first described by Langdon Down(1866).**

**B.Such an individual has overall masculine development.However,the feminine development is also expressed.**

**C.The affected individual is short statured.**

**D.Physical,psychomotor and mental development is retarded.**

**E.Such individuals are sterile.**

**Choose the correct answer from the options given below:**

**A. C and D only**

**B. B and E only**

**C. A and E only**

**D. A and B only**



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**427. Given below are two statements:**

**Statement I:**Gause's 'Competitive Exclusion Principle' states that two closely related species competing for the same resources cannot co-exist indefinitely and competitively inferior one will be eliminated eventually.

**Statement II:**In general,carnivores are more adversely affected by competition than herbivores.

**In the light of the above statements,choose the most appropriate answer from the options given below:**

- A. Both Statement I and Statement II are incorrect**
- B. Statement I is correct but Statement II is incorrect**
- C. Statement I is incorrect but Statement II is correct**
- D. Both Statement I and Statement II are correct**



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**428. How many different proteins does the ribosome consist of?**

**A. 60**

**B. 40**

**C. 20**

**D. 80**



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**429. Which of the following combinations is required for chemiosmosis?**

**A. membrane,proton pump,proton gradient,NADP synthase**

**B. proton pump,electron gradient,NADP synthase**

**C. proton pump,electron gradient,NADP synthase**

**D. membrane,proton pump,proton gradient,ATP synthase**



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**430. Which one of the following statements is not correct?**

- A. Algal blooms caused by excess of organic matter in water improve water quality and promote fisheries**
- B. Water hyacinth grows abundantly in eutrophic water bodies and leads to an imbalance in the ecosystem dynamics of the water body**
- C. the amount of some toxic substances of industrial waste water increases in the organisms at successive trophic leveles.**
- D. The micro-organisms involved in biodegradation of organic matter in a sewage polluted water body consume a lot of oxygen causing the death of aquatic organisms.**



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**431. Match List I and List II**

<b>List I (Interaction)</b>	<b>List II (Species A and B)</b>
A. Mutualism	I. + (A), O(B)
B. Commensalism	II. - (A), O(B)
C. Amensalism	III. + (A), - (B)
D. Parasitism	IV. + (A), + (B)

Choose the correct answer from the options given below

A. A-IV, B-I, C-II, D-III

B. A-IV, B-III, C-I, D-II

C. A-III, B-I, C-IV, D-II

D. A-IV, B-II, C-I, D-III



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**432. Main steps in the formation of Recombinant DNA are given below. Arrange these steps in a correct sequence.**

**A.Insertion of recombinant DNA into the host cell.**

**B.cutting of DNA at specific location by restriction enzyme.**

**C.isolation of desired DNA fragment.**

**D.Amplification of gene of interest using PCR.**

**Choose the correct answer from the options given below:**

**A. C,A,B,D**

**B. C,B,D,A**

**C. B,D,A,C**

**D. B,C,D,A**



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**433. Match List I and List II**

<b>List I</b>	<b>List II</b>
A. Iron	I. Synthesis of auxin
B. Zinc	II. Component of nitrate reductase
C. Boron	III. Activator of catalase
D. Molybdenum	IV. Cell elongation and differentiation

Choose the correct answer from the options given below

A. A-II, B-III, C-IV, D-I

B. A-III, B-I, C-IV, D-II

C. A-II, B-IV, C-IV, D-III

D. A-III, B-II, C-I, D-IV



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**434. Match List I and List II**

<b>List I</b>	<b>List II</b>
A. Oxidative decarboxylation	I. Citrate synthase
B. Glycolysis	II. Pyruvate dehydrogenase
C. Oxidative phosphorylation	III. Electron transport system
D. Tricarboxylic acid cycle	IV. EMP pathway

**Choose the correct answer from the options given below**

**A. A-II, B-IV, C-I, D-III**

**B. A-III, B-I, C-II, D-IV**

**C. A-II, B-IV, C-III, D-I**

**D. A-III, B-IV, C-II, D-I**



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435. Given below are two statements:one is labelled as Assertion A and the other is labelled as Reason R:

**Assertion A:**In gymnosperms the pollen grains are released from the microsporangium and carried by air currents.

**Reason R:**Air currents carry the pollen grains to the mouth of the archegonia where the male gametes are discharged and pollen tube is not formed .

In the light of the above statements,choose the correct answer from the options given below:

- A. Both A and R are true but R is not the correct explanation of A
- B. A is true but R is false
- C. A is false but R is true
- D. Both A and R are true and R is the correct explanation of A.



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436. Given below are two statements:one is labelled as Assertion A and the other is labelled as Reason R:

**Assertion A:**A flower is defined as modified shoot wherein the shoot apical meristem changes to floral meristem.

**Reason R:**Internode of the shoot gets condensed to produce different floral appendages laterally at successive nodes instead of leaves..

In the light of the above statements,choose the correct answer from the options given below:

A. Both A and R are true but R is not the correct explanation of A

B. A is true but R is false

C. A is false but R is true

D. Both A and R are true and R is the correct explanation of A.



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437. Melonate inhibits the growth of pathogenic bacteria by inhibiting the activity of

A. amylase

B. lipase

C. dinitrogenase

D. Succinic dehydrogenase



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438. Given below are statements :

Statement I: A protein is imagined as a line the left end represented by first amino acid (C-terminal ) and the right end represented by last amino acid (N-terminal )

statement II : Adult human haemoglobin, consists of 4 subunits (two subunits of  $\alpha$  type and two subunits of  $\beta$  type ).

in the light of the above statements, choose the correct answer from the options given below :



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439. Radial symmetry is NOT found in adults of phylum \_\_\_\_

- A. Hemichordata
- B. Coelenterata
- C. Echinodermata
- D. Ctenophora



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440. Which of the following statement are correct regarding female reproductive cycle

- A. In non -primate mammals cyclical change during reproduction are

called oestrus cycle .

B. First menstrual cycle begins at piberty and is called menopause

C. Lack of menstruation may be indicative of pregnancy

D. Cyclic menstruation extends between menarche and menopause

choose the most appropriate answer from the options given below:

A. A and B only

B. A,B and C only

C. A, C and D only

D. A and D only



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441. Given below are statements : one is labelled as Assretion A and the other is labelled as Reason R.

Assertion A: Nephrons are of two types cortical & juxta medullary, based on their relative position in cortex and medulla

**Reason R : juxta medullary nephrons have short loop of henle whereas , corticalnephrons have longer loop of Henle**

**in the light of the above statements, choose the correct answer from the options given below :**

- A. Both A and R are true but R is NOT the correct explanation of A.**
- B. A is true but R is false.**
- C. A is false but R is true.**
- D. Both A and R are true but R is the correct explanation of A.**



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442. Match List I with List II.

List I	List II
A. Fovea	I. Visible coloured portion of eye that regulates diameter of pupil.
B. Iris	II. External layer of eye formed of dense connective tissue.
C. Blind spot	III. Point of greatest visual acuity or resolution.
D. Sclera	IV. Point where optic nerve leaves the eyeball and photoreceptor cells are absent.

choose the correct answer from the options give below :

A. A-IV, B-III C-II, D-I

B. A-I,B-IV,C-III,D-II

C. A-II, B-I, C-III,D-IV

D. A-III,B-I,C-IV,D-II



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443. Which of the following are NOT considered as the part of endomembrane system? <

A. Mitochondria B. Endoplasmic Reticulum C. Chloroplasts. D. Golgi complex E. Peroxisomes

Choose the most appropriate answer from the options given below

A. A,C and E only

B. A and D only

C. A, D and E only

D. B and D only



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444. Broad palmar with single palmar crease is visible in a person suffering from -



A. Turner's syndrome

B. Klinefelter's syndrome

C. Thalassemia

D. Down's syndrome



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445. Match List I with List II.

**List I**

A. P - wave

B. Q - wave

C. QRS complex

D. T - wave

**List II**

I. Beginning of systole

II. Repolarisation of  
ventricles

III. Depolarisation of atria

IV. Depolarisation of  
ventricles

choose the correct answer from the options give below :

A. A-IV, B-III C-II, D-I

**B. A-II, B-IV, C-I,D-III**

**C. A-I, B-II, C-III,D-IV**

**D. A-III,B-I, C-IV, D-II**



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**446. Which one of the following common sexually transmitted diseases is completely curable when detected early and treated properly**

**A. Gonorrhoea**

**B. Hepatitis -B**

**C. HIV Injection**

**D. Genital herpes**



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447. Match List I with List II.

List I (Cells)	List II (Secretion)
A. Peptic cells	I. Mucus
B. Goblet cells	II. Bile juice
C. Oxyntic cells	III. Proenzyme pepsinogen
D. Hepatic cells	IV. HCl and intrinsic factor for absorption of vitamin B <sub>12</sub>

choose the correct answer from the options give below :

A. A-II, B-I, C-III, D-IV

B. A-III, B-I, C-IV, D-II

C. A-II, B -IV, C-I, D-III

D. A-IV, B-III, C-II, D-I



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448. Given below are two statements : one is labelled as Assertion A and the other is labelled as Reason R.

**Assertion A:** Endometrium is necessary for implantation of blastocyst.

**Reason R:** In the absence of fertilization, the corpus luteum degenerates that causes disintegration of endometrium.

In the light of the above statements, choose the correct answer from the options given below:

A. Both A and R are true but R is NOT the correct explanation of A.

B. A is true but R is false.

C. A is false but R is true.

D. Both A and R are true but R is the correct explanation of A.



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**449. Which of the following is not a cloning vector ?**

A. YAC

B. pBR322

C. Probe

D. BAC



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450. Match List I with List II.

List I	List II
A. <i>Taenia</i>	I. Nephridia
B. <i>Paramoecium</i>	II. Contractile vacuole
C. <i>Periplaneta</i>	III. Flame cells
D. <i>Pheretima</i>	IV. Urecose gland

choose the correct answer from the options give below :

A. A-I,B-II,C-IVmD-III

B. A-III,B-II,C-IV,D-I

C. A-II,B-I,C-IV,D-III

D. A-I,B-II,C-III,D-IV



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**451. Given below are two statements :**

**Statement I: Ligaments are dense irregular tissue.**

**Statement II : Cartilage is dense regular tissue.**

**In the light of the above statements, choose the correct answer from the options given below:**

- A. Both Statement I and Statement II are false.**
- B. Statement I is true but Statement II is false.**
- C. Statement I is false but Statement II is true.**
- D. Both Statement I and Statement II are true.**



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452. Which of the following functions is carried out by cytoskeleton in a cell?

- A. Protein synthesis
- B. Motility
- C. Transportation
- D. Nuclear division



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453. Match List I with list II :

List I	List II
A. Gene 'a'	I. $\beta$ -galactosidase
B. Gene 'y'	II. Transacetylase
C. Gene 'i'	III. Permease
D. Gene 'z'	IV. Repressor protein

Choose the correct answer from the options given below:

A. A-II,B-III,C-IV,D-I

B. A-III,B-IV,C-I,D-II

C. A-III,B-I,C-IV,D-II

D. A-II,B-I,C-IV,D-III



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**454. Which of the following statements is correct ?**

**A. Biomagnification refers to increase in concentration of the toxicant at successive trophic levels.**

**B. Presence of large amount of nutrients in water restricts 'Algal Bloom'**

**C. Algal Bloom decreases fish mortality.**

**D. Eutrophication refers to increase in domestic sewage and waste water in lakes.**





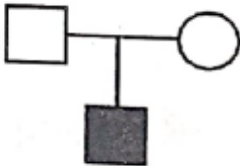
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455. Which one of the following symbols represents mating between relatives in human pedigree analysis ?

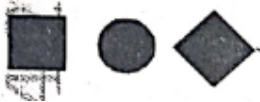
A.



B.



C.



D.



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**456. Once the undigested and unabsorbed substances enter the caecum, their backflow is prevented by -**

- A. Ileo - caecal valve**
- B. Gastro - oesophageal sphincter**
- C. Pyloric sphincter**
- D. Sphincter of Oddi**



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**457. Which one of the following techniques does not serve the purpose of early diagnosis of a disease for its early treatment ?**

- A. Serum and Urine analysis**
- B. Polymerase Chain Reaction (PCR) technique**
- C. Enzyme Linked Immuno-Sorbent Assay (ELISA) technique**

## D. Recombinant DNA Technology



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**458. Given below are two statements:**

**Statement I : Low temperature preserves the enzyme in a temporarily inactive state whereas high temperature destroys enzymatic activity because proteins are denatured by heat.**

**Statement II : When the inhibitor closely resembles the substrate in its molecular structure and inhibits the activity of the enzyme, it is known as competitive inhibitor.**

**In the light of the above statements, choose the correct answer from the options given below:**

**A. Both Statement I and Statement II are false.**

**B. Statement I is true but Statement II is false.**

**C. Statement I is false but Statement II is true.**

D. Both Statement I and Statement II are true.



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459. Match List I with List II .

