



## BIOLOGY

### NEET & AIIMS

### TEST 2

#### Exercise

1. The cytoplasm of two neighbouring cells is connected through
- A. Primary cell wall
  - B. Secondary cell wall
  - C. Middle Lamella
  - D. Plasmodesmata

**Answer:**



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2. Which of the following cell organelles is responsible for detoxification of drugs?

A. Lysosomes

B. Mitochondria

C. SER

D. RER

**Answer:**



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3. During meiosis, crossing over occurs between

- A. Sister chromatids of homologous chromosomes
- B. Sister chromatids of non-homologous chromosomes
- C. Non-sister chromatids of homologous chromosomes
- D. Non-sister chromatids of non-homologous chromosomes

**Answer:**



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4. Select the phase from the following where duplication of semi-autonomous cell organelles occur.

- A.  $G_1$  phase
- B.  $G_2$  phase

C. S phase

D. M phase

**Answer:**



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5. Which of the following statements is not correct?

- A. Photoperiod affects reproduction in seasonal breeders  
both plants and animals
- B. Only human beings have self-consciousness.
- C. Cellular organisation of body is the defining feature of  
human beings only

D. Living organisms are self-replicating, evolving and self-regulating

**Answer:**



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6. Which of the following provides useful information for identification of names of various species of a particular area?

- A. Manual
- B. Monograph
- C. Catalogue
- D. Flora

**Answer:**



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7. How many organism in the list given below are autotrophs  
Lactobacillus, Nostoc, Chara, Nitrosomonas, Nitrobacter,  
Streptomyces, Saccharomyces, Trypanosoma, Porphyra, Wolfia

A. 2

B. 3

C. 4

D. 5

**Answer:**

8. Kingdom Fungi is divided into various classes on the basis of all, except

- A. Mode of spore formation
- B. Mode of nutrition
- C. Morphology of mycelium
- D. Types of fruiting bodies

**Answer:**



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9. Which of the following is incorrect about diffusion?

- A. It is a slow process

B. It occurs from lower concentration of molecules to their higher concentration

C. It is Independent of living system

D. Diffusing molecules move randomly along their concentration gradient

**Answer:**



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10. What occupies the space between the cell wall and the shrunken protoplast in a plasmolysed cell?

A. Hypotonic solution

B. Hypertonic solution

C. Isotonic solution



D. Pure water

**Answer:**



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**11.** Which of the following is not included in the Amon's criteria to determine essentiality of elements?

- A. The element must be absolutely necessary for supporting normal growth and reproduction of plants
- B. The element must be easily absorbed by the plant
- C. The element must be directly involved in the metabolism of the plant
- D. The requirement of the element must be specific and not replaceable by another element

**Answer:**



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12. Phosphoenol pyruvate (PEP) is the primary  $CO_2$  acceptor in the cells of

- A. Epidermis
- B. Mesophyll
- C. Bundle sheath
- D. Phloem

**Answer:**



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**13.** How many ATP and NADPH molecules respectively are required to synthesise one molecule of glucose through the Calvin cycle?

A. 12, 18

B. 30,12

C. 18,12

D. 18, 30

**Answer:**



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**14.** How many ATP molecules will be produced in prokaryotic cell by aerobic oxidation of one molecule of glucose ?

A. 2

B. 4

C. 36

D. 38

**Answer:**



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**15.** Choose the Incorrect statement.

A. Glycolysis is often referred as the EMP pathway.

B. NADH oxidises slowly in aerobic respiration, however, it oxidises vigorously in fermentation.

C. When, tripalmitin is used as a substrate in respiration, the RQ, is less than 1.

D. In living organisms, proteins or fats can be used as respiratory substrates

**Answer:**

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**16.** Which phytohormone is responsible for hedge making?

- A. Cytokinins
- B. Gibberellins
- C. Auxins
- D. Ethylene

**Answer:**

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17. A phytohormone, responsible for closure of stomata is

A. Ethylene

B. ABA

C. Auxin

D. Gibberellin

**Answer:**



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18. Which one of the following is not a long day plant?

A. Soyabean

B. Sugarbeet

C. Wheat

D. Henbane

**Answer:**



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**19.** Which of the following statements is not correct?

A. Anisogametes differ either in structure, function or behaviour

B. Offspring produced by asexual reproduction are called clones.

C. In potato and ginger, the buds arise from the internode present on the modified stem.

D. Water hyacinth, growing in the standing water drains oxygen from water that leads to the death of fishes.

**Answer:**

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20. Wind pollination occurs in

A. Vallisneria

B. Salvia

C. Ficus

D. Wheat

**Answer:**

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**21.** How many linkage groups are present in a human male?

(a) 46

(b) 47

(c) 23

(d) 24

A. 46

B. 47

C. 23

D. 24

**Answer:**



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22. In a transcription unit, the structural gene is monocistronic,

In

- A. Eubacteria
- B. Archaeobacteria only
- C. Eukaryotes
- D. Cyanobacteria

**Answer:**



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23. A m-RNA which codes for a protein has 300 nucleotides. If the nucleotide at position 271 is deleted, how many codons of this mRNA will remain unaltered?

A. 90

B. 100

C. 91

D. 101

**Answer:**



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**24.** Three billion people are suffering from 'hidden hunger' as their diet shows deficiency of all, except

A. Proteins

B. Vitamins

C. Essential micronutrients

D. Lectins

**Answer:**

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**25.** Enzymes that help in clarifying the fruit juices are

- A. Amylases
- B. Streptokinases
- C. Lipases
- D. Pectinases

**Answer:**

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**26.** Out of the total quantity of global carbon, 71% is found in

A. Oceans

B. Agroecosystems

C. Grasslands

D. Agroecosystems

**Answer:**



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**27.** Which of the following is the most important cause driving animals and plants to extinction?

A. Overexploitation

B. Habitat loss and fragmentation

C. Co-extinction of species

D. Alien species invasion

**Answer:**



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**28.** Rivet popper hypothesis was given by

A. Alexander von Humboldt

B. Edward Wilson

C. Paul Ehrlich

D. David Tilman

**Answer:**



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29. Which of the following is not an example of in-situ conservation strategy?

- A. National park
- B. Botanical garden
- C. Wildlife sanctuary
- D. Sacred grove

**Answer:**



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30. Algal bloom in lakes

- A. Increases the dissolved oxygen
- B. Does not affect aquatic creatures

C. Is due to excess growth of water hyacinth

D. Imparts a distinct colour to lakes and deteriorate quality of water

**Answer:**



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**31.** The COP-24 on climate change in the year 2018 was held at

A. Kyoto, Japan

B. Rio de Janeiro, Brazil

C. Katowice, Poland

D. Doha, Qatar

**Answer:**



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32. Electrical activities of heart are measured by an instrument known as

- A. Electrocardiograph
- B. Electrocardiogram
- C. Electromyogram
- D. Stethoscope

**Answer:**

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33. Which of the following is mismatched w.r.t its duration?

- A. Atrial systole : 0.1 secs
- B. Atrial diastole : 0.5 secs
- C. Ventricular systole : 0.3 secs
- D. Joint diastole : 0.4 secs

**Answer:**



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**34.** sheath of connective tissue that wraps around several muscle bundles forming a muscle is called\_\_\_\_\_. Select the option which fills the blank correctly

- A. Fascicle
- B. Endomysium
- C. Sarcolemma

D. Fascia

**Answer:**



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**35.** Read the following given statements and choose the correct option.

Statement 1: Corpora quadrigemina is the tract of nerve fibres which connect left and right cerebral hemispheres.

Statement II Midbrain, pons and medulla form the brain stem

- A. Statement I is correct
- B. Statement II is correct
- C. Both the statements are correct.
- D. Both the statements are incorrect.

**Answer:**

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**36.** Read the following statements. (a) Matrix is very hard and non-pliable, (b) It is made up of 70% inorganic and 30% organic matter, (c) Rich in calcium salts and collagen fibres, (d) It provides structural framework to the body. The above statements are correct for which of the following tissue?

A. 

B. 

C. 

D. 

**Answer:**



37. Match the column I and column II w.r.t cockroach and choose the correct option.

Column I	Column II
a. Alary muscles	(i) 100–150
b. Malpighian tubules	(ii) 6–8
c. Gastric caecae	(iii) 20
d. Spiracles	(iv) 24

- A. a(i), b(ii), (iii), d(iv)
- B. a(iv), b(iii), c(ii), d(i)
- C. a(i), b(iv), c(iii), d(ii)
- D. a(iv), b(i), c(ii), d(iii)

**Answer:**



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**38.** Hormone that acts by entering into nucleus, interacts with its receptor and binds to specific regulator site on the genome, thereby altering gene expression is

- A. Insulin
- B. FSH
- C. Cortisol
- D. Epinephrine

**Answer:**



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**39.** A is an age related disorder characterised by decrease in bone mass and increased chances of fracture, Decreased level of B a common cause of this disease. Select the option which correctly fill the blanks A and B respectively.

- A. Tetany, Estrogen
- B. Osteoporosis, Progesterone
- C. Arthritis, Progesterone
- D. Osteoporosis, Estrogen

**Answer:**

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**40.** All of the following are present in renal cortex, except

A. Malpighian corpuscles

B. Convoluted tubule

C. Afferent arteriole

D. Loop of Henle

**Answer:**



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**41.** Select the odd one out, human placenta.

A. Haemochorial

B. Motadiscoidal

C. Deciduous

D. Zonary



**Answer:**

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42. Maximum life span is a characteristic of \_\_ (A) and life expectancy is the characteristic of a \_\_ (B) Select the option which fill the blanks correctly.

- A. A- Population, B-Species
- B. A-Species, B - Population
- C. A-Species, B - Individual
- D. A- Population,B - Individual

**Answer:**

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43. The shedding of endometrium during menstruation occurs due to decline in concentration of

- A. Estrogen
- B. Progesterone
- C. Oxytocin
- D. FSH

**Answer:**



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44. Opinion of how many registered medical practitioners Is required for MTP, if the pregnancy has lasted more than 12 weeks, but fewer than 24 weeks?

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

**Answer:**



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**45.** HIV enters the human cells by recognising the  $CD_4$  receptors on their membrane with the help of its glycoprotein.

- A. P17
- B. P24
- C. GP41
- D. GP120

**Answer:**

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**46.** Choose the Incorrect statement w.r.t cancer.