List I (Type of Joint)	List II (Found between)
A. Cartilaginous Joint	I. Between flat skull bones
B. Ball and Socket Joint	II. Between adjacent vertebrae in vertebral column
C. Fibrous Joint	III. Between carpal and metacarpal of thumb
D. Saddle Joint	IV. Between Humerus and Pectoral girdle

Choose the correct answer from the options given below:

A. A-II,B-IV,C-I,D-III

B. A-I,B-IV,C-III,D-II

**C. A-II,B-IV,C-III,D-I**

**D. A-III,B-I,C-II,D-IV**



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**460. Given below are two statements :**

**Statement I: Vas deferens receives a duct from seminal vesicle and opens into urethra as the ejaculatory duct.**

**Statement II: The cavity of the cervix is called cervical canal which along with vagina forms birth canal.**

**In the light of the above statements, choose the correct answer from the options given below:**

**A. Both Statement I and Statement II are false.**

**B. Statement I is correct but Statement II is false.**

**C. Statement I incorrect but Statement II is true**

**D. Both Statement I and Statement II are true.**



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**461. In which blood corpuscles, the HIV undergoes replication and produces progeny viruses ?**

**A. B-lymphocytes**

**B. Basophils**

**C. Eosinophils**

**D.  $T_H$  cells**



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462. Match List I with list II.

List I	List II
A. Heroin	I. Effect on cardiovascular system
B. Marijuana	II. Slow down body function
C. Cocaine	III. Painkiller
D. Morphine	IV. Interfere with transport of dopamine

choose the correct answer from the options given below:

A. A-I,B-II,C-III,D-IV

B. A-IV,B-III,C-II,D-I

C. A-III,B-IV,C-I,D-II

D. A-II,B-I,C-IV,D-III



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463. Vital capacity of lung is

**A. IRV+ERV+TV+RV**

**B. IRV +ERV +TV - RV**

**C. IRV +ERV+TV**

**D. IRV+ERV**



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**464. Select the correct group/set of Australian Marsupials exhibiting adaptive radiation.**

**A. Numbat, Spotted cuscus, flying phalanger**

**B. Mole, Flying squirrel, Tasmanian tiger cat**

**C. Lemur, Anteater, Wolf**

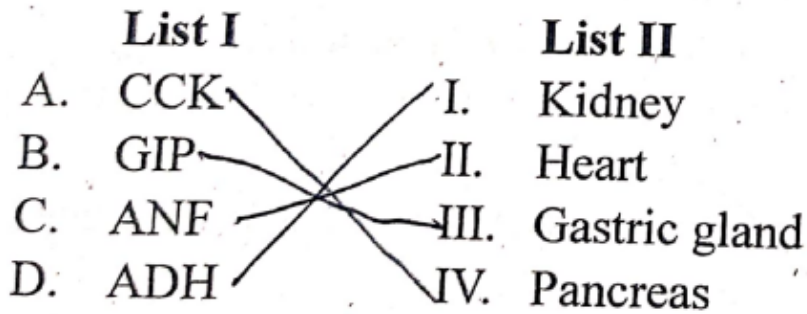
**D. Tasmanian wolf, Bobcat, Marsupial mole**



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465. Match List I with list II.



Choose the correct answer from the options given below:

A. A-III,B-II,C-IV,D-I

B. A-II,B-IV,C-I,D-III

C. A-IV,B-II,C-III,D-I

D. A-IV,B-III,C-II,D-I



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**466. Given below are two statements : one is labelled as Assertion A and the other is labelled as Reason R.**

**Assertion A: Amniocentesis for sex determination is one of the strategies of Reproductive and Child Health care programme**

**Reason R: Ban on amniocentesis checks increasing menace of female foeticide .**

**In the light of the above statements, choose the correct answer from the options given below :**

- A. Both A and R are true but R is NOT the correct explanation of A.**
- B. A is true but R is false.**
- C. A is false but R is true.**
- D. Both A and R are true but R is the correct explanation of A.**



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**467. Given below are two statements :**

**Statement I : RNA mutates at a faster rate**

**Statement II : Viruses having RNA genome and shorter life span mutate and evolve faster**

**In the light of the above statements , choose the correct answer from the option given below:**

**A. Both Statement I and Statement II are false**

**B. statement I is true but statement II is false**

**C. statement I is false but statement II is true**

**D. Both Statement I and Statement II are true**



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468. Match List I with List II :

List I		List II	
A.	Vasectomy	I.	Oral method
B.	Coitus interruptus	II.	Barrier method
C.	Cervical caps	III.	Surgical method
D.	Saheli	IV.	Natural method

Choose the correct answer from the options given below :

A. A-III, B-IV, C-II, D-I

B. A-II, B-III, C-I, D-IV

C. A-IV, B-II, C-I, D-III

D. A-III, B-I, C-IV, D-II



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**469. Given below are two statements :**

**Statement I : Electrostatic precipitator is most widely used in thermal power plant . Statement II . Electrostatic precipitator in thermal power plant removes ionising radiations**

**In the light of the above statements , choose the most appropriate answer from the option given below:**

- A. Both Statement I and Statement II are incorrect**
- B. Both Statement I and Statement II are incorrect**
- C. statement I is incorrect but statement II is correct**
- D. Both Statement I and Statement II are correct**



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**470. Given below are two statements:**

**Statement I : In prokaryotes , the positively charged DNA is held with some negatively charged proteins in a region called nucleoid**

Statement II: In eukaryotes , the negatively charged DNA is wrapped around the positively charged histone octamer to form nucleosome.

In the light of the above statements , choose the correct answer from the option given below:

- A. Both Statement I and Statement II are false
- B. statement I is correct but statement II is false
- C. statement I is incorrect but statement II is true
- D. Both Statement I and Statement II are true



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471. Match List I with List II :

List I	List II
A. Ringworm	I. <i>Haemophilus influenzae</i>
B. Filariasis	II. <i>Trichophyton</i>
C. Malaria	III. <i>Wuchereria bancrofti</i>
D. Pneumonia	IV. <i>Plasmodium vivax</i>

Choose the correct answer from the options given below :

**A. A-II, B-III, C-I, D-IV**

**B. A-III ,B-II, C-I D-IV**

**C. A-III, B-III, C-IV, D-I**

**D. A-II, B-III, C-IV, D-I**



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472. Match List I with List II :

List I	List II
(Interacting species)	(Name of Interaction)
A. A Leopard and a Lion in a forest/ grassland	I. Competition
B. A Cuckoo laying egg in a Crow's nest	II. Brood parasitism
C. Fungi and root of a higher plant in Mycorrhizae	III. Mutualism
D. A cattle egret and a Cattle in a field	IV. Commensalism

Choose the correct answer from the options given below :

A. A-I, B-II, C-IV, D-III

B. A-III ,B-IV, C-I D-II

C. A-II, B-III, C-I, D-IV

D. A-I,B-II ,C-III ,D-IV





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**473. Which of the following statements are correct**

- A. Basophils are most abundant cells of the total WBCs**
- B. Basophils secrete histamine , serotonin and heparin**
- C. Basophils are involved in inflammatory response**
- D. Basophils have kidney shaped nucleus**
- E . Basophils are agranulocytes**

**Choose the correct answer from the options given below :**

- A. C and E only**
- B. B and C only**
- C. A and B only**
- D. D and E only**



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**474. Match List I with List II :**

<b>List I</b>	<b>List II</b>
A. Mast cells	I. Ciliated epithelium
B. Inner surface of bronchiole	II. Areolar connective tissue
C. Blood	III. Cuboidal epithelium
D. Tubular parts of nephron	IV. specialised connective tissue

**Choose the correct answer from the options given below :**

**A. A-II, B-III, C-I, D-IV**

**B. A-II, B-I, C-IV, D-III**

**C. A-III, B-IV, C-II, D-I**

**D. A-I, B-II, C-IV, D-III**



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**475. Select the correct statements**

- A . Tetrad formation is seen during Leptotene .**
- B. During Anaphase , the centromeres split and chromatids separate .**
- C. Terminalization takes place during pachytene.**
- D. Nucleolus, Golgi complex and ER are reformed during telophase.**
- E . Crossing over takes place between sister chromatids of homologous chromosome.**

**Choose the correct answer from the option given below :**

- A. B and D only**
- B. A, C and E only**
- C. B and E only**
- D. A and C only**



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476. In cockroach ,excretion is brought about by

- A. Phallic gland
- B. Urcose glande
- C. Nephrocytes
- D. Fat body
- E. Coollateral

Choose the correct answer from the options given below :

- A. A,B and E only
- B. B, C and Donly
- C. B and D only
- D. A and E only



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477. Given below are two statements:

Statement I : During G<sub>0</sub> phase of cell cycle,the cell is metabolically

inactive .

**Statement II: The centrosome undergoes duplication during S phase of interphase .**

**In the light of the above statements , choose the most appropriate answer from the option given below:**

- A. Both Statement I and Statement II are incorrect**
- B. statement I is correct but statement II is incorrect**
- C. statement I is incorrect but statement II is correct**
- D. Both Statement I and Statement II are correct**



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**478. Select the correct statements with reference to chordates**

- A. Presence of a mid -dorsal, solid and double nerve cord**
- B. Presence of closed circulatory system**
- C .Presence of pharyngeal gill slits.**

**D. Presence of dorsal heart**

**E . Triploblastic pseudocoelmate animals**

**Choose the correct answer from the option given below :**

**A. B,and C only**

**B. B, D and E only**

**C. C,D and E only**

**D. A , C and D only**



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479. Match List I with List II :

List I	List II
A. Logistic growth	I. Unlimited resource availability condition
B. Exponential growth	II. Limited resource availability condition
C. Expanding age pyramid	III. The percent individuals of pre-reproductive age is largest followed by reproductive and post reproductive age groups
D. Stable age pyramid	IV. The percent individuals of pre-reproductives and reproductive age group are same

Choose the correct answer from the options given below :

A. A-II, B-III, C-I, D-IV

B. A-II, B-IV, C-I, D-III

C. A-II, B-IV, C-III, D-I

D. A-II, B-I, C-III, D-IV



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480. Which one of the following is the sequence on corresponding coding strand, if the sequence on mRNA formed is as follows

AUCGAUCGAUCGAUCGAUCG AUCG 3'?

- A. 3'UAGCUAGCUAGCUAGCUAGCUAGCUAGC 5'
- B. 5' ATCGATCGATCGATCGATCGATCGATCG 3'
- C. 3' ATCGATCGATCGATCGATCGATCGATCG 5'
- D. 5' UAGCUAGCUAGCUAGCUAGCUAGCUAGC UAGC 3'



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481. Which of the following is characteristic feature of cockroach regarding sexual dimorphism?

- A. Presence of anal styles



**B. Presence of sclerites**

**C. Presence of anal cerci**

**D. Dark brown body colour and anal cerci**



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**482. Which of the following statements are correct regarding skeletal muscle ?**

**A. Muscle bundles are held together by collagenous connective tissue layer called fascicle.**

**B . Sarcoplasmic reticulum of muscle fibre is a store house of calcium ions.**

**C. Striated appearance of skeletal muscle fibre is due to distribution pattern of actin and myosin proteins .**

**D . M line considered as functional unit of contraction called sarcomere**

**Choose the most appropriate answer from the options are held together by option given below :**

**A. B and C only**

**B. A,C and D only**

**C. C and D only**

**D. A , B and C only**



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**483. The unique mammalian characteristics are :**

**A. hairs, pinna and mammary glands**

**B. hairs , pinna and indirect developmant**

**C. pinna, monocondylic skull and mammary glands**

**D. hairs , tympanic membrane and mammary glands**



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484. Which one of the following is NOT an advantage of inbreeding ?

- A. It exposes harmful recessive genes that are eliminated by selection
- B. Elimination of less desirable genes and accumulation of superior genes takes place due to it .
- C. It decreases the productivity of inbred population , after continuous inbreeding
- D. It decreases homozygosity.