- A. Cancer cells show high invasiveness in metastatic tumors
- B. Cancer is a non-communicable disease
- C. Proto-oncogenes are active cancer causing genes of the cells regulating mitosis
- D. Vincristine and vinblastine are anticancer drugs

**Answer:**

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47. The breeding method preferably used in cattle to overcome inbreeding depression is

- A. Inbreeding
- B. Cross breeding
- C. Outcrossing
- D. Interspecific hybridisation

**Answer:**

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48. Hardy-Weinberg equation is used to check

- A. Size of population
- B. Whether evolution is occurring In a population or not

C. Average lifespan of a population

D. Maximum life expectancy of a population

**Answer:**



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**49.** Fossil of transitional link between birds and reptiles found in the rocks of Cretaceous period was that of

A. Archaeopteryx

B. Neopilina

C. Hyracotherium

D. Chimaera

**Answer:**



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50. Mutations as proposed by Hugo de Vries are

- A. Small and directional
- B. Gradual and continuous
- C. Random and directionless
- D. Large and directional

**Answer:**

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51. Structure in humans, common to excretory and reproductive system is

- A. Vas deferens

B. Ejaculatory duct

C. Urethra

D. Ureters

**Answer:**



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**52.** In a human female, the menstrual cycle is of 24 days. What will be the length of follicular phase and luteal phase if the menstrual phase is for four days?



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**53.** Tissue whose cells are specialised to store fat and is located mainly beneath the skin is



A. Areolar tissue

B. Adipose tissue

C. Tendon

D. Ligament

**Answer:**



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**54.** Match column I with column II and select the correct option.

**Column I**  
**(Type of chloroplast)**

**(a) Cup-shaped**

**(b) Girdle-shaped**

**(c) Stellate**

**(d) Reticulate**

**Column II**  
**(Algae)**

**(i) Ulothrix**

**(ii) Oedogonium**

**(iii) Chlamydomonas**

**(iv) Zygnema**

A. a(iv), b(i), (ii), d(iii)

B. a(iii), b(ii), c(i), d(iv)

C. a(i), b(ii), (iii), d(iv)

D. a(iv), b(iii), (ii), d(i)

**Answer:**



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**55.** Select the odd one w.r.t its source of secretion.

A. Gastrin

B. Enterogastrone

C. Secretin

D. Duocrinin

**Answer:**



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**56.** Select the mismatch w.r.t contraceptive method.

A. Multiload 375 : Copper releasing IUD

B. Condoms : Barrier method

C. Vasectomy : Sterilisation method

D. Coitus interruptus : Surgical method

**Answer:**



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**57.** Widal test is the confirmatory test for\_\_\_\_\_. Select the option which fills the blank correctly

A. Typhoid

B. Syphilis

C. Tuberculosis

D. Dengue

**Answer:**



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**58.** After a normal inspiration, the total volume of air person can expire by maximum effort is

A. TV + ERV

B. ERV + RV

C. TLC - VC

D. IC + ERV

**Answer:**



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**59.** Biofortified crop like Golden rice developed transgenically is nutritionally rich in \_\_\_\_\_. Select the option which fills the blank correctly.

- A. Vitamin B
- B. Vitamin K
- C. Vitamin D
- D. Vitamin A

**Answer:**



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60. Facilitated transport helps in the absorption of A and B with the help of carrier proteins. fill the blanks A and B.

A	B
(1) Water	Some amino acids
(2) Glucose	Some amino acids
(3) Fructose	Water
(4) Glucose	Na <sup>+</sup> ions

A.

B.

C.

D.

**Answer:**

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61. Select the incorrect statement w.r.t. human alimentary canal

A. The organ stomach has four major parts-cardiac, fundic, body and pyloric portion

B. Pyloric portion of stomach opens into C-shaped duodenum

C. Caecum is small blind sac which hosts some symbiotic micro-organisms

D. Gastroesophageal sphincter guards the opening of stomach into small intestine.

**Answer:**



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**62.** Select the amino acid whose 'R' group is alcoholic in nature.

A. Glycine

B. Serine

C. Glutamate

D. Lysine

**Answer:**



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**63.** Select the mismatch wrt secondary metabolites.

A. Alkaloids - Morphine and codeine

B. Toxins - Abrin and ricin

C. Drugs - Vinblastine and curcumin

D. Terpenoids - Carotenoids and anthocyanins

**Answer:**



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**64.** How many of the following are examples of mammals in the box given below? Testudo, Neophron, Canis, Felis, Pteropus, Catla, Carcharodon, Macropus, Rattus

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

**Answer:**



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**65.** Protrusion of eye balls, increased basal metabolic rate and weight loss are the symptoms of which of the following disease?

- A. Addison's disease

B. Graves disease

C. Myxedema

D. Cretinism

**Answer:**



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**66.** The condition when heart is not pumping blood effectively enough to meet the needs of the body is

A. Heart attack

B. Coronary artery disease (CAD)

C. Heart failure

D. Atherosclerosis

**Answer:**



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**67.** Which layer of human eye consists of ganglion cells, bipolar cells and photoreceptor cells?

- A. Inner layer , Sclera
- B. Inner layer , Retina
- C. Middle layer , Choroid
- D. Middle layer , Retina

**Answer:**



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68. Select the Incorrect statement.

- A. Agarose is most commonly used matrix in gel electrophoresis for nucleic acids
- B. Spooling is the cutting out of separated DNA bands from gel piece
- C. PCR is used for in vitro synthesis of DNA of interest
- D. Infection of *A. tumefaciens* in dicot plants can cause crown gall disease

**Answer:**



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69. Select the two core techniques that enabled birth of modern biotechnology.

- A. Genetic engineering and bioprocess engineering
- B. Genetic engineering and biolistics
- C. Chemical engineering and biopiracy
- D. Downstream processing and bioprocess engineering

**Answer:**



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70. Choose the nematode which infects the roots of tobacco plants causing a great reduction in yield.

- A. *A. tumefaciens*

B. *M. incognita*

C. *S. typhimurium*

D. *B. thuringiensis*

**Answer:**



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**71.** Mule is the cross between\_\_\_\_\_. Select the option which fills the blanks correctly.

A. Male donkey and female donkey

B. Stallion and mare

C. Male donkey and female horse

D. Female donkey and male horse

**Answer:**

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72. If the margins of petals overlap one another but not in a particular direction then it is

- A. Imbricate as in gulmohur
- B. Imbricate as in cotton
- C. Twisted as in china rose
- D. Valvate as in Calotropis

**Answer:**

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73. The given floral formula is exemplified by



- A. Petunia, Datura
- B. Groundnut, Turnip
- C. Aloe, Asparagus
- D. Indigofera, Trifolium

**Answer:**



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74. Inner layer of pericarp is hard and stony in

- A. Mango, Coconut



B. Pear, Litchi

C. Datepalm, Almond

D. Wood apple, Pea

**Answer:**



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**75.** Find correct features w.r.t. most advanced type of placentation. Br a. Parietal in Argemone. Br b. Basal in cereals. Br c. Axile in solanaceae. Br d. Unilocular ovary. Br e. Ovary with single ovule

A. a, d, e

B. b & d only

C. b, d, e

D. c only

**Answer:**



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**76.** Calculate the total number of microsporangia in a *Datura* plant bearing 10 flowers.

A. 200

B. 400

C. 40

D. 100

**Answer:**



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77. In which one of the following types of aestivation, anterior petals are smallest and united?

- A. Twisted
- B. Valvate
- C. imbricate
- D. Vexillary

**Answer:**



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78. In which of the following type of flowers stamens superior in position?

- A. Epigynous

B. Protogynous

C. Hypogynous

D. Perigynous

**Answer:**



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**79.** Select odd one w.r.t, inflorescence having pedicellate flowers

A. Umbel in coriander

B. Head/capitulum in sunflower

C. Raceme in radish

D. Corymb in Iberis

**Answer:**

80. The modified stem in grasses, strawberry and Chrysanthemum is concerned with special functions i.e, br (i). Food storage. Br (ii). Vegetative propagation. Br (iii). Assimilation. Br (iv). Spread to new niches. Br (v). Perennation

A. ii, iv, v

B. iii, iv, v

C. ii, iv

D. i, ii, v

**Answer:**

**81.** Consider the following modified structures in plants and select ontogenetically similar structures, br A. Phyllode in Acacia, br B. Thorn in Citrus, br C. Tendril in watermelon, br D. Cladode in Asparagus, br E. Spines in cacti

A. A & D

B. B&C

C. A&C

D. B&E

**Answer:**



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**82.** The modified stem In some plants of arid region is

- A. Phylloclade for food synthesis
- B. Phyllode for food synthesis
- C. Tendril for climbing as in Passiflora
- D. Spines for defence mechanism

**Answer:**



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83. Select correct match w.r.t. column I & II

Column I	Column II
a. Modified tap root for respiration	(i) <i>Zea mays</i>
b. Storage tap root	(ii) <i>Pomoea</i>
c. Modified adventitious root for mechanical support	(iii) <i>Rhizophora</i>
d. Modified adventitious root for food storage	(iv) Turnip

A. a(iv), b(iii), c(i), d(ii)

B. a(iii), b(ii), c(i), d(iv)

C. a(iii), b(iv), c(i), d(ii)

D. a(iii), b(iv), c(ii), d(i)

**Answer:**



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**84.** Root region with thin-walled, small cells having dense cytoplasm is

- A. Proximal to cell elongation zone
- B. Distal to cell elongation zone
- C. Region of cell elongation
- D. Maturation region

**Answer:**

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**85.** Non-archegoniates embryophytes have/show

- A. 7-celled female gametophyte

B. 3 generations in seed containing  $2N$  & "N" stage

C. Multicellular female gametophyte which possess haploid secondary nucleus

D. Transfer of pollen grains by wind at 4-celled stage

**Answer:**



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**86.** Select incorrectly matched pair.

A. Ginkgo - Fan-shaped simple leaf

B. Gnetum - Heteroxylous wood

C. Cycas - Absence of female cone

D. Pinus- Male & female strobilus on different plants

**Answer:**



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**87.** Both male and female gametophytes do not show free-living existence in

- A. Phanerogams
- B. Gymnosperms only
- C. Bryophytes
- D. Pteridophytes

**Answer:**



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**88.** Cycas shows/possesses

- A. Branched stem
- B. Monoecious condition
- C. Mycorrhiza
- D. Pinnate compound leaves

**Answer:**



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**89.** Siphonogamous plant with exposed megasporangium before and after fertilisation are

- A. Gymnosperms
- B. Angiosperms

C. Phanerogams

D. Spermatophytes

**Answer:**



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**90.** Which one of the following feature/event in pteridophytes is a precursor to the seed habit that considered an important step in evolution?

A. Development of cone

B. Heterospory

C. Steler system

D. Oogamous reproduction

**Answer:**

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91. How many features are correct for majority of the pteridophytes? a. Heterosporous, b. Homosporous, c. Holoblastic, d. Meroblastic, e. Multiflagellate sperms, f. Biflagellate sperms.

A. b, d, f

B. a, c, e

C. a, d, f

D. b, c, e

**Answer:**

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92. Some features like unisexual gametophytes, rhizophore and ligulate microphylls can be observed in

- A. Lycopodium
- B. Selaginella
- C. Dryopteris
- D. Adiantum

**Answer:**



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93. Pteris, Selaginella and Equisetum resemble in possessing

- A. Microphylls & flagellate female gametes
- B. Strobilus & rhizophore

C. Adventitious root & sporophylls

D. More than one option is correct

**Answer:**



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**94.** Vascular plants as amphibians of plant kingdom are/have

A. Exclusively heterosporous

B. Exposed ovules

C. Grown as ornamentals

D. Diplontic life-cycle

**Answer:**



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95. Select incorrect statement for gemma cup.

- A. It forms multicellular, green asexual buds.
- B. It has 8-shaped gemmae that germinate into two gametophytic plants.
- C. It is present on the dorsal surface of thallus in Marchantia.
- D. It forms sessile, multicellular asexual buds.

**Answer:**



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96. Which of the following structures are of gametophytic origin in bryophytes?

- i. Calyptra
- ii. Apophysis
- iii. Androcyte mother cell
- iv. Elaters
- v.

Gemmae

vi. Sporocyte

A. iii,v,vi

B. iv,v

C. i, iii, v

D. i, ii,iv

**Answer:**



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**97.** Select correct statement for peat moss.

A. Sperm mother cells undergo reduction division to form

antherozoids

B. Reduces soil alkalinity

C. Monoecious with predominant non-green protonema

D. Thallus is dorsiventral and closely appressed to the substrate

**Answer:**



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**98.** Select correct statements for non-vascular archegoniates. Br a. Independent sporophyte & gametophyte. Br b. Dependent sporophyte. Br C. Multicellular independent gametophyte. Br d. Many neck canal cells in female sex organ. Br e. Homosporous and mitospores are formed.

A. b, c, e

B. a, d, e

C. b, c, d

D. a, c, d.

**Answer:**



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**99.** Which of the following algae shows physiological anisogamous type of sexual reproduction by involvement of non-motile gametes?

A. Porphyra

B. Spirogyra

C. Sargassum

D. Ulothrix

**Answer:**

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**100.** Polysulphate ester is present in the cell wall of A which also possess or show B

- A. A-Green algae, B-Agranal chloroplast
- B. A-Red algae, B-Siphonogamy
- C. A-Brown algae, B - Heterotrichous thallus
- D. A-Red algae, B-Advanced type of sexual reproduction

**Answer:**

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101. The common asexual spore in algae is , Br i-Thin-walled, br ii- Always biflagellated, iii-Non-motile endogenous, iv. Motile and perennating , V. Endogenous, motile & dispersing also , vi. Exemplified by green, brown & red algae.

A. i, ii, v

B. iii, vi

C. i,ii, iv, vi

D. i , vi

**Answer:**



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102. Which of the following is Incorrectly matched?

- A. Spirogyra- Several pyrenoids in chloroplast
- B. Chara- Monoecious, branched filamentous alga
- C. Trichophilous - Endozoic green alga
- D. Volvox- Motile coenobium & oogamous

**Answer:**

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**103.** Consider the following statements. ( A). Independent one-celled or many celled gametophyte, ( B). Multicellular dependent sporophyte, (C). One or few celled dependent gametophyte, ( D). Reduced sporophyte as 1-celled structure. These statements are correct for which group of plantae?

A. C - Angiosperms, D - Algae

B. A - Bryophytes B - Bryophytes

C. A- Algae, C-Mosses

D. B. Bryophytes D - Ferns

**Answer:**



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**104.** Which one is the cofactor of carboxypeptidase?

A.  $Cu^{2+}$

B.  $Mg^{2+}$

C.  $Fe^{2+}$

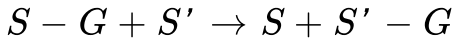
D.  $Zn^{2+}$

**Answer:**



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**105.** Select the type of enzyme involved in the following reaction



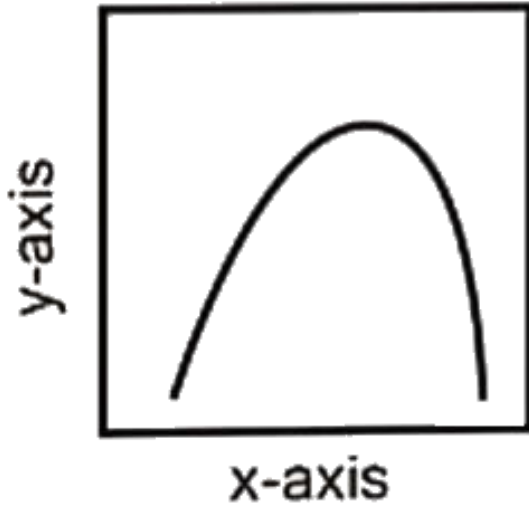
- A. Dehydrogenase
- B. Transferase
- C. Lyase
- D. Hydrolase

**Answer:**

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**106.** The curve given below shows enzymatic activity with relation to three conditions (pH, temperature and substrate

concentration). What does the two axis (x and y) represent ?



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**107.** The catalytic efficiency of two different enzymes can be compared by the

- A. Formation of the product
- B. Molecular size of the enzyme

C. The  $K_m$  value

D. The pH optimum value

**Answer:**



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**108.** Which of the following statements regarding enzyme inhibition is correct?

A. Non-competitive inhibition of an enzyme can be over come by adding large amount of substrate

B. Non-competitive inhibitors often bind to the enzyme irreversibly

C. Competitive inhibition is seen when a substrate competes with an enzyme for binding to an inhibitor protein

D. Competitive inhibition is seen when the substrate and the inhibitor compete for the active site on the enzyme

**Answer:**



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**109.** Cleavage of specific covalent bonds and removal of groups without hydrolysis is the property of

- A. Hydrolases
- B. Transferases
- C. Isomerases
- D. Lyases

**Answer:**



**110.** Among the given statements identify the correct statements, a. RNA takes part in synthesis of proteins, b. Proteins essentially contain sulphur, phosphorus, hydrogen & oxygen, br c. Nitrogen is less common component of protein. Br d. Peptide bonds formed by dehydration synthesis bind amino acids in formation of protein, e. Proteins on hydrolysis yield fatty acids.

A. a, d, e are correct

B. a&d are correct

C. a, b, c are correct

D. b, c, e are correct

**Answer:**

**111.** The most diverse chemicals in a living organism are

- A. Carbohydrates
- B. Amino acids
- C. Nucleic acids
- D. Proteins

**Answer:**



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**112.** Rich source of PUFAs in diet is

- A. Butter
- B. Egg yolk
- C. Ghee

D. Vegetable oils

**Answer:**

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**113.** Oils are rich in

- A. Fats that are generally liquid at room temperature
- B. Esters of fatty acids
- C. Glycerol that possesses three hydroxyl groups
- D. Saturated fatty acids

**Answer:**

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**114.** Essential fatty acids are

- A. Polyunsaturated fatty acids which cannot be synthesized in the animal body
- B. The fatty acids with formula  $C_nH_{2n-2x}O_2$
- C. Either saturated or unsaturated
- D. Fatty acids with no double bonds

**Answer:**

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**115.** A disaccharide that will yield two glucose molecules on hydrolysis is

- A. Raffinose



B. Maltose

C. Lactose

D. Sucrose

**Answer:**



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**116.** Immediate source of energy is

A. Glucose

B. Deoxyribose

C. Glycogen

D. Cellulose

**Answer:**

 [Watch Video Solution](#)

**117.** Tessellated epithelium lines the

- A. Trachea
- B. Gonads
- C. Stomach
- D. Coelom

**Answer:**

 [Watch Video Solution](#)

**118.** Compound tubular glands are the glands having secretory portion with compound branching for which the example can be

- A. Brunner's glands
- B. Sublingual salivary glands
- C. Crypts of Liberkuhn
- D. Sebaceous glands

**Answer:**



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**119.** Large irregular, amoeboid cells in the areolar tissue derived from monocytes are

- A. Histiocytes
- B. Fibroblasts
- C. Mast cells
- D. Plasma cells

**Answer:**



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**120.** The avascular nature of cartilage is responsible for its

- A. Suitability for embryonic endoskeleton
- B. Transparent consistency
- C. Flexibility
- D. Slow repair

**Answer:**



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**121.** The perforating canals that interconnect Haversian canals are called

- A. Trabeculae
- B. Lamellae
- C. Canaliculi
- D. Volkmann's canals

**Answer:**



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**122.** Bone behaves as supporting connective tissue as it is firm due to

- A. High proportion of organic component in it as compared to inorganic component
- B. Presence of osteoclasts that resorb excess bone material
- C. Presence of collagen that makes about 33% of bone
- D. Hydrated calcium phosphate that is the major component of bone matrix

**Answer:**



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**123.** Mark the statement that is Incorrect for smooth muscles.

- A. Irritability is shown by all smooth muscles except ciliary muscles

- B. Hair root muscles and muscles on the large blood vessels are an example of multi-unit smooth muscles
- C. Smooth muscles form the muscular component of the visceral organs such as blood vessels, urinary bladder, ciliary body etc.
- D. Smooth muscles cells do not have the troponin tropomyosin mechanism of controlling contraction

**Answer:**



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124.