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485. The parts of human brain that helps in regulation of sexual behaviour , expression of excitement , pleasure , rage fear etc. are :

- A. Corpora quadrigemina & hippocampus
- B. Brain stem & epithalamus

C. Corpus callosum and thalamus

D. Limbic system & hypothalamus



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**486. Which of the following statements are correct**

**A, An excessive loss of body fluid from the body switches off osmoreceptors.**

**B. ADH facilitates water reabsorption to prevent diuresis.**

**C. ANF causes vasodilation.**

**D. ADH causes increase in blood pressure.**

**E. ADH is responsible for decrease in GFR .**

**Choose the correct answer from the option given below :**

**A. B,C and D only**

**B. A,B and E only**

**C. C,D and E only**

**D. A and B only**



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**487. Which of the following are NOT under the control of thyroid hormone ?**

**A . Maintenance of water and electrolyte balance**

**Regulation of basal metabolic rate**

**C. Normal rhythm of sleep- wake cycle.**

**D. Development of immune system**

**E . Support the process of R.B.Cs formation**

**Choose the correct answer from the option given below :**

**A. B and C only**

**B. C and D only**

**C. D and E only**

**D. A and D only**



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## MCQ

1. *Cycas* and *Adiantum* resemble each other in having

- A. Cambium
- B. Vessels
- C. Seeds
- D. Motile sperms

**Answer: D**



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2. Gymnosperms are also called soft wood spermatophytes because they lack

**A. Thick-walled tracheids**

**B. Xylem fibres**

**C. Cambium**

**D. Phloem fibres**

**Answer: A**



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**3. Maximum nutritional diversity is found in the group**

**A. Monera**

**B. Plantae**

**C. Fungi**

**D. Animalia**

**Answer: A**



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4. Which one of the following is common to multicellular fungi, filamentous algae and protonema of mosses

- A. Mode of Nutrition
- B. Multiplication by fragmentation
- C. Diplontic life cycle
- D. Members of kingdom plantae

Answer: B



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5. Which is wrong about viruses ?

- A. They have ability to synthesiz nucleic acids and proteins
- B. Antibiotics have no effect on them
- C. All are parasites



**D. All of them have helical symmetry**

**Answer: D**



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**6. Which one of the following is a correct statement?**

**A. Antheridiophores and archegoniophores are present in pteridophytes**

**B. Origin of seed habit can be traced in pteridophytes**

**C. Pteridophyte gametophyte has a protonemal and leafy stage**

**D. In gymnosperm female gametophyte is free living**

**Answer: B**



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**7. Nuclear membrane is absent in**

- A. Volvox**
- B. Nostoc**
- C. Penicillium**
- D. Agaricus**

**Answer: B**



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**8. During gamete formation, the enzyme recombinase participates during**

- A. Prophase-I**
- B. Prophase -II**
- C. Metaphase-I**
- D. Anaphase-II**

**Answer: A**



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**9. Which one of the following does not differ in E.coli and Chlamydomonas?**

**A. Cell wall**

**B. Cell membrane**

**C. Ribosomes**

**D. Chromosomal Organization**

**Answer: B**



**Watch Video Solution**

**10. PCR and restriction Fragments length Polymorphism are the methods for**

- A. DNA sequencing
- B. Genetic Fingerprinting
- C. Study of enzymes
- D. Genetic transformation

**Answer: B**



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**11. Removal of RNA polymerase III from nucleoplasm will affect the synthesis of**

**Or Eukaryotic RNA Polymerase III catalyse the synthesis of**

- A. mRNA
- B. rRNA
- C. tRNA
- D. hnRNA

**Answer: C**



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**12. Evolution of different species in a given area starting from a point and spreadig to other geographical areas is known as**

- A. Migration**
- B. divergent evolution**
- C. Adaptive radiation**
- D. Natural selection**

**Answer: C**



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**13. Removal of introns and joining of exons in a defined order during transcription is called :**

- A. Slicing
- B. Splicing
- C. Looping
- D. Inducing

**Answer: B**



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**14. Which one of the following is not a part of trasncription unit in DNA**

- A. A promoter
- B. The structural gene
- C. the inducer
- D. A terminator

**Answer: C**



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**15. Most resistance biological material is**

**Or**

**An organic substance that can withstand enviornmental extremes and cannot be degraded by any enzyme is**

- A. Lignin**
- B. Cellulose**
- C. Cuticle**
- D. Sporopollenin**

**Answer: D**



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**16. Best defined function of manganese in green plants is**

- A. Nitrogen fixation**

**B. Water absorption**

**C. Photolysis of water**

**D. Calvin cycle**

**Answer: C**



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**17. Water containing cavities in vascular bundles are found in**

**A. Cycas**

**B. Pinus**

**C. Sunflower**

**D. Maize**

**Answer: D**



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**18. Closed vascular bundles lack**

- A. Cambium**
- B. Pith**
- C. Ground tissue**
- D. Conjunctive tissue**

**Answer: A**



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**19. Placentation in tomato and lemon is**

- A. Marginal**
- B. Axile**
- C. Parietal**
- D. Free central**

**Answer: B**



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**20. Companion cells are closely associated with**

**Or**

**Transport of food material in higher plants takes place through**

**A. Trichomes**

**B. Guard cells**

**C. Sieve elements**

**D. Vessel elements**

**Answer: C**



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**21. Vexillary aestivation is characteristic of the family**

**A. Solanaceae**

**B. Brassicaceae**

**C. Fabaceae**

**D. Asteraceae**

**Answer: C**



**Watch Video Solution**

**22. Phyllode is present in :-**

**A. Australian Acacia**

**B. Opuntia**

**C. Asparagus**

**D. Euphorbia**

**Answer: A**



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**23. cork/bottle cork is formed from**

- A. Xylem**
- B. Vascular Cambium**
- C. Dematogen**
- D. Phellogen**

**Answer: D**



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**24. Which one of the following is wrong statement ?**

- A. Phosphorus is a constituent of cell membranes, certain nucleic acids and all proteins**
- B. Nitrosomonas and Nitrobacter are chemoautotrophs**

C. Anabaena and Nostoc are capable of fixing nitrogen in free- living state also

D. Root nodule forming nitrogen fixers live as aerobes under free living conditions

Answer: A



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25. How many plants in the list given below have composite fruits that develop from an inflorescence. Walnut, poppy, radish, fig, pineapple, apple, totato, mulberry.

A. Two

B. Three

C. Four

D. Five

**Answer: B**



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**26. Cymose inflorescence is present in**

**A. Trifolium**

**B. Brassica**

**C. Solanum**

**D. Sesbania**

**Answer: C**



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**27. Which one of the following is correctly matched ?**

**A. Potassium - Readily immobilisation**

B. Bakane of rice seedlings - F skoog

C. Passive transport of nutrients - ATP

D. Apoplast - Plasmodesmata

Answer: A



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28. A process that makes important difference between  $C_3$  and  $C_4$  plants is

A. Photosynthesis

B. Photorespiration

C. Transpiration

D. Glycolysis

Answer: B



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29. The correct sequence of cell organelles during photorespiration is

- A. Chloroplast, mitochondria, peroxisome
- B. Chloroplast, - vacuole - peroxisome
- C. Chloroplast, - Golgiboidies - mitochondria
- D. Chloroplast, Rough Endoplasmic reticulum- Dictyosomes

Answer: A



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30. The coconut water and the edible part of coconut are equivalent to or the morphological nature of the edible part of coconut is

- A. Mesocarp
- B. Embryo
- C. Endosperm



**D. Endocarp**

**Answer: C**



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**31. The gynoecium consists of many free pistils in flowers of**

**A. Papaver**

**B. Michelia**

**C. Aloe**

**D. Tomato**

**Answer: B**



**Watch Video Solution**

**32. Which one of the following is correctly matched**

**A. Chlamydomonas - Conidia**

**B. yeast - Zoospores**

**C. Onion - Bulb**

**D. Ginger - Sucker**

**Answer: C**



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**33. Both, autogamy and geitonogamy are prevented in**

**A. Castor**

**B. Maize**

**C. Papaya**

**D. Cucumber**

**Answer: C**



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34. Even in absence of pollinating agents seed-setting is assured in

A. Salvia

B. Fig

C. Commellina

D. Zostera

Answer: C



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35. Which one of the following areas in `India, is a hotspot of an ecosystem:-

A. Sunderbans

B. Western Ghats

C. Eastern Ghats

**D. Gangetic plain**

**Answer: B**



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**36. Which one of the following is not a functional unit of an ecosystem**

**A. Productivity**

**B. Stratification**

**C. Energy flow**

**D. Decomposition**

**Answer: B**



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**37. The upright pyramid of number is absent in**

**A. Lake**

**B. Grassland**

**C. Pond**

**D. Forest**

**Answer: D**



**Watch Video Solution**

**38. Which one of the following is not a gaseous biogeochemical cycle in ecosystem?**

**A. Nitrogen Cycle**

**B. Carbon Cycle**

**C. Sulphur Cycle**

**D. Phosphorus Cycle**

**Answer: D**



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**39. Which one of the following is a wrong statement?**

- A. Greenhouse effect is a natural Phenomenon**
- B. Eutrophication is a natural phenomenon in freshwater bodies**
- C. Most of the forests have been lost in tropical areas**
- D. Ozone in upper part of atmosphere is harmful to animals**

**Answer: D**



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**40. The highest number of species in the world is represented by**

- A. Algae**
- B. Lichens**
- C. Fungi**

**D. Mosses**

**Answer: B**



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**41. Yeast is used in the production of**

**A. Bread and beer**

**B. Cheese and butter**

**C. Citric acid and lactic acid**

**D. Lipase and pectinase**

**Answer: A**



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**42. Which one of the following helps in absorption of phosphorus from soil by plants**

**or**

**Which one of the following microbes forms symbiotic association with plants and helps them in their nutrition**

**A. Glomus**

**B. Trichoderma**

**C. Azotobacter**

**D. Aspergillus**

**Answer: A**



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**43. A single strand of nucleic acid tagged with a radioactive molecule is called:**



**A. Plasmid**

**B. Probe**

**C. Vector**

**D. Selectable marker**

**Answer: B**



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**44. A patient brought to a hospital with myocardial infraction is normally immediately given**

**A. Cyclosporin-A**

**B. Statins**

**C. Penicillin**

**D. Streptokinase**

**Answer: D**



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**45. A nitrogen fixing microbe associated with Azolla in rice-fields is:-**

- A. Frankia**
- B. Tolypothrix**
- C. Spirulina**
- D. Anabaena**

**Answer: D**



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**46. Which one is a true statement regarding DNA polymerase used in PCR**

- A. It is isolated from a virus**
- B. It remains active at high temperature**
- C. It is used to ligate introduced DNA in recipient cell**

**D. It serves as a selectable marker**

**Answer: B**



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**47. Consumption of which one of the following foods can prevent the kind of blindness associated with vitamin 'A' deficiency?**

**A. golden rice**

**B. Bt-Brinjal**

**C. Flaver Savr Tomato**

**D. Canolla**

**Answer: A**



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**48. Which of the following is a case of wrong matching**

- A. Micropropagation - In vitro production of plants in large numbers**
- B. Callus - Unorganised mass of cells produced in tissue culture**
- C. Somatic hybridization - Fusion of two diverse cells**
- D. Vector DNA - site for tRNA synthesis**

**Answer: D**



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**49. Which part would be most suitable for raising virus free plants for micropropagation?**

- A. Meristem**
- B. Node**
- C. Bark**
- D. Vascular tissue**

**Answer: A**



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**50. For transformation, micro-particles coated with DNA to be bombarded from gene gun are made up of**

**A. Silicon or platinum**

**B. Gold or Tungsten**

**C. Silver or platinum**

**D. Platinum or zinc**

**Answer: B**



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**51. The cyanobacteria are also referred to as:-**

**A. Slime moulds**

**B. Blue green algae**

**C. Protists**

**D. Golden algae**

**Answer: A**



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**52. Which one single organism or the pair of organisms is correctly assigned to its or their named taxonomic group?**

**A. Yeast used in making bread and beer is a fungus**

**B. Nostoc and Anabaena are examples of protista**

**C. Paramecium and Plasmodium belong to the same kingdom as that of Penicillium**

D. Lichen is composite organism formed from the symbiotic association of an algae and a protozoan

Answer: A



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53. Select the correct statement from the following regarding cell membrane.

A. Lipids are arranged in bilayer with polar heads towards the inner part

B. Fluid mosaic model of cell membrane was proposed by singer and Nicolson

C.  $Na^+$  and  $K^+$  ions move across cell membrane by passive transport

D. Proteins make up 60 to 70% of the cell membrane

**Answer: B**



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**54. What is true about ribosomes**

- A. These are found only in eukaryotic cells**
- B. These are self - splicing introns of some RNAs.**
- C. The prokaryotic ribosomes are 80 S, where 'S' stands for sedimentation coefficient.**
- D. There are composed of ribonucleic acid and proteins**

**Answer: D**



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**55. Ribosomal RNA is synthesized in :**



**A. Nucleoplasm**

**B. Ribosomes**

**C. Lysosomes**

**D. Nucleolus**

**Answer: D**



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**56.  $F_2$  generation in Mendelian cross showed that both genotypic and phenotypic ratios are same as 1 : 2 : 1. It represents a case of:**

**A. Monohybrid cross with complete dominance**

**B. Monohybrid cross with incomplete dominance**

**C. Co - dominance**

**D. Dihybrid cross**

**Answer: B**



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57. What was the most significant trend in the evolution of modern man (Homo sapiens) from his ancestors?

- A. Increasing cranial capacity
- B. Upright posture
- C. Shortening of jaws
- D. Binocular vision

Answer: A



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58. If one strand of DNA has the nitrogenous base sequence as ATCTG, what would be the complementary RNA strand sequence ?

- A. A ACTG

B. ATCGU

C. T TAGU

D. UAGAC

Answer: D



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59. Which one of the following options gives one correct example each of convergent evolution and divergent evolution

	Convergent evolution	Divergent evolution
(a)	Eyes of octopus and mammals	Bones of forelimbs of vertebrates
(b)	Thorns of Bougainvillia and tendrils of Cucurbita	Wings of butterflies and birds
(c)	Bones of forelimbs of vertebrates	Wings of butterfly and birds
(d)	Thorns of Bougainvillia and tendrils of Cucurbita	Eyes of Octopus and mammals

- A. Convergent evolution      Divergent evolution  
Bones of forelimbs of vertebrates      Wings of butterfly and birds

**B.**

Convergent evolution

Divergent evolution

Thorns of Bougainvillia and tendrils of cucurbita    Eyes of Octopus and mammals

**C.**

Convergent evolution

Divergent evolution

Eyes of octopus and mammals    Bones of forelimbs of vertebrates

**D.**

Convergent evolution

Divergent evolution

Thorns of Bougainvillia and tendrils of cucurbita    Wings of butterfly and birds

**Answer: C**



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**60. A normal visioned man whose father was colour blind, marries a woman whose father was also colour blind .They have their first child as a daughter .What are the chances that this child would be colour blind ?**

**A. 0.25**

**B. 0.5**

**C. 1**

**D. Zero percent**

**Answer: D**



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**61. Select the correct statement regarding the specific disorder of muscular or skeletal system.**

**A. Myasthenia gravis - Auto immune disorder which inhibits sliding of myosin filaments**

**B. Gout- inflammation of joints due to extra deposition of calcium**

**C. Muscular dystrophy - age related shorting of muscles**

**D. Osteoporosis - decrease in bone mass and higher chances of fractures with advancing age**

**Answer: D**



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62. A certain road accident patient with unknown blood group needs immediate blood transfusion. His one doctor friend at once offers his blood. What was the blood group of the donor?

- A. Blood group O
- B. Blood group A
- C. Blood group B
- D. Blood group AB

Answer: A



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63. The maximum amount of electrolytes and water (70-80 per cent) from the glomerular filtrate is reabsorbed in which part of the nephron?

- A. Proximal convoluted tubule

**B. Descending limb of loop of Henle**

**C. Ascending limb of loop of Henle**

**D. Distal convoluted tubule**

**Answer: A**



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**64. The human hind brain comprises three parts, one of which is**

**A. Cerebellum**

**B. Hypothalamus**

**C. Spinal**

**D. Corpus callosum**

**Answer: A**



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65. Which one of the following pairs of hormones are the examples of those that can easily pass through the cell membrane of the target cell and bind to a receptor inside it (mostly in the nucleus)

A. Somatostatin, oxytocin

B. Cortisol, testosterone

C. Insulin, glucagon

D. Thyroxin, Insulin

Answer: B



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66. The leydig cells as found in the human body are the secretory source of

A. Glucagon

B. Androgens



**C. Progesterone**

**D. Intestinal mucus**

**Answer: B**



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**67. Select the correct statement from the ones given below with respect to *Periplaneta americana*.**

**A. There are 16 very long Malpighian tubules present at the junctions of midgut and hindgut**

**B. Grinding of food is carried out only by the mouth parts**

**C. Nervous system located dorsally, consists of segmentally arranged ganglia joined by a pair of longitudinal connective**

**D. Males bear a pair of short thread like anal styles**

**Answer: D**



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**68. Anxiety and eating spicy food together in an otherwise normal human, may lead to**

- A. Diarrhoea**
- B. Vomiting**
- C. Indigestion**
- D. Jaundice**

**Answer: C**



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**69. Which one of the following is the correct statement for respiration in humans ?**

- A. Workers in grinding and stone-breaking industries may suffer, from lung fibrosis
- B. About 90% of carbon dioxide ( $CO_2$ ) is carried by haemoglobin as carbamino haemoglobin
- C. Cigarette smoking may lead to inflammation of bronchi
- D. Neural signals from pneumotoxic centre in pons region of brain can increase the duration of inspiration

Answer: A



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70. What is correct to say about the hormone action in humans ?

- A. In females, FSH first binds with specific receptors on ovarian cell membrane
- B. FSH stimulates the secretion of estrogen and progesterone

C. Glucagon is secreted by  $\beta$ - cells of islets of langerhans and stimulates glycogenolysis

D. Secretion of thymosins is stimulated with aging

Answer: A



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71. Pheretima and its close relatives derive nourishment from

A. Soil insects

B. Small pieces of fresh fallen leaves of maize, etc

C. Sugarcane roots

D. Decaying fallen leaves and soil organic matter

Answer: D



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**72. Compared to those of humans, erythrocytes of Frog are**

- A. Very much smaller and fewer**
- B. Nucleated and without haemoglobin**
- C. Without nucleous but with haemoglobin**
- D. Nucleated and with haemoglobin**

**Answer: D**



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**73. Which one is the most abundant protein in the animal world**

- A. Collagen**
- B. Insulin**
- C. Trypsin**
- D. Haemoglobin**

**Answer: A**



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**74. Which part of the human ear plays no role in hearing as such but is otherwise very much required ?**

**A. Vestibular apparatus**

**B. Ear ossicles**

**C. Eustachian tube**

**D. Organ of corti**

**Answer: A**



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**75. A person entering an empty room suddenly finds a snake right in front on opening the door. Which one of the following is likely to happen in his**

## neuro-hormonal control system

- A. Hypothalamus activates the parasympathetic division of brain
- B. Sympathetic nervous system is activated releasing epinephrin and norepinephrin from adrenal cortex
- C. Sympathetic nervous system is activated releasing epinephrin and norepinephrin from adrenal medulla
- D. Neurotransmitters diffuse rapidly across the cleft and transmit a nerve impulse

Answer: C



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76. In a normal pregnant woman, the amount of total gonadotropin activity was assessed. The result expected was

- A. High levels of FSH and LH in uterus to stimulate endometrial thickening
- B. High level of circulating HCG to stimulate estrogen and progesterone synthesis
- C. High level of circulating FSH and LH in the uterus to stimulate implantation of the embryo
- D. High level of circulating HCG to stimulate endometrial thickening

**Answer: B**



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**77. The test-tube baby programme employs which one of the following techniques**

- A. Gamete intra fallopian transfer (GIFT)
- B. Zygote intra fallopian transfer (ZIFT)



**C. Intra cytoplasmic sperm injection (ICSI)**

**D. Intra uterine insemination (IUI)**

**Answer: B**



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**78. Signals for parturition originate from**

**A. Placenta only**

**B. Fully developed foetus only**

**C. Both placenta as well as fully developed foetus**

**D. Oxytocin released from maternal pituitary**

**Answer: C**



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**79. Which one of the following statements is not true with respect to viability of mammalian sperm?**

- A. Viability of sperm is determined by its motility**
- B. Sperms must be concentrated in a thick suspension**
- C. Sperm is viable for only up to 24 hours**
- D. Survival of sperm depends on the pH of the medium and is more active in alkaline medium**

**Answer: C**



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**80. The extinct human who lived 100000 to 40000 years ago, in Europe, Aisa and parts of Africa, with short stature, heavy eye brows, retreating fore heads, large jaws with heavy teeth, stocky bodies, a lumbering gait and stooped posture was**

**A. Cro-magnan humans**

**B. Ramapithecus**

**C. Homo habilis**

**D. Neanderthal human**

**Answer: D**



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**81. In an area where DDT had been used extensively, the population of birds declined significantly because:**

**A. Cobras were feeding exclusively on birds**

**B. Many of the birds eggs laid, did not hatch**

**C. Birds stopped laying eggs**

**D. Earthworms in the area got eradicated**

**Answer: B**



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**82. Common cold differs from pneumonia in, that**

- A. Pneumonia is caused by a virus while the common cold is caused by the bacterium haemophilus influenzae**
- B. Pneumonia pathogen infects alveoli whereas the common cold affects nose and respiratory passage but not the lungs**
- C. Pneumonia is a communicable disease whereas the common cold is a nutritional deficiency disease**
- D. Pneumonia can be prevented by a live attenuated bacterial vaccine whereas the common cold has no effective vaccine**

**Answer: B**



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83. Identify the possible link "A" in the following food chain : Plant → insect → frog → "A" → eagle:

- A. Cobra
- B. Parrot
- C. Rabbit
- D. Wolf

Answer: A



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84. Which one of the following is an example of carrying out biological control of pests/diseases using microbes

- A. Bt-cotton to increase cotton yield
- B. Lady bird beetle against aphids in mustard
- C. Trichoderms sp. against certain plant pathogens

**D. Nucleopoly hedrovirus against white rust in Brassica**

**Answer: C**



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**85. Widal Test is carried out to test :**

**A. HIV/AIDS**

**B. Typoid fever**

**C. Malaria**

**D. Diabetes mellitus**

**Answer: B**



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**86. Cirrhosis of liver is caused by the chronic intake of**

**A. Tobacco (Chewing)**

**B. Cocaine**

**C. Opium**

**D. Alcohol**

**Answer: D**



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**87. Which one of the following is not a property of cancerous cells whereas the remaining three are**

**A. They divide in an uncontrolled manner**

**B. They show contact inhibition**

**C. They compete with normal cells for vital nutrients**

**D. They do not remain confined in the area of formation**

**Answer: B**



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**88. Motile elongate zygote of Plasmodium occurs in**

- A. Human RBCs**
- B. Human liver**
- C. Gut of female Anopheles**
- D. Salivary glands of Anopheles**

**Answer: C**



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**89. In which one of the following options the two examples are correctly matched with their particular type of immunity?**



Examples	Type of immunity
(1) Anti-tetanus and anti-snake bite injections	Active immunity
(2) Saliva in mouth and Tears in eyes	Physical barriers
(3) Mucus coating of epithelium lining the urinogenital tract and the HCl in stomach	Physiological barriers
(4) Polymorphonuclear leukocytes and monocytes	Cellular barriers

A.                      Examples                      Type of immunity  
                                  Saliva in mouth and tears in eyes    Physical barriers

B.

                                 Examples  
                                  Mucus coating of epithelium lining the urinogenital tract and the H

C.

                                 Examples                      Type of immunity  
                                  Polymorphonuclear leukocytes and monocytes    Cellular barriers

D.                      Examples                      Type of immunity  
                                  Anti-tetanus and anti-snake bite injections    Active immunity

**Answer: C**



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**90. Measuring Biochemical Oxygen Demand (BOD) is a method used for:**

- A. Measuring the activity of *Saccharomyces cerevisiae* in producing curd on a commercial scale**
- B. Working out the efficiency of R.B.Cs. about their capacity to carry oxygen**
- C. Estimating the amount of organic matter in sewage water**
- D. Working out the efficiency of oil driven automobile engines**

**Answer: C**



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91. The most abundant prokaryotes helpful to humans in making curd from milk and in production of antibiotics are the ones categorised as

- A. Chemosynthetic autotrophs
- B. Heterotrophic bacteria
- C. Cyanobacteria
- D. Archaeobacteria

Answer: B



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92. People who have migrated from the plains to an area adjoining Rohtang pass about six months back

- A. Suffer from altitude sickness with symptoms like nausea, fatigue, etc.
- B. Have the usual RBC count but their haemoglobin has very high binding affinity to  $O_2$ .