Match

the

following

Column I	Column II
a. Oligodendrocytes	(i) Lymphocytes
b. Olfactory epithelium	(ii) Form & maintain myelin
c. Immunological defence	(iii) Allergic response
d. Eosinophilia	(iv) Bipolar neurons

A. a(ii), b(iv), c(i), d(iii)

B. a(i), b(iv), c(ii), d(ii)

C. a(i), b(iv), c(ii), d(i)

D. a(iv), b(i), c(iii), d(ii)

**Answer:**



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125. Mark the statement that is correct for cartilage



- A. Cartilage is avascular the nutrients diffuse into it from nearby tissues
- B. Most of the embryonic skeleton consists of yellow elastic cartilage
- C. Classification of cartilage is based on its amount of mineral in matrix
- D. Cartilage forms outer protective covering of some organs like kidneys, lymph nodes and our brain

**Answer:**



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**126.** Cells of connective tissue that releases a chemical responsible for stimulating local inflammation are

- A. Mast cells
- B. Histiocytes
- C. Fibroblasts
- D. Leukocytes

**Answer:**



**Watch Video Solution**

**127.** All among the following are functions of connective tissue except

- A. Body defence and transport
- B. Propelling mucus towards the pharynx
- C. Binding support
- D. Fat storage

**Answer:**



**Watch Video Solution**

**128.** The only unicellular exocrine glands in our body are

- A. Mammary glands
- B. Sebaceous glands
- C. Sweat glands
- D. Mucus secreting goblet cells

**Answer:**



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**129.** Columnar epithelium differs from cuboidal epithelium in that

- A. Cells show nuclei towards their base
- B. It is never single layered
- C. Cells do not rest upon basement membrane
- D. Cells do not carry cilia over their free surface

**Answer:**



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**130.** The name simple is given to the epithelium, when

- A. It is composed of single layer of cells
- B. It is non-secretory
- C. It carries microvilli over the free surface of cells

D. It mainly performs the function of protecting underlying structures

**Answer:**

 [Watch Video Solution](#)

**131.** The function of basement membrane in epithelial tissue is to

- A. Separate the epithelial tissue from underlying connective tissue
- B. Produce multiple layers of cells in a compound epithelium
- C. facilitate communication of cells with each other
- D. Allow rapid ion transfer among cells

**Answer:**

 [Watch Video Solution](#)

**132.** Efferent salivary ducts in Periplaneta open into

- A. Base of oesophagus
- B. Base of hypopharynx
- C. Stomach
- D. Base of pharynx

**Answer:**

 [Watch Video Solution](#)

133. Match the following w.r.t. to cockroach.

Column I	Column II
a. Malpighian tubules	(i) Antennae
b. Corpora allata	(ii) Largest
c. Thigmoreceptors	(iii) Ileum part of hindgut
d. Left phallomere of male	(iv) Neurosecretory production of neotenin

A. a(iii), b(i), c(iv), d(ii)

B. a(iii), b(iv), c(ii), d(i)

C. a(ii), b(i), c(iii), d(iv)

D. a(iii), b(iv), c(i), d(ii)

**Answer:**



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**134.** Most swollen segment in leg cockroach is :

- A. Coxa
- B. Arolium
- C. Tibia
- D. Femur

**Answer:**



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**135.** Circulatory system of cockroach is not known to possess

- A. Hemocoel containing colourless plasma and hemocytes
- B. Beaded heart with 13 chambers perforated by ostia having valves



C. 12 pairs of wing-shaped involuntary alary muscles

D. Myogenic heart

**Answer:**



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**136.** Mark the statement that is incorrect for digestive system of cockroach

A. The wall of rectum is provided with six rectal papillae which help in the absorption of water and salt

B. Crop of cockroach is not used for digestion of food as it is lined by cuticle

C. Gizzard is internally provided with six cuticular teeth which crush the food

D. Peritrophic membrane is permeable to digested food and enzymes in the mesenteron

**Answer:**

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137. Ootheca of cockroach is formed of \_\_\_\_\_ secreted by

- A. Protein collateral gland
- B. Chitin collateral gland
- C. Lipid, seminal vesicles
- D. Chitin utricull brevares

**Answer:**

 [Watch Video Solution](#)

**138.** The alternate contraction and relaxation of terogosternal muscles in cockroach

- A. Makes the air to leave and enter the body of cockroach
- B. Makes the blood to move from perivisceral sinus to pericardial sinus
- C. Makes the mandibles move
- D. Makes the best adhesion of plantulae and arolia

**Answer:**

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**139.** In the male reproductive system of cockroach the seminal vesicles are responsible for

- A. Storage of sperms
- B. Removing uric acid in addition to malpighian tubules
- C. Secretion of middle layer of spermatophore
- D. Production of oothecal material

**Answer:**



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**140.** Mark the incorrect statement about cockroach.

- A. Compound eyes of cockroach always form apposition image due to non-retractile pigment sheath
- B. The outermost layer of 3 layered wall of spermatophore is secreted by utriculi majores

C. In respiratory system of cockroach first thoracic pair and first abdominal pairs of spiracles always remain open

D. Malpighian tubules absorb excretory wastes perform osmoregulation and homeostasis

**Answer:**



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**141.** Read the following statements and choose the correct option. Statement A: Antibiotics have played a major role in controlling infectious diseases like diphtheria, whooping cough and pneumonia. .Statement B: Lactic acid bacteria grow in milk to convert it into more nutritious curd.

A. Only A is correct

- B. Only B is correct
- C. Both A and B are correct
- D. Both A and B are incorrect

**Answer:**



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**142.** Viruses belonging to genus Nucleopolyhedrovirus are the important component of IPM because

- A. They are wide spectrum bioinsecticides
- B. They conserve beneficial insects being a species specific insecticide
- C. They have side effects on plants and animals
- D. They are not species specific

**Answer:**



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**143.** Primary treatment of waste water is mainly a \_\_\_\_\_ treatment.

- A. Chemical
- B. Physical
- C. Biological
- D. Physico-chemical

**Answer:**



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**144.** The Ministry of Environment and Forests has initiated Ganga and Yamuna Action Plan to

- A. Prevent water-borne diseases
- B. Prevent microbial treatment of sewage
- C. Prevent the discharge of untreated sewage into these rivers
- D. Treat waste water biologically only

**Answer:**

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**145.** State True (T) or False (F) for the following statements. a. Anaerobic digestion of activated sludge produces biogas inside the sludge digester. b. Rhizobium is used as a biofertilizer for



raising production of soyabean crop. c.Organic farming uses only naturally produced inputs like compost.

A. snipp

B.

C.

D.

**Answer:**

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**146.** The incorrect statement regarding biogas is

A. It predominantly contains methane

B. Production involves anaerobic digestion of organic wastes

C. Dung can be used for generation of biogas

D. It does not contain hydrogen sulphide

**Answer:**

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**147.** Acetic acid is used in preparation of vinegar. It is usually obtained from

- A. *Aspergillus niger*
- B. *Acetobacter aceti*
- C. *Lactobacillus*
- D. *Penicillium*

**Answer:**

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**148.** A wheat variety with high protein contents has been used as a donor for improving cultivated wheat is

- A. Jaya
- B. Ratna
- C. Atlas 66
- D. Himgiri

**Answer:**



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**149.** In a region of France, Downy mildew of grapes was confined to large varieties of grapes. Which of the following measures could be taken to grow grape vines in that region? a. Use of

disease resistant varieties. b. Spray with Bordeaux mixture. C.Use of a chemical fertiliser. d. Spray with an insecticide.

A. a and b

B. b and c

C. c and d

D. a and d

**Answer:**



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**150.** Plants genetically identical to the original plant, produced during tissue culture are called

A. Somatic hybrids

B. Interspecific hybrids

C. Somaclones

D. Cybrids

**Answer:**



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**151.** Select the wrong statement.

- A. Meristem is the most suitable part of a plant for raising virus free plants in micropropagation
- B. Callus is unorganised mass of cells produced in tissue culture.
- C. Spirulina can produce food rich in proteins, minerals, fats, carbohydrates and vitamins

D. Spirogyra can be used to produce single cell protein to obtain food for human beings

**Answer:**



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**152.** The development of several high yielding varieties of wheat and rice in the mid 1960's was the result of various plant breeding techniques led to increase in food production which is referred to as

- A. Biofortification
- B. Eutrophication
- C. Green revolution
- D. Somatic hybridisation

**Answer:**

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**153.** Collection of genetic variability is required in plant breeding programme because

- A. It leads to inbreeding depression in hybrids
- B. It is the root of any breeding programme
- C. Diverse alleles in germplasm helps you to choose desirable characters
- D. Both (2) and (3)

**Answer:**

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**154.** The genes in eukaryotes are said to be split as

- A. They have introns only
- B. They have interrupted coding sequences
- C. Mature mRNA contains both exons and introns
- D. They have exons only

**Answer:**



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**155.** Minisatellites

- A. Are surrounded by conserved restriction sites.
- B. Are also known as variable number of tandem repeats (VNTR).



C. Code for structural proteins only

D. Both (1) and (2)

**Answer:**



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**156.** Select the correct match.

A. Hershey and Chase :Bacteriophage

B. Griffith :E.coli

C. QB Bacteriophage :DNA as genetic material

D. Taylor et. al. :TMV

**Answer:**



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**157.** All of the following are applications of Restriction Fragment Length Polymorphism (RFLP), except

- A. Analysis of unique pattern in genome for organism identification.
- B. Analysis of a gene for particular disease in members of a family
- C. Analysis of tertiary structure of proteins only
- D. Basis of DNA fingerprinting for paternity test

**Answer:**



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**158.** If a cell lacks RNA polymerase III, then it cannot synthesize

A. tRNA

B. 28 S rRNA

C. 5 S rRNA

D. Both (1) and (3)

**Answer:**



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**159.** The directions of RNA and DNA synthesis are respectively

A. 5' to 3' and 3' to 5'

B. 3' to 5 and 5' to 3'

C. 5' to 3' for both

D. 3' to 5' for both

**Answer:**



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**160.** If the sequence of the nitrogenous bases on template strand is ATCTGGCGT, what would be the sequence of mRNA transcribed from it?

- A. AUCACCGCU
- B. UUCUGGCGU
- C. UAGACCGCA
- D. AUGUCCGCU

**Answer:**



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**161.** Select the correct option to fill up the blanks in the following statements. A.Satellite DNA is\_\_\_\_\_. Br B.act as structural RNA as well as ribozyme in bacteria.

A. A)Heterochromatin B)23S rRNA

B. A)Euchromatin B)18S rRNA

C. A)Euchromatin B)28S rRNA

D. A)Heterochromatin B)5S rRNA

**Answer:**



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**162.** Select an option that shows the correct sequence of the events involved in the translation mechanism. a. Binding of mRNA to smaller subunit of ribosome b. Aminoacylation of tRNA

c. Binding of initiator tRNA to the P-site of the ribosome d. Formation of polypeptide e. Formation of peptide bond between first and second amino acids at the A site.

A. a → b → c → d → e

B. b → a → e → c → d

C. b → d → a → c → e

D. b → a → c → e → d

**Answer:**

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**163.** Griffith discovered the process of

A. Transduction

B. Transformation

C. Binary fission

D. Conjugation

**Answer:**



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**164.** Identify the type of gene, on the basis of given characters from a to c. a. Smallest gene. b. Present on Y chromosome. c. Codes for TDF

A. Dystrophin gene

B. Regulator gene

C. Operator gene

D. SRY gene

**Answer:**



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**165.** Peptidyl transferase plays an important role during protein synthesis. What is true about this enzyme?