- C. Have more RBCs and their haemoglobin has a lower binding affinity to  $O_2$
- D. Are not physically fit to play games like football

**Answer: C**



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**93. Monascus purpureus is a yeast used commercially in the production of**

- A. Citric acid
- B. Blood cholesterol lowering statins
- C. Ethanol
- D. Streptokinase for removing clots from the blood vessels

**Answer: B**



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**94. Which of the following compounds will not undergo Friedel – Crafts reaction easily ?**

**A. Cumene**

**B. Xylene**

**C. Nitrobenzene**

**D. Toluene**

**Answer: C**



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**95. Select the wrong statement :**

**A. Isogametes are similar in structure, function and behavior**

**B. Anisogametes differ either in structure, function of behaviour**

**C. In Oomycetes female gamete is smaller and motile, while male gamete is larger and non-motile**

**D. Chlamydomonas exhibits both isogamy and anisogamy and Fucus shows oogamy**

**Answer: C**



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**96. Which one of the following is not a correct statement?**

- A. Herbarium houses dried, pressed and preserved plant specimens**
- B. Botanical gardens have collection of living plants for reference**
- C. A museum has collection of photographs of plants and animals**
- D. Key is a taxonomic aid for identification of specimens**

**Answer: C**



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97. Isogamous condition with non-flagellated gametes is found in :

A. Chlamydomonas

B. Spirogyra

C. Volvox

D. Fucus

Answer: B



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98. Besides paddy fields, cyanobacteria are also found inside vegetative part of:

A. Pinus

B. Cycus

C. Equisetum

D. Psilotum

**Answer: B**



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**99. Megasporangium is equivalent to**

**A. Embryo sac**

**B. Fruit**

**C. Nucellus**

**D. Ovule**

**Answer: D**



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**100. Read the following statement (A-E) and answer the question which follows them**

**(A) In liverworts, mosses and ferns gametophytes are free living**



(B) Gymnosperms and some ferns are heterosporous

(C) Sexual reproduction in *Fucus*, *Volvox* and *Allbugo* is oogamous

(D) The sporophyte in liverworts is more elaborate than that in mosses

(E) Both, *Pinus* and *Marchantia* are dioecious

How many of the above statements are correct

A. One

B. Two

C. Three

D. Four

Answer: C



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101. Among bitter melon, Mustard, brinjal, pumpkin, chinarose, lupin, cucumber, sunn hemp, gram, guava, bean, chilli, plum, petunia, tomato, rose, withania, potato, onion, aloe and tulip how many plants have hypogynous flower

**A. Six**

**B. Ten**

**C. Fifteen**

**D. Eighteen**

**Answer: C**



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**102. Interfascicular cambium develops from the cells of**

**A. Medullary rays**

**B. Xylem parenchyma**

**C. Endodermis**

**D. Pericycle**

**Answer: A**



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**103. In china rose the flowers are**

- A. Actinomorphic, hypogynous with twisted aestivation**
- B. Actinomorphic, epigynous with valvate aestivation**
- C. Zygomorphic, hypogynous with imbricate aestivation**
- D. Zygomorphic, epigynous with twisted aestivation**

**Answer: A**



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**104. Lenticels are involved in**

- A. Transpiration**
- B. Gaseous exchange**
- C. Food transport**

## D. Photosynthesis

Answer: B



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105. Age of tree can be estimated by

- A. Its height and girth
- B. Biomass
- C. Number of annual rings
- D. Diameter of its heartwood

Answer: C



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106. Seed coat is not thin, membranous in

**A. Maize**

**B. Coconut**

**C. Groundnut**

**D. Gram**

**Answer: D**



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**107. Transition state structure of the substrate formed during an enzymatic reaction is**

**A. Transient but stable**

**B. Permanent but unstable**

**C. Transient and unstable**

**D. Permanent and stable**

**Answer: C**



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108. A phosphoglyceride is always made up of

- A. Only a saturated fatty acid esterified to a glycerol molecule to which a phosphate group is also attached
- B. Only an unsaturated fatty acid esterified to a glycerol molecule to which a phosphate group is also attached
- C. A saturated or unsaturated fatty acid esterified to a glycerol molecule to which a phosphate group is also attached
- D. A saturated or unsaturated fatty acid esterified to a phosphate group which is also attached to a glycerol molecule

Answer: C



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**109. Pigment-containing membranous extensions in some cyanobacteria are**

- A. Heterocysts**
- B. Basal bodies**
- C. Pneumatophores**
- D. Chromatophores**

**Answer: D**



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**110. A major site for synthesis of lipids is**

- A. RER**
- B. SER**
- C. Symplast**
- D. Nucleoplasm**

**Answer: B**



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**111. The complex formed by a pair of synapsed homologous chromosomes is called**

**A. Equatorial plate**

**B. Kinetochore**

**C. Bivalent**

**D. Axoneme**

**Answer: C**



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**112. The three boxes in this diagram represent the three major biosynthetic pathways in aerobic respiration. Arrows represent net**



reactants or products



Arrows numbered 4, 8, and 12 can all be

A. NADH

B. ATP

C.  $H_2O$

D.  $FAD^+$  or  $FADH_2$

Answer: B



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113. The most abundant intracellular cation is

A.  $Na^+$

B.  $Ca^{++}$

C.  $H^+$

**D.  $K^+$**

**Answer: D**



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**114. During seed germination, its stored food is mobilised by**

**A. Ethylene**

**B. Cytokinin**

**C. ABA**

**D. Gibberellin**

**Answer: D**



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115. Which of the following criteria does not pertain to facilitated transport

- A. Requirement of special membrane proteins
- B. High selectivity
- C. Transport saturation
- D. Uphill transport

Answer: D



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116. The first stable product of fixation of atmospheric nitrogen in leguminous plants is

- A.  $\text{NO}_2^-$
- B. Ammonia
- C.  $\text{NO}_3^-$

**D. Glutamate**

**Answer: B**



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**117. Which of the metabolites is common to respiration mediated breakdown of fats, carbohydrates and proteins ?**

**A. Glucose-6-phosphate**

**B. Fructose1, 6-bisphosphate**

**C. Pyruvic acid**

**D. Acetyl CoA**

**Answer: C**



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**118. Which one of the following statements is correct ?**

- A. Hard outer layer of pollen is called intine**
- B. Sporogenous tissue is haploid**
- C. Endothecium produces the microspores**
- D. Tapetum nourishes the developing pollen**

**Answer: D**



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**119. Product of sexual reproduction generally generates**

- A. Longer viability of seeds**
- B. Prolonged dormancy**
- C. New genetic combination leading to variation**
- D. Large biomass**

**Answer: C**



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**120. Meiosis takes place in**

- A. Meiocyte**
- B. Conidia**
- C. Gemmule**
- D. Megaspore**

**Answer: A**



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**121. Advantage of cleistogamy is**

- A. Higher genetic variability**

- B. More vigorous offspring**
- C. No dependence on pollinators**
- D. Vivipary**

**Answer: C**



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**122. Monoecious plant of Chara shows occurrence of**

- A. Antheridiophore and archegoniophore on the same plant**
- B. Stamen and carpel on the same plant**
- C. Upper antheridium and lower oogonium on the same plant**
- D. Upper oogonium and lower antheridium on the same plant**

**Answer: D**



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**123. Perisperm differs from endosperm in**

- A. Being a haploid tissue**
- B. Having no reserve food**
- C. Being a diploid tissue**
- D. Its formation by fusion of secondary nucleus with several sperms**

**Answer: C**



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**124. which of the following statements is not true of two genes that show 50 % recombination frequency ?**

- A. The genes may be on different chromosomes**
- B. The genes are tightly linked**
- C. The genes show independent assortment**



**D. If the genes are present on the same chromosome, they undergo more than one crossovers in every meiosis.**

**Answer: B**



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**125. Variation in gene frequencies within populations can occur by chance rather than by natural selection. This is referred to as**

- A. Genetic flow**
- B. Genetic drift**
- C. Random mating**
- D. Genetic load**

**Answer: B**



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126. If two persons with 'AB' blood group marry and have sufficiently large number of children, these children could be classified as 'A' blood group: 'AB' blood group 'B' blood group in 1:2:1 ratio. Modern technique of protein electrophoresis reveals presence of both 'A' and 'B' type proteins in 'AB' blood group individuals. This is an example of

- A. Codominance
- B. Incomplete dominance
- C. Partial dominance
- D. Complete dominance

Answer: A



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127. The process by which organisms with different evolutionary history evolve similar phenotypic adaptations in response to a common environmental challenge is called :

- A. Natural selection
- B. Convergent evolution
- C. Non-random evolution
- D. Adaptive radiation

**Answer: B**



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**128. The tendency of population to remain in genetic equilibrium may be disturbed by**

- A. random mating
- B. lack of migration
- C. lack of mutations
- D. lack of random mating

**Answer: D**

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**129. Which of the following Bt crops is being grown in India by the farmers ?**

- A. Maize**
- B. Cotton**
- C. Brinjal**
- D. Soybean**

**Answer: B**

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**130. A good producer of citric acid is:**

- A. Aspergillus**
- B. Pseudomonas**

**C. Clostridium**

**D. Saccharomyces**

**Answer: A**



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**131. DNA fragments generated by restriction endonucleases in a chemical reaction can be separated by**

**A. Centrifugation**

**B. Polymerase chain reaction**

**C. Electrophoresis**

**D. Restriction mapping**

**Answer: C**



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**132. Which of the following is not correctly matched for the organism and its cell wall degrading enzyme.**

**A. Bacteria-Lysozyme**

**B. Plant cells- Cellulase**

**C. Algae-Methylase**

**D. Fungi - Chitinase**

**Answer: C**



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**133. The colonies of recombinant bacteria appear white in contrast to blue colonies of non-recombinant bacteria because of**

**A. Non-recombinant bacteria containing betagalactosidase**

**B. Insertional inactivation of alphagalactosidase in non-recombinant bacteria**

C. Insertional inactivation of alphagalactosidase in recombinant bacteria

D. Inactivation of glycosidase enzyme in recombinant bacteria

**Answer: A**



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134. Which of the following are likely to be present in deep sea water?

A. Archaeobacteria

B. Eubacteria

C. Blue-green algae

D. Saprophytic fungi

**Answer: A**



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**135. Natural reservoir of phosphorus is:**

- A. Sea water**
- B. Animal bones**
- C. Rock**
- D. Fossils**

**Answer: C**



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**136. Secondary productivity is rate of formation of new organic matter by:**

- A. Producer**
- B. Parasite**
- C. Consumer**
- D. Decomposer**



**Answer: C**



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**137. Which one of the following is not used for ex situ plant conservation**

- A. Field gene banks**
- B. Seed banks**
- C. Shifting cultivation**
- D. Botanical Gardens**

**Answer: C**



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**138. Kyoto Protocol was endorsed at:**

- A. CoP-3**

**B. CoP-5**

**C. CoP-6**

**D. CoP-4**

**Answer: A**



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**139. Which of the following represent maximum number of species among global biodiversity**

**A. Algae**

**B. Lichens**

**C. Fungi**

**D. Mosses and Ferns**

**Answer: C**



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140. Match the name of the animal (Column I), with one characteristics (Column II), and the phylum/class (column III) to which it belongs :



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141. Which of the following are correctly matched with respect to their taxonomic classification?

- A. Flying fish, cuttlefish, silverfish – Pisces
- B. Centipede, millipede, spider, scorpion-Insecta
- C. House fly, butterfly, tsetsefly, silverfish-Insecta
- D. Spiny anteater, sea urchin, sea cucumber-Echinodermata

**Answer: C**



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142. Which group of animals belong to the same phylum ?

- A. Malarial parasite, Amoeba, Mosquito
- B. Earthworm, Pinworm, Tapeworm
- C. Prawn, Scorpion, Locusta
- D. Sponge, Sea anemone, Starfish

Answer: C



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143. One of the representative of Phylum arthropoda is

- A. cuttlefish
- B. silverfish
- C. pufferfish
- D. flying fish

**Answer: B**



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**144. The H-zone in the skeletal muscle fibre is due to**

- A. the absence of myofibrils in the central portion of A-band**
- B. the central gap between myosin filaments in the A-band**
- C. the central gap between actin filaments extending through myosin filaments in the A-band**
- D. extension of myosin filaments in the central portion of the A-band.**

**Answer: C**



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**145. What external changes are visible after the last moult of a cockroach nymph**

- A. Mandibles become harder**
- B. Anal cerci develop**
- C. Both fore wings and hind wings develop**
- D. Labium develops**

**Answer: C**



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**146. The Golgi complex plays a major role**

- A. in trapping the light and transforming it into chemical energy**
- B. in digesting proteins and carbohydrates**
- C. as energy transferring organelles**
- D. in post translational modification of proteins and glycosylation of lipids**

**Answer: D**



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147. Which one of the following organelle in the figure correctly matches with its function ?