- A. It is proteinaceous
- B. It is RNA as catalyst
- C. It helps in peptide bond formation
- D. Both (2) and (3)

**Answer:**



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**166.** In *E. coli*, Cairns proved

- A. Synthesis of leading strand of DNA requires many primers
- B. Semiconservative mode of DNA replication
- C. That during transcription both the strands of DNA do not get copied
- D. Both (1) and (2)

**Answer:**

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**167.** Match the following columns and select the correct option a.

UAG (i) Codes for amino acid Tryptophan. br b. (ii)AUG Start codon . br c. GUG (iii) Ambiguous codon. br d. UGG (iv) Nonsense codon

A. snipp

B.

C.

D.

**Answer:**



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**168.** Reverse flow of information from RNA to DNA occurs in

A. *E. coli*

B. Lambda phage

C. HIV

D.  $T_4$  bacteriophage

**Answer:**



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**169.** Four DNA samples were extracted from different organisms whose sequences are given below. Analyse the sequences and find out which one of the following will denature more easily as compared to other three?

A.

$-ATGCGGCT \nabla ATGCA - -TACGCCA \top TACGT -$

B.  $-GGCACGGCTAGC - -CGGTGGCGATCGG -$

C.  $-CGGATCGGATGGC - -GGCTAGGCTACG -$

D.  $-GCGTGGCATGGC - -CGGCACGGTACGG -$

**Answer:**



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**170.** Read the following statements and choose the correct one(s). A. During DNA replication, Adenine pairs with Uracil B. Chargaff's rule is applicable only for double stranded DNA. C. The area with long sequence of short repetitive DNA is called satellite DNA.

A. A and B

B. B and C

C. Only B

D. Only C

**Answer:**



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171. N-glycosidic linkages in a polynucleotide chain join

- A. A nitrogenous base to a pentose sugar
- B. A nucleotide to a ribose sugar
- C. A nucleoside to a pentose sugar
- D. A phosphate group to a nucleoside

**Answer:**



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172. All the termination codons of universal genetic codes begin with a nucleotide, that is

- A. Adenine
- B. Cytosine

C. Uracil

D. Thymine

**Answer:**



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**173.** The regression in size of which organ is associated with reduction in the power of defence against invasion by pathogens with ageing?

A. Bone marrow

B. Thymus

C. Spleen

D. Peyer's patches

**Answer:**



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**174.** Read the following statements.

(A) B-lymphocytes produce an army of proteins against invading pathogen that are called antibodies

(B) The T-cells themselves do not secrete these antibodies but help B cells to produce them Choose the correct option.

A. Statement B is correct and A is incorrect

B. Both the statements are incorrect

C. Statement A is correct and B is incorrect

D. Both the statements are correct

**Answer:**





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**175.** Which of the following set of diseases is caused by bacteria?

- A. Dysentery, dengue
- B. Diphtheria, amoebiasis
- C. Typhoid, plague
- D. Polio, tetanus

**Answer:**



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**176.** Mark the odd one out w.r.t autoimmune diseases.

- A. Myasthenia gravis



B. Rheumatoid arthritis

C. Vitiligo

D. Hay fever

**Answer:**



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**177.** The pathogen transmitted through female mosquito causing chronic inflammation of the lymphatic vessels of the lower limbs in man is

A. *Ascaris* sp.

B. *E. histolytica*

C. *Streptococcus pneumoniae*

D. *W. malayi*

**Answer:**



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**178.** "It is a stochastic process based on chance events in nature and chance mutation in the organisms". This statement tells us about

- A. Non directional nature of evolution
- B. Directional mutations leading to natural selection
- C. Lack of anthropogenic impact on the evolutionary time scale
- D. Constant rate of reproduction & evolution in all organisms

**Answer:**



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**179.** Reptilian ancestry of birds is shown by the presence of

- A. Scales on hind limbs
- B. Non-cleidoic eggs
- C. Teeth in beak of birds
- D. Three chambered heart

**Answer:**



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**180.** Frequency of an autosomal recessive gene in a population is 0.40. The number of carriers in a population of 2000 individuals is

A. 720

B. 960

C. 1040

D. 360

**Answer:**



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**181.** Among human ancestors, the extinct hominid who lived in near east and Central Asia between 100000 - 40000 years ago, with a brain size of 1400 cc, used hides to protect their body and buried their dead was

A. Cro-Magnon man

B. Homo habilis

C. Homo erectus

D. Neanderthal man

**Answer:**



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**182.** Pattern of bones in forelimbs of humans and wings of bat are an example of

A. Parallel evolution

B. Vestigial organs

C. Analogous organs

D. Homologous organs

**Answer:**



**183.** During industrialization in England, the black colored peppered moth became dominant over the light colored form.

This is an example of

- A. Protective mimicry whereby the melanic form of moth has no selective advantage over lighter forms
- B. Melanism which is a pollution generated feature and a defensive adaptation of skin against UV radiations.
- C. Natural selection whereby the melanic forms arose by random mutations that were selected as they had protective resemblance with the surroundings.
- D. Appearance of melanic forms due to darkening of body as a result of smoke from industries.

**Answer:**



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**184.** The tendency of population to remain in genetic equilibrium may be disturbed by

- A. Presence of random mating
- B. Lack of gene migration
- C. Lack of mutations
- D. Presence of selective mating

**Answer:**



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**185.** When more than one adaptive radiations appeared to have occurred in an isolated geographical area, it is called.

- A. Convergent evolution
- B. Divergent evolution
- C. Saltation
- D. Immigration

**Answer:**

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**186.** Which among the following is most likely the earliest event according to chemical theory of origin of life?

- A. Formation of protobionts



B. Synthesis of organic monomers

C. Synthesis of organic polymers

D. Formation of DNA based genetic systems

**Answer:**

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**187.** Data from experimental survey in India suggests that, weight of new borns, ranges between 2 kg to 5 kg but majority of surviving new borns are around 3 kg in weight. Which of the following is correct for such type of natural selection when the graph is plotted between number of surviving babies and their weight?

A. It is a type of directional selection

B. The peak formed in graph corresponds to mean character value

C. The peak formed in graph corresponds to peripheral character values

D. Two peaks are obtained corresponding to extreme character values in the graph

**Answer:**



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**188.** The most significant change in human evolution is regarded as

A. Evolution of language

B. Erect posture

C. Increase in cranial capacity

D. Bipedal gait and binocular vision

**Answer:**



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**189.** Select odd one out w.r.t. Australian marsupials.

A. Bobcat

B. Wombat

C. Bandicoot

D. Spotted cuscus

**Answer:**



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**190.** Read the following statements carefully.

A. Studies suggest that first organisms that invaded land were plants.

B. Saltations are large mutations and directionless while Darwinian variations are small and directional.

C. Sauropsids were common ancestors of therapsids and thecodonts.

D. Homo habilis was the first hominid with brain capacity ranging between 650-800 cc. Choose the correct option w.r.t. True (T) and False (F) statements



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**191.** Read the following sentences carefully and choose the option having correct statements, a. Units of life called spores

were transferred to different planets including earth according to theory of spontaneous generation. br b. Oparin and Haldane proposed that life arises from non-living organic molecules by chemical evolution. br c. Psilophyton can be considered as ancestor of conifers . br d. Coelacanth possibly evolved into the first amphibians.

A. a & b only

B. b & c only

C. b, c and d only

D. a, b, c and d

**Answer:**



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192. Phytochemistry as a criterion for the classification of organisms is also used by taxonomist in  
i. Artificial system, ii. Cytotaxonomy, iii: Chemotaxonomy, iv. Phenetics

A. iii,v

B. I,ii,iv

C. ii, iii, iv

D. i, iii

**Answer:**



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193. Which of the following is incorrectly matched?

A. Trichophilous - Endozoic green alga

B. Volvox - Motile coenobium & oogamous

C. Spirogyra - Filamentous

D. Chara - Monoecious, branched filamentous alga

**Answer:**



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**194.** The common asexual spore in algae is , Br i-Thin-walled, br ii- Always biflagellated, iii-Non-motile endogenous, iv. Motile and perennating , V. Endogenous, motile & dispersing also , vi. Exemplified by green, brown & red algae.

A. i,ii, iv , vi

B. I , v

C. I , ii, v

D. iii ,vi

**Answer:**

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**195.** Which of the following structures are of gametophytic origin in bryophytes? i. Calyptra ii. Apophysis is. Androcyte mother cell iv Elaters v Gemmae vi. Sporocyte

A. I ,iii, v

B. I , ii ,iv

C. iii , v , vi

D. iv , v

**Answer:**

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**196.** Some features like unisexual gametophytes, thizophore and ligulate microphylls can be observed in

- A. Dryopteris
- B. Adiantum
- C. Lycopodium
- D. Selaginella

**Answer:**



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**197.** Both male and female gametophytes do not show free-living existence in

A. Bryophytes

B. Pteridophytes

C. Phanerogams

D. Gymnosperms only

**Answer:**



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**198.** Consider the following modified structures in plants and select ontogenetically similar structures, br A. Phyllode in Acacia, br B. Thorn in Citrus, br C. Tendril in watermelon, br D. Cladode in Asparagus, br E. Spines in cacti

A. A & C

B. B&E

C. A&D

D. B & C

**Answer:**



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**199.** The modified stem in grasses, strawberry Chrysanthemum is concerned with special function i.e.,  
i- Food storage ,br ii- Vegetative propagation, br iii- Assimilation, br iv- Spread to new niches, br v- Perennation,

A. ii , iv

B. i , ii, v

C. ii , iv , v

D. iii, iv , v

**Answer:**

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**200.** Type of venation in cucumber and banana is respectively

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**201.** Select odd one wrt. Inflorescence having pedicellate flowers.

- A. Raceme in radish
- B. Corymb in Iberis
- C. Umbel in coriander
- D. Head/capitulum in sunflower

**Answer:**



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**202.** In which of the following type of flowers stamens are superior in position?

- A. Hypogynous
- B. Perigynous
- C. Epigynous
- D. Protogynous

**Answer:**



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**203.** In which one of the following types of aestivation, anterior petals are smallest and united?