- A. Rough endoplasmic reticulum, formation of glycoproteins
- B. Golgi apparatus, protein synthesis
- C. Golgi apparatus, formation of glycolipids
- D. Rough endoplasmic reticulum, protein synthesis

Answer: D



[View Text Solution](#)

148. Macro molecule chitin is:

- A. nitrogen containing polysaccharide

**B. phosphorus containing polysaccharide**

**C. sulphur containing polysaccharide**

**D. simple polysaccharide**

**Answer: A**



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**149. The essential chemical components of many coenzymes are**

**A. Proteins**

**B. Nucleic acids**

**C. Carbohydrates**

**D. Vitamins**

**Answer: D**



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150. A stage in cell division is shown in the figure. Select the answer which gives correct identification of the stage with its characteristics.



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151. Select the correct match of the digested products in humans given in column I with their absorption site and mechanism in column II.



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152. A pregnant female delivers a baby who suffers from stunted growth , mental retardation, low intelligence quotient and abnormal skin. This is the result of

A. Deficiency of iodine in diet

B. Low secretion of growth hormone

C. Cancer of the thyroid gland

D. Over secretion of pars distalis

**Answer: A**



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153. The figure shows a diagrammatic view of human respiratory system with labels A, B, C and D. Select the option which gives correct identification and main function and / or characteristic.



A. A-trachea long tube supported by complete cartilaginous rings for conducting inspired air

B. B-pleural membrane – surround ribs on both sides to provide cushion against rubbing.

C. C-Alveoli – thin walled vascular bag like structures for exchange of gases.

D. D-Lower end of lungs – diaphragm pulls it down during inspiration

Answer: C



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154. Figure shows schematic plant of blood circulation in humans with labels A to D. Identify the label and give its function/s.



A. A-Pulmonary vein-takes impure blood from body parts,  $PO_2 = 60$

mm Hg

B. B-Pulmonary artery – takes blood from heart to lungs,  $PO_2 = 90$

mm Hg

C. C-Vena Cava-takes blood from body parts to right auricle,

$PCO_2 = 45$  mm Hg

D. D-Dorsal aorta – takes blood from heart to body parts,  $PO_2 = 95$

mm Hg

**Answer: C**



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155. The diagram given here is the standard ECG of a normal person. The P-wave represents the :



- A. Contraction of both the atria**
- B. Initiation of the ventricular contraction**
- C. Beginning of the systole**
- D. End of systole**

**Answer: A**



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156. Figure shows human urinary system with structures labeled A to D. Select option which correctly identifies them and gives their characteristics and/or functions.



- A. A-Adrenal gland-located at the anterior part of Kidney. Secrete Catecholamines which stimulate glycogen breakdown
- B. B-Pelvis-broad funnel shaped space inner to hilum, directly connected to loops of Henle.
- C. C-Medulla-inner zone of kidney and contains complete nephrons.
- D. D-Cortex-outer part of kidney and do not contain any part of nephrons.

Answer: A



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157. Select the correct statement with respect to locomotion in humans

- A. A decreased level of progesterone causes osteoporosis in old people.
- B. Accumulation of uric acid crystals in joints causes their inflammation.
- C. The vertebral column has 10 thoracic vertebrae.
- D. The joint between adjacent vertebrae is a fibrous joint.

Answer: B



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158. The characteristics and an example of a synovial joint in humans is :



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159. A diagram showing axon terminal and synapse is given. Identify correctly at least two of A-D.



- A. A-Receptor , C-Synaptic vesicles
- B. B-Synaptic connection , D- $K^{+}$
- C. A-Neurotransmitter , B- Synaptic cleft
- D. C-Neurotransmitter , D- $Ca^{++}$

Answer: A



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160. Parts A, B, C and D of the human eye are shown in the diagram. Select the option which gives correct identification along with its functions/characteristics :



- A. A-Retina-contains photo receptors-rods and cones.

**B. B-Blind spot-has only a few rods and cones**

**C. C-Aqueous chamber- reflects the light which does not pass through the lens**

**D. D-choroid – its anterior part forms ciliary body**

**Answer: A**



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**161. Which of the following statements is correct in relation to the endocrine system ?**

**A. Adenohypophysis is under direct neural regulation of the hypothalamus**

**B. Organs in the body like gastrointestinal tract, heart, kidney and liver do not produce any hormones**



- C. Non-nutrient chemicals produced by the body in trace amount that act as intercellular messenger are known as hormones
- D. Releasing and inhibitory hormones are produced by the pituitary gland

Answer: C



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162. Select the answer which correctly matches the endocrine gland with the hormone it secretes and its function/deficiency symptom :



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163. What is the correct sequence of sperm formation?

A. Spermatid, spermatocyte, spermatogonia, spermatozoa

**B. Spermatogonia, spermatocyte, spermatozoa, spermatid**

**C. Spermatogonia, spermatozoa, spermatocyte, spermatid**

**D. Spermatogonia, spermatocyte, spermatid, spermatozoa**

**Answer: D**



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**164. Menstrual flow occurs due to lack of:**

**A. Progesterone**

**B. FSH**

**C. Oxytocin**

**D. Vasopressin**

**Answer: A**



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**165. Which one of the following is not the function of placenta?**

- A. facilitates supply of oxygen and nutrients to embryo**
- B. secretes estrogen**
- C. Facilitates removal of carbon dioxide and waste material from embryo**
- D. Secretes oxytocin during parturition**

**Answer: D**



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**166. One of the legal methods of birth control is**

- A. abortion by taking an appropriate medicine**
- B. by abstaining from coitus from day 10 to 17 of the menstrual cycle**
- C. by having coitus at the time of day break**

**D. by a premature ejaculation during coitus**

**Answer: A**



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**167. Which of the following cannot be detected in a developing foetus by amniocentesis?**

**A. Klinefelter syndrome**

**B. Sex of the foetus**

**C. Down syndrome**

**D. jaundice**

**Answer: D**



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**168. Artificial insemination means**

- A. transfer of sperms of a healthy donor to a test tube containing ova**
- B. transfer of sperms of husband to a test tube containing ova**
- C. artificial introduction of sperms of a healthy donor into the vagina**
- D. introduction of sperms of a healthy donor directly into the ovary**

**Answer: C**



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**169. Which Mendelian idea is depicted by a cross in which the  $F_1$  generations resembles both the parents?**

- A. incomplete dominance**
- B. law of dominance**
- C. inheritance of one gene**
- D. co-dominance**

**Answer: B**



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**170. The incorrect statement with regard to haemophilia is**

- A. It is a sex-linked disease**
- B. It is a recessive disease**
- C. It is a dominant disease**
- D. A single protein involved in the clotting of blood is affected**

**Answer: C**



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**171. If both parents are carriers for thalassaemia, which is an autosomal recessive disorder what are the chances of pregnancy resulting in an affected child ?**

**A. no chance**

**B. 50 %**

**C. 25 %**

**D. 100 %**

**Answer: C**



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**172. The diagram shows an important concept in the genetic implication of DNA. Fill in the blanks A to C.**



**A. A-transcription B-replication C-James Watson**

**B. A-translation B-transcription C-Erevin Chargaff**

**C. A-transcription B-translation C-Francis Crick**

**D. A-translation B-extension C-Rosalind Franklin**

**Answer: C**



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**173. Which enzyme/s will be produced in a cell in which there is a nonsense mutation in the lac Y gene**

- A.  $\beta$ -galactosidase**
- B. Lactose permease**
- C. Transacetylase**
- D. Lactose permease and transacetylase**

**Answer: A**



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**174. According of Darwin, the organic evolution is due to**



**A. Intraspecific competition**

**B. Interspecific competition**

**C. Competition within closely related species**

**D. Reduced feeding efficiency in one species due to the presence of interfering species.**

**Answer: B**



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**175. The eye of octopus and eye of cat show different patterns of structure, yet they perform similar function. This is an example of**

**A. Homologous organs that have evolved due to convergent evolution**

**B. Homologous organs that have evolved due to divergent evolution**

**C. Analogous organs that have evolved due to convergent evolution**

**D. Analogous organs that have evolved due to divergent evolution**

**Answer: D**



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**176. Infection of Ascaris usually occurs by :**

- A. drinking water containing eggs of Ascaris**
- B. eating imperfectly cooked pork**
- C. Tse-tse fly**
- D. mosquito bite**

**Answer: A**



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**177. The cell-mediated immunity inside the human body is carried out by**

- A. T- lymphocytes**

**B. B-lymphocytes**

**C. Thrombocytes**

**D. Erythrocytes**

**Answer: A**



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**178. In plant breeding programme, the entire collection (of plants/seed) having all the diverse alleles for all genes in a given crop is called**

**A. selection of superior recombinants**

**B. cross-hybridisation among the selected parents**

**C. evaluation and selection of parents**

**D. germplasm collection**

**Answer: D**



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179. During sewage treatment, biogases are produced which includes :

- A. methane, hydrogensulphide, carbon dioxide
- B. methane, oxygen, hydrogensulphide
- C. hydrogensulphide, methane, sulphur dioxide
- D. hydrogensulphide, nitrogen, methane

Answer: A



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180. A biologist studied the population of rats in a barn. He found that the average natality was 250, average mortality 240, immigration 20 and emigration 30. The net increase in populations is :

- A. 10
- B. 15

C. 05

D. zero

**Answer: D**



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**181. Which one of the following processes during decomposition is correctly described?**

**A. Fragmentation –Carried out by organisms such as earthworm**

**B. Humification – Leads to the accumulation of a dark coloured substance humus which undergoes microbial action at a very fast rate**

**C. Catabolism – Last step in the decomposition under fully anaerobic condition**

**D. Leaching – Water soluble inorganic nutrients rise to the top layers of soil**

**Answer: A**



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**182. A sedentary sea anemone gets attached to the shell lining of hermit crab. The association is**

**A. Ectoparasitism**

**B. Symbiosis**

**C. Commensalism**

**D. Amensalism**

**Answer: B**



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**183. Global warming can be controlled by:**

- A. Reducing deforestation, cutting down use of fossil fuel**
- B. Reducing reforestation, increasing the use of fossil fuel**
- C. Increasing deforestation, slowing down the growth of human population**
- D. Increasing deforestation, reducing efficiency of energy usage**

**Answer: A**



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**184. The Air Prevention and Control of Pollution Act came into force in:**

- A. 1975**
- B. 1981**
- C. 1985**
- D. 1990**

**Answer: B**



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## **Others**

**1. which of the following refer to correct example(s) of organisms which have evolved due to changes in environment brought about by anthropogenic action?**

- (a)Darwnin's Finches of Galapagos islands.**
- (b) Herbicide resistant weeds.**
- (c) Drug resistant eukaryotes.**
- (d) Man created breeds of domesticated animals like dogs.**

**A. only (a)**

**B. (a) and (c)**

**C. (b),(c) and (d)**

**D. only (d)**





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2. Match the following columns and select the correct option.

Column - I		Column - II	
(a)	Organ of Corti	(i)	Connects middle ear and pharynx
(b)	Cochlea	(ii)	Coiled part of the labyrinth
(c)	Eustachian tube	(iii)	Attached to the oval window
(d)	Stapes	(iv)	Located on the basilar membrane

A. (a)-(ii),(b)-(iii),(c)-(i),(d)-(iv)

B. (a)-(iii),(b)-(i),(c)-(iv),(d)-(ii)

C. (a)-(iv),(b)-(ii),(c)-(i),(d)-(iii)

D. (a)-(i),(b)-(ii),(c)-(iv),(d)-(iii)



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**3. Identify the wrong statement with reference to immunity**

- A. when exposed to antigen (living or dead) antibodies are produced in the host's body. It is called "Active immunity"**
- B. when ready-made antibodies are directly given, it is called "Passive immunity"**
- C. Active immunity is quick and gives full response.**
- D. Foetus receives some antibodies from mother, it is an example for passive immunity.**



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**4. Select the correct events that occur during inspiration.**

- (a) Contraction of diaphragm**
- (b) Contraction of external inter-costal muscles**
- (c) Pulmonary volume decreases**
- (d) Intra pulmonary pressure increases**

**A. (a) and (b)**

**B. (c) and (d)**

**C. (a),(b) and (d)**

**D. only (d)**



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**5. The oxygenation activity of RuBisco enzyme in photorespiration leads to the formation of:**

**A. 2 molecules of 3-C compound**

**B. 1 molecule of 3-C compound**

**C. 1 molecules of 6-C compound**

**D. 1 molecule of 4-C compound and 1 molecule of 2-C compound**



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**6. The infectious stage of Plasmodium that enters the human body is:**

**A. Trophozoites**

**B. sporozoites**

**C. female gametocytes**

**D. male gametocytes**



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**7. Which of the following statements about inclusion bodies is incorrect?**

- A. they are not bound by any membrane**
- B. these are involved in ingestion of food particles**
- C. they lie free in the cytoplasm**
- D. these represent reserve material in cytoplasm**



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**8. Dissolution of the synaptonemal complex occurs during:**

- A. pachytene**
- B. zygotene**
- C. diplotene**
- D. leptotene**



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**9. Ray florets have:**

- A. Inferior ovary**
- B. Superior ovary**
- C. Hypogynous ovary**
- D. Half inferior ovary**



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**10. In gel electrophoresis, separated DNA fragments can be visualized with the help of:**

- A. Acetocarmine in bright blue light**
- B. Ethidium bromide in UV radiation**
- C. Acetocarmine in UV radiation**

**D. Ethidium bromide in infrared radiation**



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**11. In which of the following techniques, the embryos are transferred to the female who cannot conceive?**

**A. ZIFT and IUT**

**B. GIFT and ZIFT**

**C. ICSI and ZIFT**

**D. GIFT and ICSI**



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**12. Select the option including all sexually transmitted diseases**

A. Gonorrhea, Syphilis, Genital herpes

B. Gonorrhoea, Malaria, Genital herpes

C. AIDS, Malaria, Filaris

D. Cancer, AIDS, Syphilis



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13. Identify the wrong statement with reference to transport of oxygen.

A. Binding of oxygen with haemoglobin is mainly related to partial pressure of  $O_2$

B. Partial pressure of  $CO_2$  can interfere with  $O_2$  binding with haemoglobin.

C. Higher  $H^+$  conc. in alveoli favours the formation of oxyhaemoglobin.

D. Low  $pCO_2$ , in alveoli favours the formation of one haemoglobin





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**14. Identify the incorrect statement.**

- A. Heart wood does not conduct water but gives mechanical support**
- B. Sapwood is involved in conduction of water and minerals from root to leaf.**
- C. Sapwood in the innermost secondary xylem and is lighter in colour.**
- D. Due to deposition of tannina, resins, oils etc, heart wood in dark in colour.**



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**15. Identify the wrong statement with regard to Restriction Enzymes.**

- A. Each restriction enzyme function by inspecting the length of DNA sequence.
- B. They cut the strand of DNA at palindrome sites
- C. They are useful in genetic engineering
- D. Sticky ends can be joined by using DNA ligases



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16. Floridean starch has structure similar to:

- A. Starch and cellulose
- B. Amylopectin and glycogen
- C. Mannitol and algin
- D. Laminarin and cellulose



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**17. Choose the correct pair from the following**

- A. Ligases - Join the two DNA molecules**
- B. Polymerases -Break the DNA into fragments**
- C. Nucleases -Separate the two strands of DNA**
- D. Exonucleases- Make cut at specific positions within DNA**



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**18. Embryological support for evolution was approved by:**

- A. Karl Ernst von Baer**
- B. Alfred Wallace**
- C. Charles Darwin**
- D. Oparin**



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**19. The first phase of translation is:**

- A. Binding of mRNA to ribosome**
- B. Recognition of DNA molecule**
- C. Aminoacylation of tRNA**
- D. Recognition of an anticodon**



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**20. The plant part which consist of two generations one within the other:**

**Pollen grains inside the anther**

**Germinated pollen grain with two gametes**

**Seed inside the fruit**

**Embryo sac inside the ovule**

- A. (a)only**
- B. (a), (b) and (c)**
- C. (c) and (d)**
- D. (a) and (d)**



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**21. The number of substrate level phosphoryl in one turn of citric acid cycle is:**

- A. Zero**
- B. One**
- C. Two**
- D. Three**



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22. Match the following columns and select the correct option.

Column - I		Column - II	
(a)	Floating Ribs	(i)	Located between second and seventh ribs
(b)	Acromion	(ii)	Head of the Humerus
(c)	Scapula	(iii)	Clavicle
(d)	Glenoid cavity	(iv)	Do not connect with the sternum

A. (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)

B. (a) - (i), (b) - (iii), (c) - (ii), (d) - (iv)

C. (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)

D. (a) - (iii), (b) - (ii), (c) - (iv), (d) - (i)



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23. Match the following diseases with the causes organism and select the correct option.

Column - I		Column - II	
(a)	Typhoid	(i)	<i>Wuchereria</i>
(b)	Pneumonia	(ii)	<i>Plasmodium</i>
(c)	Filariasis	(iii)	<i>Salmonella</i>
(d)	Malaria	(iv)	<i>Haemophilus</i>

A. (a) - (i), (b) - (iii), (c) - (ii), (d) - (iv)

B. (a) - (iii), (b) - (iv), (c) - (i), (d) - (ii)

C. (a) - (ii), (b) - (i), (c) - (iii), (d) - (iv)

D. (a) - (iv), (b) - (i), (c) - (ii), (d) - (iii)



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**24. Montreal protocol was signed in 1987 for contract of:**

- A. Transport of Genetically modified organisms from one country to another**
- B. Emission of ozone depleting substances**
- C. Release of Greenhouse gases**
- D. Disposal of e-wastes**



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**25. The QRS complex a standard ECG represents:**

- A. Repolarisation of auricles**
- B. Depolarization of auricle**
- C. Depolarization of ventricles**
- D. Repolarisation of ventricles**





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26. Name the plant growth regulator which upon spraying on sugarcane crop, increases the length of stem. thus increasing the yield of sugarcane crop

A. Cytokinin

B. Gibberellin

C. Ethylene

D. Absciscic acid



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27. How many true breeding pea plant varieties did Mendel select as pairs, which were similar except in one character with contrasting traits ?

**A. 4**

**B. 2**

**C. 14**

**D. 8**



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**28. Bilaterally symmetrical and acoelomate animals exemplified by:**

**A. Ctenophora**

**B. Platyhelminthes**

**C. Aschelminthes**

**D. Annelida**



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**29. Cuboidal Epithelium with brush border of microvilli found in:**

- A. lining of intestine**
- B. ducts of salivary glands**
- C. proximal convoluted tubule of nephron**
- D. eustachian tube**



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**30. Which is the important site of formation of glycoproteins and glycolipids in eukaryotic cells?**

- A. Endoplasmic reticulum**
- B. Peroxisomes**
- C. Golgi bodies**
- D. Polysomes**



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31. In light reaction, plastoquinone facilitates the transfer of electrons from:

A. PS- II to  $Cytb_6f$  complex

B.  $Cytb_6f$  complex to PS-I

C. PS-I to  $NADP^+$

D. PS-I to ATP synthase



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32. Match the following concerning essential elements and their functions in plants:

(a)	Iron	(i)	Photolysis of water
(b)	Zinc	(ii)	Pollen germination
(c)	Boron	(iii)	Required for chlorophyll biosynthesis
(d)	Manganese	(iv)	IAA biosynthesis

Select the correct option :

- A. (a) - (ii), (b) - (i), (c) - (iv), (d) - (iii)
- B. (a) - (iv), (b) - (iii), (c) - (ii), (d) - (i)
- C. (a) - (iii), (b) - (iv), (c) - (ii), (d) - (i)
- D. (a) - (iv), (b) - (i), (c) - (ii), (d) - (iii)

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33. The roots that originate from the face of the stem are

- A. Fibrous root
- B. Primary roots
- C. Prop roots

## D. Lateral roots



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34. From his experiments, SL Miller produced amino acid by mixing the following in a closed flask:

A.  $CH_4$ ,  $H_2$ ,  $NH_3$ , and water vapor at  $800^\circ C$

B.  $CH_3$ ,  $H_2$ ,  $NH_4$ , and water vapor at  $800^\circ C$

C.  $CH_4$ ,  $H_2$ ,  $NH_3$ , and water vapor at  $600^\circ C$

D.  $CH_3$ ,  $H_2$ ,  $NH_3$ , and water vapor at  $600^\circ C$



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35. A basic amino acid is

**A. Tryosine**

**B. Glutamic acid**

**C. Lysine**

**D. Valine**



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**36. Maximum rate of growth is achieved during**

**A. Log phase**

**B. Lag phase**

**C. Senescence**

**D. Dormancy**



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**37. Presence of which the following conditions in urine are indicative of Diabetes Mellitus?**

- A. Uremia and Ketonuria**
- B. Uremia and Renal Calculi**
- C. Ketonuria and Glycosuria**
- D. Renal calculi and Hyperglycemia**



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**38. Select the correct match**

- A. Haemophilia - Y Linked**
- B. Phenylketonuria - Autosomal dominant trait**
- C. Sickle cell anaemia - Autosomal recessive trait, chromosome-11**
- D. Thalassemia -X linked**





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39. Strobili or cones are found in:

A. Salvinia

B. Pteris

C. Marchantia

D. Equisetum



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40. Identify the wrong statement with reference to the gene That controls ABO blood groups.

A. The gene (I) has three alleles.

B. A person will have only two of the three alleles

C. When  $i^a A$  and  $I^B$  are present together, they express same type of sugar.

D. Allele 'Y' does not produce any sugar.



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41. Identify the correct statement with reference to human digestive system

A. Ileum opens into small intestine

B. Serosa in the innermost layer of the alimentary canal.

C. Ileum is a highly coiled parts

D. Vermiform appendix arises from duodenum



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42. Which of the following would help in prevention diuretics?

- A. More water reabsorption due undersecretion of ADH
- B. Reabsorption of  $Na^+$  and water from renal tubules due to aldosterone
- C. Atrial natriuretic factor causes vasoconstriction
- D. Decrease in secretion of renin by JG cells



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43. Match the following with respect to meiosis:

- |                |                     |
|----------------|---------------------|
| (a) Zygotene   | (i) Terminalization |
| (b) Pachytene  | (ii) Chiasmata      |
| (c) Diplotene  | (iii) Crossing over |
| (d) Diakinesis | (iv) Synapsis       |

Select the correct option from the following :

**A. (a) - (iii), (b) - (iv), (c) - (i), (d) - (ii)**

**B. (a) - (iv), (b) - (iii), (c) - (ii), (d) - (i)**

**C. (a) - (i), (b) - (ii), (c) - (iv), (d) - (ii)**

**D. (a) - (iii), (b) - (iv), (c) - (iii), (d) - (i)**



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**44. Which of the following is not an inhibitory substance governing seed dormancy**

**A. Gibberellic acid**

**B. Abscissic acid**


**C. Phenolic acid**

**D. Para-ascorbic acid**



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45. Match the following column

Column - I		Column - II	
(a) Bt cotton		(i) Gene therapy	
(b) Adenosine deaminase deficiency		(ii) Cellular defence	
(c) RNAi		(iii) Detection of HIV infection	
(d) PCR		(iv) <i>Bacillus thuringiensis</i>	

A. (a) - (iv), (b) - (i), (c) - (ii), (d) - (iii)

B. (a) - (iii), (b) - (ii), (c) - (i), (d) - (iv)

C. (a) - (ii), (b) - (iii), (c) - (iv), (d) - (i)

D. (a) - (i), (b) - (ii), (c) - (iii), (d) - (iv)



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46. Match the following:

- |     |                                    |       |          |
|-----|------------------------------------|-------|----------|
| (a) | Inhibitor of catalytic activity    | (i)   | Ricin    |
| (b) | Possess peptide bonds              | (ii)  | Malonate |
| (c) | Cell wall material in <u>fungi</u> | (iii) | Chitin   |
| (d) | Secondary metabolite               | (iv)  | Collagen |
- Choose the correct option from the following :

A. (a) - (ii), (b) - (iv), (c) - (iii), (d) - (i)

B. (a) - (iii), (b) - (i), (c) - (iv), (d) - (ii)

C. (a) - (iii), (b) - (iv), (c) - (i), (d) - (ii)

D. (a) - (ii), (b) - (iii), (c) - (i), (d) - (iv)



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47. Which is responsible for controlling the copy number of the linked DNA in a plasmid ?