A. Imbricate

B. Vexillary

C. Twisted

D. Valvate

**Answer:**



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**204.** Calculate the total number of microsporangia

A. 40

B. 100

C. 200

D. 400

**Answer:**

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**205.** Find correct features w.r.t. most advanced type of placentation. Br a. Parietal in Argemone. Br b. Basal in cereals. Br c. Axile in solanaceae. Br d. Unilocular ovary. Br e. Ovary with single ovule

A. b, d, e

B. c only

C. a, d. e

D. b & d only

**Answer:**

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206. Inner layer of pericarp is hard and stony in

- A. Datepalm, Almond
- B. Wood apple, Pea
- C. Mango, Coconut
- D. Pear, Litchi

**Answer:**

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207. The given floral formula is exemplified by

$$\left[ \begin{array}{c} \% \\ ma \end{array} \leq K_5 C_{1+2+(2)} A_{9+1} G_1 \right]$$

- A. Aloe. Asparagus



B. Indigofera Tronum

C. Petunia, Datura

D. Groundnut , Turnip

**Answer:**



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**208.** Some features like gamopetalous flower, berry fruit and endospermous seeds are characteristics of

A. Fabaceae

B. Brassicaceae

C. Poaceae

D. Solanaceae

**Answer:**



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**209.** Mark the incorrect statement about cockroach.

- A. In respiratory system of cockroach first thoracic pair and first abdominal pairs of spiracles always remain open
- B. Malpighian tubules absorb excretory wastes perform osmoregulation and homeostasis
- C. Compound eyes of cockroach always form apposition image due to non-retractile pigment sheath
- D. The outermost layer of 3 layered wall of spermatophore is secreted by utriculi majores

**Answer:**



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**210.** The alternate contraction and relaxation of terogosternal muscles in cockroach

- A. Makes the mandibles move
- B. Makes the best adhesion of plantulae and arolia
- C. Makes the air to leave and enter the body of cockroach
- D. Makes the blood to move from perivisceral sinus to pericardial sinus

**Answer:**



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**211.** The function of basement membrane in epithelial tissue is to

- A. Facilitate communication of cells with each other
- B. Allow rapid ion transfer among cells
- C. Separate the epithelial tissue from underlying connective tissue
- D. Produce multiple layers of cells in a compound epithelium

**Answer:**

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**212.** Mark the statement that is correct for cartilage

- A. Classification of cartilage is based on its amount of mineral in matrix

- B. Cartilage forms outer protective covering of some organs like kidneys, lymph nodes and our brain
- C. Cartilage is avascular the nutrients diffuse into it from nearby tissues
- D. Most of the embryonic skeleton consist of Volw all cartilage

**Answer:**



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**213.** Mark the statement that is incorrect for smooth muscles

- A. Smooth muscles form the muscular component of the visceral organs such as blood vessels, urinary bladder,

ciliary body etc.

B. Smooth muscles cells do not have the troponin tropomyosin mechanism of controlling contraction

C. Irritability is shown by all smooth muscles except ciliary muscles

D. Hair root muscles and muscles on the large blood vessels are an example of multi-unit smooth muscles

**Answer:**

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**214.** Bone behaves as supporting connective tissue as it is firm due to

A. Presence of collagen that makes about 33% of bone

- B. Hydrated calcium phosphate that is the major component of bone matrix
- C. High proportion of organic component in it as compared to inorganic component
- D. Presence of osteoclasts that resorb excess bone material

**Answer:**



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**215.** Haversian canals of a bone are interconnected by .....

- A. Canaliculi
- B. Volkmann's canals
- C. Trabeculae

D. Lamellae

**Answer:**

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**216.** The avascular nature of cartilage is responsible for its

- A. Flexibility
- B. Slow repair
- C. Suitability for embryonic endoskeleton
- D. Transparent consistency

**Answer:**

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217. Tessellated epithelium lines the

A. Stomach

B. Coelom

C. Trachea

D. Gonads

**Answer:**



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218. The largest constituent element of protoplasm is\_ that forms\_ percent by weight

A. Carbon, 80

B. Hydrogen, 75

C. Oxygen, 65

D. Nitrogen, 95

**Answer:**



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**219.** Mark the correct statement for monosaccharides.

- A. Monosaccharides with 5 carbon atoms are smallest carbohydrates
- B. Pentose sugar ribose is rarely found in animal cell
- C. All hexoses are aldoses except fructose
- D. The most important sugar occurring in animals is cellulose

**Answer:**

220. Among the given statements identify the correct statements. Br a-RNA takes part in synthesis of proteins , br b. Proteins essentially contain sulphur, phosphorus, hydrogen & oxygen, br C. Nitrogen is less common component of protein, br d. Peptide bonds formed by dehydration synthesis bind amino acids in formation of protein, br e- Proteins on hydrolysis yield fatty acids

- A. a, b, c are correct
- B. b, c, e are correct
- C. a, d, e are correct
- D. a & d are correct

**Answer:**



**221.** Mark the correct statement for enzymes.

- A. Enzymes in a living system are highly unspecific w.r.t. substrate
- B. Enzymes remain unaltered upto the end of chemical reaction
- C. All enzymes are thermostable
- D. Enzymes increase the activation energy of reactants hence speed up the reaction

**Answer: B**

## 222. Transcription unit

- A. Starts with TATA box in prokaryotes.
- B. Starts with palindromic region and ends with p factor
- C. Starts with promotor region and ends in terminator region
- D. Ends with CAAT region

**Answer:**



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**223.** If the sequence of bases in template strand of DNA is ATTCGATG, then the sequence of bases in its transcript will be

- A. CAUCGAAU
- B. GUAGCUUA

C. UAAGCUAC

D. AUUCGAUG

**Answer:**



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**224.** Segments of mRNA removed during splicing are

A. Introns

B. Exons

C. Promotor regions

D. Integrator regions

**Answer:**



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**225.** Choose the set of correct statements for hydrogen bonding between complimentary bases of double helix structure of DNA.

a. Responsible for parallel nature of the two DNA strands.

B. Maintains stability of double helix.

C. Generates approximately uniform distance between the two strands.

A. 

B.

C.

D.

**Answer:**



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**226.** In a DNA sample the proportion of A is 17%, the amount of G+T and C will be respectively,

- A. 50% and 33%
- B. 66% and 17%
- C. 66% and 33%
- D. 33% and 50%

**Answer:**



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**227.** The distance between two consecutive base pairs is  $0.34 \cdot 10^{-9}m$ , what will be the length of DNA double helix in a typical mammalian cell?

- A. 0.34 nm



B.  $6.6 \cdot 10^9 \text{ bp} \cdot 0.34 \times 10^{-9} \frac{\text{m}}{\text{bp}}$

C. 22 m

D. 1.33 mm

**Answer:**



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**228.** In bacteriophage experiment, performed by Hershey and Chase, radioactivity in supernatant was due to

A.  $P^{32}$  in capsid of bacteriophage

B.  $S^{35}$  in nucleic acid of bacteriophage

C.  $S^{35}$  in capsid of bacteriophage

D.  $P^{35}$  in nucleic acid of bacteriophage

**Answer:**

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**229.** Considering DNA as genetic material, which is not a suitable feature?

- A. It should be able to express itself in the form of 'Mendelian characters'
- B. It should chemically and structurally be stable
- C. It should provide the scope for frequent and rapid changes (mutation) that are required for evolution
- D. It should be able to generate its replica

**Answer:**

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**230.** RNA cannot act as genetic material as it

- A. Can easily express the characters
- B. Mutate at a faster rate
- C. Can undergo replication
- D. Is more stable chemically and structurally

**Answer:**



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**231.** The nucleotide sequence AGGCCGAC can be verified as DNA or RNA segment on the basis of

- A. Kind of N-bases

B. Type of pentose sugar

C. Type of pentose sugar

D. Number of nucleotides

**Answer:**



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**232.** In eukaryotes the gene regulation could be exerted at four levels. Find the correct sequence of gene regulation, br a. Transport of mRNA from nucleus to the cytoplasm. Br b. Transcriptional level. Br c. Processing level. D. Translational level

A.  $a \rightarrow b \rightarrow C \rightarrow d$

B.  $b \rightarrow c \rightarrow a \rightarrow d$

C.  $d \rightarrow b \rightarrow \rightarrow a \rightarrow c$

$$D. b \rightarrow a \rightarrow d \rightarrow c$$

**Answer:**



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**233.** Which of the following statements regarding transcription are correct? Br a. Transcription governs the principle of complementarity. Brb. If both strands of DNA act as a template, they would code for RNA molecule with same sequences. Br c. Double stranded RNA formed after transcription promotes RNA from being translated into protein. br d. Like the process of replication, the total DNA of an organism gets duplicated in transcription also

A. b&c

B. d only

C. a only

D. a & c

**Answer:**



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**234.** In translation, br a: Site is cytoplasm whether a cell is eukaryotic or 10 prokaryotic. Br b. Site is same as of transcription, in eukaryotic cell. Br d. Both enzymes and energy are involved. Br d. Site is same as of transcription, in prokaryotic cell. Choose the set of correct statements

A. a,b,c

B. a,b,d

C. b,c,d

D. a,c,d

**Answer:**



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**235.** What will be the number of ATP and GTPS respectively, required in polymerisation of 13 amino acids in protein biosynthesis?

A. 26, 26

B. 13, 26

C. 13, 13

D. 14, 28

**Answer:**



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**236.** Read the following statements w.r.t. lac operon. Br a. lac-i is the constitutive gene. Br b. lac-y codes for permease to increase permeability of cell to  $B\eta$ -galactoside. Br c. Lactose is the substrate for the enzyme B- galactosidase and it regulates switching on and off of the operon. br d. Regulation of lac operan can be also visualised as regulation of enzyme synthesis by its substrate.

A. 4

B. 3

C. 2

D. 1

**Answer:**





**237.** Choose the correct statement w.r.t human genome project

- A. More than 10 percent of genome codes for proteins
- B. The average gene consist of 30,000 bases, but size of gene rarely varies
- C. There are 1.4 million locations where SNPs occurs in humans
- D. Repetitive sequences of DNA do not shed any light on chromosome structure, dynamics and evolution

**Answer:**



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**238.** How many of the following beverages are produced by distillation of the fermented broth Whisky Wine, Rum, Brandy, Beer

A. 4

B. 3

C. 2

D. 1

**Answer:**



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**239.** The bioactive molecule used in detergent formulation as dirt buster is

A. Cyclosporin A

B. Streptokinase

C. Pectinase

D. Lipase

**Answer:**



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**240.** Read the following statements w.r.t. biological treatment of sewage. Br a. Involves removal of sewage through sequential filtration. Br b. BOD of waste water is directly proportional to its a polluting potential. Br c. Constant agitation of primary effluent is carried out in large aeration tanks. Identify the incorrect statement(s)

A. b&c

B. a & c

C. Only a

D.