**A. Selectable marker**

**B. Ori site**

**C. Palindromic sequence**

**D. Recognition site**



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**48. Snow-blindness in Antarctic region is due to:**

**A. Freezing of fluids in the eye by low temperature**

**B. Inflammation of cornea due to high dose of UV-B radiation**

**C. high reflection of light from snow**

**D. Damage to retina caused by infra-red rays**



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49. According to Robert May, the global species diversity is about:

- A. 1.5 million
- B. 20 million
- C. 50 million
- D. 7 million



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50. By which method was a new breed 'Hisardale' of sheep formed by using Bikaneri ewes and Marino rams?

- A. Out crossing
- B. Mutational breeding
- C. Cross breeding
- D. Inbreeding





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**51. Which of the following regions of the globe exhibits highest species diversity?**

**A. Westerns Ghats of India**

**B. Madagascar**

**C. Himalayas**


**D. Amazon forests**



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52. Match the following columns and select the correct option:

Column - I		Column - II	
(a)	6 - 15 pairs of gill slits	(i)	<i>Trygon</i>
(b)	Heterocercal caudal fin	(ii)	Cyclostomes
(c)	Air Bladder	(iii)	Chondrichthyes
(d)	Poison sting	(iv)	Osteichthyes



A. (a) - (ii), (b) - (iii), (c) - (iv), (d) - (i)

B. (a) - (iii), (b) - (iv), (c) - (i), (d) - (ii)

C. (a) - (iv), (b) - (ii), (c) - (iii), (d) - (i)

D. (a) - (i), (b) - (iv), (c) - (iii), (d) - (ii)



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53. Which of the following statements is not correct?

A. In man insulin is synthesised as a proinsulin

B. the proinsulin has an extra peptide called C-peptide

C. the functional insulin has A and B chains linked together by hydrogen bonds.

D. Genetically engineered insulin is produced in E-Coli.



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54. Match the organism with its use in biotechnology:

(a) *Bacillus thuringiensis*

(i) Cloning vector

(b) *Thermus aquaticus*

(ii) Construction of first rDNA molecule

(c) *Agrobacterium tumefaciens*

(iii) DNA polymerase

(d) *Salmonella typhimurium*

(iv) Cry proteins

Select the correct option from the following :

A. a-ii,b-iv-c-iii,d-i

**B. a-iv,b-iii,c-i,d-ii**

**C. a-iii,b-ii,c-iv,d-i**

**D. a-iii,b-iv,c-i,d-ii**



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**55. Which of the following pairs is of unicellular algae?**

**A. Laminaria and sargassum**

**B. Gelidium and Gracilaria**

**C. Anabanena and volvox**

**D. Chlorella and Spirulina**



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**56. What induces the completion of the meiotic division of the secondary oocyte ?**

- A. Prior to ovulation**
- B. At the time of copulation**
- C. After zygote formation**
- D. At the time of fusion formation**



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**57. Secondary metabolites such as nicotine,strychnine and caffeine are produced by plants for their:**

- A. nutritive value**
- B. growth response**
- C. defence action**

## D. effect on reproduction



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58. Which of the following statements are true for the phylum-Chordata?

(a) In urochordata notochord extends from head to tail and it is present throughout their life.

(b) In vertebrata notochord is present during the embryonic period only.

(c) Central nervous system is dorsal and hollow.

(d) Chordata is divided into 3 subphyla: Hemichordata, Tunicata and Cephalochordata.

A. (d) and (c)

B. (c) and (a)

C. (a) and (b)

D. (b) and (c)



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59. Bt cotton variety that was developed by the introduction of toxin gene of *Bacillus thuringiensis* (Bt) is resistant to:

- A. Insect pests
- B. fungal diseases
- C. plant nematodes
- D. insect predators



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60. The product(s) of reaction catalyzed by nitrogenase in root nodules of leguminous plants is/are:

- A. Ammonia alone
- B. Nitrate alone

C. Ammonia and oxygen

D. Ammonia and hydrogen



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61. Match the following columns and select the correct option

Column - I		Column - II	
(a)	Pituitary gland	(i)	Grave's disease
(b)	Thyroid gland	(ii)	Diabetes mellitus
(c)	Adrenal gland	(iii)	Diabetes insipidus
(d)	Pancreas	(iv)	Addison's disease

A. a-iv,b-iii,c-i,d-ii

B. a-iii,b-ii,c-i,d-iv

C. a-iii,b-i,c-iv-d-ii

D. a-ii,b-i,c-iv,d-iii



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62. Which one of the following is the most abundant protein in the animals?

A. Haemoglobin

B. Collagen

C. Lectin

D. Insulin



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63. Identify the correct statement with regard to G1 phase (Gap 1) of interphase.

A. DNA synthesis or replication takes place

B. Reorganisation of all cell components take place

C. Cell is metabolically active, grows but does not replicate its DNA

D. nuclear division takes place



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64. Match the trophic level with their correct species examples in grassland ecosystem.

(a) Fourth trophic level

(i) Crow

(b) Second trophic level

(ii) Vulture

(c) First trophic level

(iii) Rabbit

(d) Third trophic level

(iv) Grass

Select the correct option :

A. a-ii, b-iii, c-iv, d-i

B. a-iii, b-ii, c-i, d-iv

C. a-iv, b-iii, c-ii, d-i

D. a-i, b-ii, c-iii, d-iv



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65. The ovary is half inferior in flowers of

- A. brinjal
- B. mustard
- C. sunflower
- D. plum



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66. The body of the ovule is fused within the funicle at:

- A. Hilum
- B. Micropyle

C. Nucellus

D. Chalaza



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67. Which of the following represents a correct palindromic sequence recognised by EcoRI ?

A.  $5' - G \nabla \top C - 3'3' - C \top \nabla G - 5'$

B.  $5' - GG \nabla C - 3'3' - C \top GG - 5'$

C.  $5' - C \top \nabla G - 3'3' - G \nabla \top C - 5'$

D.  $5' - GGATC - 3'3' - CTAGG - 5'$



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**68. which of the following is correct about viroids?**

- A. they have RNA with protein coat**
- B. they have free RNA without protein coat**
- C. they have DNA with protein coat**
- D. they have free DNA without protein coat**



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**69. Pollination in water hyacinth and water lily is brought about by the agency of**

- A. insects or wind**
- B. water currents only**
- C. wind and water**
- D. insects and water**



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**70. The transverse section of a plant shows following anatomical features:**

**(a) Large number of scatteres vascular bundles surrounded by bundle sheath.**

**(b) Large conspicuous parenchymatous ground tissue.**

**(c)Vascular bundles comjoint and closed.**

**(d) Phloem parenchyma absent. Identify the category of plant and its part:**

**A. Monocotyledonous stem**

**B. Monocotyledonous root**

**C. Dicotyledonous stem**

**D. Dicotyledonous root**



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**71. which of the following statement is correct?**

- A. Adenine pairs with thymine through two H-bond**
- B. Adenine pairs with thymine through one H-bond.**
- C. Adenine pairs with thymine through three H-bonds.**
- D. Adenine does not pair with thymine**



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**72. Select the correct statement**

- A. glucocorticoids stimulate gluconeogenesis**
- B. glucagon is associated with hypoglycemia**
- C. insulin acts on pancreatic cells and adipocytes**
- D. insulin is associated with hyperglycemia**



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73. Match the following columns and select the correct option.

Column - I	Column - II
(a) Gregarious, polyphagous pest	(i) <i>Asterias</i>
(b) Adult with radial symmetry and larva with bilateral symmetry	(ii) Scorpion
(c) Book lungs	(iii) <i>Ctenoplane</i>
(d) Bioluminescence	(iv) <i>Locusta</i>

A. a-i,b-iii,c-ii,d-iv

B. a-iv,b-i,c-ii,d-iii

C. a-iii,b-ii,c-i,d-iv

D. a-ii,b-i,c-iii,d-iv



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74. Match the following columns and select the correct option.

Column - I		Column - II	
(a)	Eosinophils	(i)	Immune response
(b)	Basophils	(ii)	Phagocytosis
(c)	<u>Neutrophils</u>	(iii)	Release histaminase, destructive enzymes
(d)	Lymphocytes	(iv)	Release granules containing histamine

A. a-iii,b-iv,c-ii,d-i

B. a-iv,b-i,c-ii,d-iii

C. a-i,b-ii,c-iv,d-iii

D. a-ii,b-i,c-iii,d-iv



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**75. If the head of cockroach is removed, it may live for few days because:**

- A. the supra-oesophageal ganglia of the cockroach are situated in ventral part of abdomen.**
- B. the cockroach does not have nervous system**
- C. the head holds a small proportion of a nervous system while the rest is situated along the ventral part of its body**
- D. the head holds a 1/3rd of a nervous system while the rest is situated along the dorsal part of its body.**



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**76. Name the enzyme that facilitates opening of DNA helix during transcription.**

- A. DNA ligase**

**B. DNA helicase**

**C. DNA polymerase**

**D. RNA polymerase**



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**77. Flippers of Penguins and Dolphins are examples of:**

**A. Adaptive radiation**

**B. convergent evolution**

**C. industrial melanism**

**D. natural selection**



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78. Which of the following hormone levels will cause release of ovum (ovulation) from the graffian follicle?

- A. High concentration of estrogen
- B. high concentration of progesterone
- C. low concentration of LH
- D. Low concentration of FSH



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79. If the distance between two consecutive base pairs is 0.34nm and the toal number of base pairs of a DNA double helix in a typical mammalian cell is  $6, 6 \times 10^9$ bp, then the length of the DNA is approximately

- A. 2m
- B. 2.5m

C. 2.2m

D. 2.7m



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80. Match the following columns and select the correct option.

Column - I		Column - II	
(a)	Placenta	(i)	Androgens
(b)	Zona pellucida	(ii)	Human Chorionic Gonadotropin (hCG)
(c)	Bulbo-urethral glands	(iii)	Layer of the ovum
(d)	Leydig cells	(iv)	Lubrication of the Penis

A. a-iv,b-iii,c-i,d-ii

B. a-i,b-iv,c-ii,d-iii

C. a-iii,b-ii,c-iv,d-i

D. a-ii,b-iii,c-iv,d-i



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81. Match the following columns and select the correct option.

Column - I		Column - II	
(a)	<i>Clostridium butylicum</i>	(i)	Cyclosporin-A
(b)	<i>Trichoderma polysporum</i>	(ii)	Butyric Acid
(c)	<i>Monascus purpureus</i>	(iii)	Citric Acid
(d)	<i>Aspergillus niger</i>	(iv)	Blood cholesterol lowering agent

A. a-iii,b-iv,c-ii,d-i

B. a-ii,b-i,c-iv,d-i

C. a-i,b-ii,c-iv,d-iii

D. a-iv,b-iii,c-ii,d-i



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**82. Goblet cells of alimentary canal are modified from:**

- A. Squamous epithelial cells**
- B. Columnar epithelial cells**
- C. chondrocytes**
- D. Compound epithelial cells**



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**83. Experimental verification of the chromosomal theory of inheritance was given by**

- A. Mendel**
- B. Sutton**
- C. Boveri**



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**84. the process responsible for facilitating loss of water in liquid form from the tip of grass blades at night and in early morning is:**

**A. transpiration**

**B. root pressure**

**C. imbibition**

**D. plasmolysis**



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**85. Identify the substances having glycosidic bond and peptide bond, respectively in their structure:**



**A. chitin,cholesterol**

**B. glycerol,trypsin**

**C. cellulose,lecithin**

**D. inulin,insulin**



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**86. which of the following is not an attribute of a population?**

**A. sex ratio**

**B. natality**

**C. mortality**

**D. species interaction**



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**87. The enzyme enterokinase helps in conversion of:**

- A. protein into polypeptides**
- B. trypsinogen into trypsin**
- C. caseinogen into casein**
- D. pepsinogen into pepsin**



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**88. some dividing cells exit the cell cycle and enter vegetative inactive stage. This is called quiescent stage (G<sub>0</sub>). This process occurs at the end of:**

- A. M phase**
- B. G<sub>1</sub> phase**
- C. S phase**
- D. G<sub>2</sub> phase**



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89. In relation to Gross primary productivity and Net primary productivity of an ecosystem, which one of the following statements is correct?

- A. Gross primary productivity is always less than net primary productivity.
- B. Gross primary productivity is always more than net primary productivity
- C. gross primary productivity and net primary productivity are one and same
- D. there is no relationship between Gross primary productivity and net primary productivity.



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90. which of the following is put into Anaerobic sludge digester for further sewage treatment?

- A. primary sludge
- B. floating debris
- C. effluents of primary treatment
- D. activated sludge



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