**Answer: B**



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**241.** In floating gas holder type biogas plant

A. Digester tank is made 10 - 15 m deep inside soil

B. Gas holder rises as organic matter is consumed

C. Monomers formed after decomposition directly undergo  
methanogenesis

D. Naturally occurring bacteria in dung are not used

**Answer:**



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**242.** Choose the correct sequence of steps used in DNA fingerprinting

d. Agarose gel electrophoresis,

a. DNA extraction

e. Collection of a biological sample- blood, saliva, buccal swab, semen, or solid tissue.

c. Interpreting results

b. Restriction digestion or PCR amplification

f. final result of DNA fingerprinting

*A.  $e \rightarrow a \rightarrow c \rightarrow d \rightarrow b \rightarrow f$*

B.  $e \rightarrow b \rightarrow d \rightarrow a \rightarrow c \rightarrow f$

C.  $e \rightarrow d \rightarrow a \rightarrow f \rightarrow c$

D.  $e \rightarrow a \rightarrow d \rightarrow b \rightarrow c \rightarrow f$

**Answer:**



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**243.** Select the incorrect statements. Br a. Indian agriculture accounts for approximately 62 percent of India's GDP. Br b. During the period 1960 and 2000, wheat and rice production increased from 11 million tonnes to 89.5 million tonnes. Br C. Semi-dwarf rice varieties were derived from IR 8 and Taichung Native-1. br d. Saccharum officinarum was originally grown in south india having high sugar content and yield.

A. a & c

B. b), c & d

C. Only d

D. a, b) & d

**Answer:**



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**244.** Choose the incorrect match

A. Glomus - Cyanobacteria

B. Devine - First mycoherbicide

C. Azospirillum -  $N_2$  fixing bacteria

D. Streptococcus - Streptokinase

**Answer:**

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**245.** IPM involves methods

- A. To conserve beneficial insects
- B. Which are economically harmful but ecologically beneficial
- C. Having no impacts on plants, mammals, birds, fish or non target insects
- D. All except (2)

**Answer:**

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**246.** Predator-prey relationships in biocontrol method is exemplified by all except



- A. Control of carrot grass by Zygomorpha
- B. Control of cactus by cochineal insect in Australia
- C. Mosquito larva controlled by Gambusia fish
- D. Control of boll moth by Bacillus thuringiensis

**Answer:**

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**247.** a. Bacteria are used in preparing idli, dosa and curdling of milk. Br b. Yeast is used in making only distilled alcoholic beverages. Br c. In biological treatment of waste water only aerobic bacteria are used. The number of correct and incorrect statements are

A. 3,0

B. 1, 2

C. 2, 1

D. 0, 3

**Answer:**



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**248.** Read the following statements about activated sludge. Br a. It is the effluent passed from anaerobic digester to the settling tank. Br b. A small part of activated sludge is pumped into large tanks called anaerobic sludge digesters. Br C. A small part of activated sludge is pumped back into the aeration tank to serve as inoculum. Which of the above statements are incorrect?

A. a & c

B. a & b

C. b & c

D. a, b & c

**Answer:**



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**249.** Flocs' settled during aerobic digestion in STP include.

A. Filaments of anaerobic bacteria

B. Filaments of fungi and anaerobic bacteria

C. Filaments of fungi and aerobic bacteria

D. Filaments of anaerobic and aerobic bacteria

**Answer:**

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250. In mung bean, resistance to yellow mosaic virus and powdery mildew were

- A. Induced by mutations
- B. Introduced by conventional breeding
- C. Carried out by pure line selection
- D. Both (1) & (3)

**Answer:**

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251. Source of resistance genes for developing insect/ pest resistant variety can be. Br a. Cultivated varieties. Br b. Wild

relatives. Br c. Germplasm collections of the crop.

A. a & b only

B. b & c only

C. a & c only

D. a, b & c

**Answer:**



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**252. Methylophilus methylotrophus**

A. Is a green alga

B. Is single cell protein

C. Is an unicellular fungus

D. Is a pathogenic, gram negative bacterium

**Answer:**



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**253.** Choose the correct statement. Br a. Fitness has a genetic basis. Br b. Fitness is the end result of the ability to adapt and get selected by nature. Br C. The rate of appearance of new forms is not linked to the life cycle or lifespan of organisms. Br d. According to Lamarck elongated neck of Giraffes is acquired character and passed to the succeeding generation.

A. a & b only

B. a, b & c only

C. a, b & d only

D. a, b, c&d

**Answer:**



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**254.** The process of evolution of different species in a given geographical area starting from a point and literally radiating to other areas of geograhly (habitats) is called

- A. Adaptive radiation
- B. Convergent evolution
- C. Saltation
- D. Founder ettect

**Answer: A**



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255. In 1938, a fish caught in South Africa happened to be a coelacanth which was thought to be extinct. These animal called lobe fins evolved into first

- A. Vertebrates
- B. Gnathostomes
- C. Amphibians
- D. Chordate

**Answer:**



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256. Following are the two statements regarding the origin of life

:

A. The earliest organisms that appeared on the earth were non-green and presumably anaerobes.

B. The first autotrophic organisms were the chemoautotrophs that never released oxygen.

Of the above statements which one of the following options is correct ?

A. Both a & b are correct

B. a is correct but b is false

C. b is correct but a is false

D. Both a & b are false

**Answer:**



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**257.** Following are the examples of some homologous and analogous organs.

- (a) Tendrils of Cucurbita and thorn of Bougainvillea.
- (b) Forelimbs of mammals.
- (c) Flipper of Penguin and Dolphin.
- (d) Wings of insects and wings of birds.

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**258.** In the serological test, if serum of human is mixed separately with the serum of ape, old world monkey new world monkey and lemur, then the increasing order of degree of precipitation will be

A. Ape, new world monkey, old world monkey, lemur

- B. Lemur, new world monkey, old world monkey ape
- C. New world monkey, old world monkey, ape, lemur
- D. Ape, old world monkey, new world monkey, lemur

**Answer:**



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**259.** Big-Bang theory attempts to explain

- A. Origin of earth
- B. Origin of universe
- C. Both (1) & (2)
- D. Organic evolution

**Answer:**

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**260.** What was the most significant trend in the evolution of modern man (*Homo sapiens*) from his ancestors?

- A. Increasing cranial capacity
- B. Increase in height
- C. Prognathous face
- D. Development of language

**Answer:**

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**261.** Excess use of antibiotic has resulted in selection of resistant varieties of microbes. Select the option that does not support

this view.

- A. This exemplifies directional selection
- B. This suggests evolution by anthropogenic action
- C. This represents a case of organic evolution
- D. It supports theory of spontaneous generation

**Answer:**



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**262.** In England, before the Industrialisation set in, it was observed that there were more white winged moths on the trees. However after industrialisation, there were more melanised moths in the same area. This is an example of

- A. Evolution by anthropogenic action

B. Environmental pollution due to deposition of soot on the wings

C. Natural selection

D. Both (1) & (3)

**Answer:**



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**263.** Which of the following is not true statement?

A. Evolution is a stochastic process

B. Evolution is not a direct process in the sense determinism.

C. Evolution is always from simple form to complex form

D. Natural selection in which more individual acquire value other than the mean character value is called directional selection.

**Answer:**

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**264.** Darwin finches are not an example of

- A. Adaptive radiation
- B. Adaptive convergence
- C. Founders effect
- D. A deviation from genetic equilibrium

**Answer:**

**265.** Banded anteater, Bandicoot, Tasmanian wolf and Wombat differ from each other but they all inhabit the Australian island.

This indicates that

- A. They all have originated from a common marsupial ancestor
- B. They show adaptive radiation
- C. They all have analogous organs
- D. Both (1) & (2)

**Answer:**



266. From the given table showing convergent evolution between placental mammals and Australian marsupials, which is incorrectly matched?

A. 

B.

C.

D.

**Answer:**



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267. One of the important consequences of geographical isolation is

- A. Inhibition of recombination during gametogenesis
- B. No change in the isolated fauna
- C. Increase in random mating
- D. Speciation through reproductive isolation

**Answer:**



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**268.** Which of the following is/are Incorrect statements about the observation/work of Darwin and Hugo de Vries?

- A. Charles Robert Darwin clearly and convincingly set forth the concept of natural selection as the mechanism of evolution, de Vries gave mutation theory

- B. Darwin emphasised the adaptive nature of variation, de Vries stressed on its randomness
- C. According to Hugo de Vries variations are small and directional, but Darwinian variations are random and directionless
- D. Evolution for Darwin was gradual while de Vries believed mutation caused speciation and hence called it saltation

**Answer:**

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**269.** Find out the incorrect statement

- A. Survival of fittest was expressed as natural selection by Darwin
- B. Branching descent point towards common ancestry
- C. Hugo de Vries proposed mutation theory on the basis of his work on evening primrose
- D. According to Malthus food increases in geometrical progression

**Answer:**

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**270.** In a population of 400 Individuals, frequency of recessive allele is 40%. Find out which of these represents the total number of individuals with dominant phenotype?

A. 144

B. 192

C. 256

D. 336

**Answer:**



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**271.** A population can remain in genetic equilibrium for a longer time in the presence of

A. Selective mating in small isolated population

B. Nonselective interbreeding in large population

C. Selective mating in large population

D. Nonselective Interbreeding in small isolated population

**Answer:**

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**272.** The concept of chemical evolution is based on

- A. Possible origin of life by combination of chemicals in presence of oxygen
- B. Crystallization of chemicals under suitable environmental conditions
- C. Possible origin of life by combination of chemicals in absence of oxygen
- D. Effect of solar radiation on chemicals

**Answer:**

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**273.** Which of the following cannot results in changed frequency of genes and alleles in future generation?

- A. Recombination during gametogenesis
- B. Gene flow
- C. Genetic drift
- D. Acquired characters due to use and disuse of organs

**Answer:**



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**274.** Which concept did Charles Darwin and Alfred wallace independently discover?

- A. Mutation
- B. Overbreeding
- C. Sexual reproduction
- D. Natural selection

**Answer:**



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**275.** Choose the wrong statement w.r.t human evolution

- A. Homo sapiens arose in Africa and moved across continents and developed into distinct races
- B. Neanderthal man with a brain-size of 1400 CC lived in near East and Central Asia of a between 1,00,000 to 40,000 year



back

C. Ramapithecus and Dryopithecus were not hairy but walked like Gorillas and Chimpanzee.

D. Immediate ancestor of first human like hominid is Australopithecines

**Answer:**



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**276.** Arrange the following in the ascending order of evolution. a. Zosterophyllum. Br b. Herbaceous lycopods. Br c. Tracheophyte ancestors. Br d. Arborescent lycopods. Br e. Chlorophyte ancestors.

A. e, c, a, d, b

B. e, c, d, a, b

C. e, a, d, b, c

D. e, d, a, c, b

**Answer:**



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**277.** Which of these was a fish-like reptile?

A. Tyrannosaurus rex

B. Ichthyosaur

C. Pelycosaurus

D. Triceratops

**Answer:**

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**278.** Which of these had the orthognathous face?

- A. Java man
- B. Peking man
- C. Neanderthal man
- D. Cro-Magnon man

**Answer:**

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**279.** Which of the following is the correct sequence of events in the origin of life? a. Reducing atmosphere. Br b. Origin of

chemoautotrophs. Br c. Origin of genetic material. Br d. Origin of chemoheterotrophs.

A.  $a \rightarrow b \rightarrow c \rightarrow d$

B.  $a \rightarrow c \rightarrow d \rightarrow b$

C.  $b \rightarrow c \rightarrow a \rightarrow d$

D.  $b \rightarrow c \rightarrow d \rightarrow a$

**Answer:**

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**280.** Read the following points. a. Cranial capacity about 900 c.c.  
Br b. Probably ate meat. Br c. First prehistoric man to make use of fire. These points are true for

A. Homo habilis

B. Homo erectus

C. Homo sapiens fossils

D. Homo sapiens neanderthalensis

**Answer:**



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**281.** Mostly virus infected cells secrete proteins which protect the non-infected cells from further viral infection. The proteins secreted are

A. Antibodies

B. Interferons

C. Antibiotics

D. Antitoxins

**Answer:**

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**282.**  $F_a b$  fragments of an antibody molecule are made up of

- A. Variable regions of only the light chains at N-terminal end
- B. Constant regions of only the heavy chains at C-terminal end
- C. Variable regions of both heavy and light chains at N-terminal end
- D. Constant regions of both heavy and light chains at C-terminal end

**Answer:**

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**283.** Colostrum secreted by the mother during initial days of lactation has abundant IgA antibodies to protect the infant. This is an example of

- A. Artificially acquired passive immunity
- B. Naturally acquired passive immunity
- C. Artificially acquired active immunity
- D. Naturally acquired active immunity

**Answer:**



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**284.** Widal test is diagnostic test of

A. Typhoid

B. Ascariasis

C. Tuberculosis

D. Pneumonia

**Answer:**



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**285.** Which of the following is correctly matched?

A. Active immunity - Antitoxin

B. Passive immunity - Inflammatory response

C. Innate immunity - Graft rejection



D. Active immunity - Infectious organism during excess antibody during natural infection

**Answer:**



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**286.** Antibody produced maximally during anamnestic response to antigen is

- A. IgE
- B. IgA
- C. IgG
- D. IgM

**Answer:**



**287.** Which of these statements is/are correct w.r.t. MALT? a. Constitutes about 2/3rd part of the lymphoid tissue in human body. Br b. Associated with the mucus lining of digestive, respiratory and urogenital tracts. Br c. Site for interaction of lymphocytes with the antigen. d. Cells like B and Lymphocytes migrate here after maturation. It is a secondary lymphoid tissue

A. a, b & c

B. a & b

C. b, c, & d

D. Only b

**Answer:**

**288.** How many of the following diseases are non-Infectious?

Measles, Cancer, Pertusels, T.B., Scurvy, Typhoid, Influenza, Plague,

Malignant malaria

A. Two

B. Four

C. Five

D. Six

**Answer:**



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**289.** Which of the following is a collection of bacterial disease?

A. Typhoid, Plague, Diphtheria

B. Pneumonia, Chikungunya, Typhoid

C. Malaria, Amoebiasis, Plague

D. Dengue, Filariasis, Ascariasis

**Answer:**



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**290.** Which is/are correct about Amoebiasis? a. Caused by *Entamoeba histolytica*. Br b. Stools with excess mucus and blood clots. Br c. Life cycle is completed in human and housefly. Br d. Transmission through faeco oral route.

A. a, b & c

B. b, c & d

C. a, b & d

D. a, c & d

**Answer:**



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**291.** Which of the following disease does not spread through droplet infection?

A. AIDS

B. Pertussis

C. Common cold

D. Diphtheria

**Answer:**



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**292.** Which one is incorrect?

- A. Rhino virus does not affect lungs
- B. Ebola virus can be transmitted through semen.
- C. All the antibodies secreted by a stimulated B-cell have different variable region
- D. Diphtheria is a disorder of respiratory tract and the bacteria produces cytotoxin

**Answer:**



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**293.** Which of the following is responsible for dry scaly lesions on skin, nails and scalp?

A. Roundworm

B. Ringworm

C. Pinworm

D. Hookworm

**Answer:**



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**294.** If the root cell of a pteridophyte contains 10 chromosomes, then the chromosome number in indusium, sperm mother cell and spore mother cell are respectively

A. 10,5,10

B. 10,5,5

C. 10, 10, 10

D. 5, 10, 10

**Answer:**

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**295.** Find the mis-matched pair w.r.t. functions of stem

A. Perennation -Stolon of jasmine

B. Manufacture of food -Leaf base of Nepenthes

C. Protection against grazing animals - Thorns of  
Bougainvillea

D. Storage of food -Tuber of potato

**Answer:**

 [Watch Video Solution](#)



**296.** Leaf or its part may modify into long, slender, thread-like, sensitive structures in all, except

- A. Sweet pea
- B. Nepenthes
- C. Garden pea
- D. Pumpkin

**Answer:**



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**297.** Mark the correct feature w.r.t. cucumber

- A. Versatile fixation of anthers

B. Epigynous flowers

C. Free central placentation

D. Lodicules

**Answer:**



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**298.** Rhizome can be differentiated from root in the presence of

(a)Lateral bud (b)Root cap (c) Nodes (d) Endogenous branching

mark the correct option

A. (c) only

B. (a) & (c)

C. (b) & (c)

D. (a), (C) & (d)

**Answer:**

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**299.** How many of the following plants have adhesion cohesion of stamens respectively? [Pisum sativum, Mustard, China rose, Brinjal, Citrus, Sunflower]

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

**Answer:**

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**300.** Read the following statements (w.r.t. inflorescence of radish)  
br (a) Older flowers are present at the base of axis br (b) Main axis terminates into a flower

- A. Both (a) & (b) are incorrect
- B. Only (b) is correct
- C. Both (a) & (b) are correct
- D. Only (a) is correct

**Answer:**



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**301.** In which of the following plants, adventitious root become swollen and fleshy due to storage of food?

A. Sweet potato, Asparagus

B. Ginger, Dahlia

C. Radish, turnip

D. Beet, carrot

**Answer:**



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**302.** Mark the mis-matched pair

A. Phylogenetic classification system -Organism belonging to same taxa have a common ancestor

B. Artificial classification system -Based on a few internal characteristics

C. Natural system of classification -Given by G. Bentham and J.D. Hooker

D. Cytotaxonomy -Study of chromosome number and structure

**Answer:**



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**303.** Ginkgo and Cedrus are included in gymnosperms because

- A. Ovary is not enclosed by any wall and remains exposed, both before and after fertilisation
- B. Seeds are not protected by seed coats
- C. Seeds do not occur inside the fruit

D. More than one option is correct

**Answer:**



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**304.** Members of class Rhodophyceae mostly found in

- A. Fresh water habitats in the warmer areas
- B. Marine habitats in the colder regions
- C. Fresh water habitats in the colder regions
- D. Marine habitats in the warmer areas

**Answer:**



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**305.** Which of the following structure/feature is common in Chara, mosses, ferns and conifers?

- A. Embryo
- B. Oogamous
- C. Archegonia
- D. Vascular bundles

**Answer:**



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**306.** In some plants such as Rhizophora growing in swampy areas, many roots come out of the ground and grow vertically upwards. Such roots are called

- A. Positively geotropic



B. Provide mechanical support to heavy branches

C. Branches of tap root system

D. Green and photosynthetic

**Answer:**



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**307.** In *Salvia* and mustard, stamens are

A. Fuse and adelphous

B. Free from each other and equal in length

C. Epitpalous and epipetalous respectively

D. Polyandrous and unequal in length

**Answer:**

**308.** Heterosporous vascular cryptogams fail to develop seeds because

- A. Fusion of gametes results in formation of zygote which develops into embryo
- B. They lack precocious germination of spores
- C. Female gametes are large and non-motile
- D. Retention of megaspores permanently within the megasporangia has not become established

**Answer:**

**309.** Flowers of tobacco and onion plants have

- A. Axile placentation
- B. Tricarpellary gynoecium
- C. Bicarpellary gynoecium
- D. Marginal placentation

**Answer:**



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**310.** In which of the following plant (s) dominant phase is the independent, photosynthetic, thalloid, dorsiventral haploid gametophyte which alternates with the short lived multicelled sporophyte totally dependent on gametophyte?

- A. Funaria, Sphagnum

B. Marchantia, Riccia

C. Pteris, Porella

D. Both (1) & (2)

**Answer:**



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**311.** Which of the following is incorrectly matched?

A. Racemose type - Fabaceae

B. Tetradynamous - Brassicaceae

C. Cymose inflorescence - Solanaceae

D. Stipulate leaves - Liliaceae

**Answer:**

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**312.** Mark the correct option w.r.t. analogous structures.

- A. Phylloclade, phyllode
- B. Phyllode, thorn
- C. Phylloclade, cladode
- D. Spine, phylloclade

**Answer:**

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**313.** What will be the number of chromosomes in endosperm (p) and perisperm (q) if there are 12 chromosomes in venter canal cell of a conifer?

A. (P) 36, (q) 12

B. (p) 12, (q) 24

C. (p) 36, (q) 24

D. (p) 24, (q) 24

**Answer:**



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**314.** Which of the following is a wrong combination?

A. Complementary chromatic adaptation- Red algae

B. Coralloid roots, dioecious plants -Cycadales

C. Cell wall is made up of cellulose and algin -Brown algae

D. Strobilus, haplontic life cycle, biflagellate sperm -Horsetails

**Answer:**



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**315.** Ferns and mosses resemble in possessing

- A. Haplo-diplontic life cycle pattern
- B. Gametic meiosis in lifecycle
- C. Large sized true leaves
- D. Unicellular rhizoids

**Answer:**



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**316.** In life cycle of non-vascular terrestrial plants of moist habitats, the gametophytic structures are

- A. Androcytes, motile female gamete, neck canal cells
- B. Venter canal cell, oosphere, rhizoids
- C. Gemmae, protonema, capsule
- D. Archegonial branch, antherozoids, elaters

**Answer:**

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**317.** How many of the following feature(s) is/are commonly concerned with *Pinus* as well as *Cycas*? (a) Pinnate leaves (b) Mycorrhiza (c) Branched stem (d) Direct pollination (e) Female



strobili (0) Non-motile sperms (9) Simple leaves (h) Exposed ovule. Mark the correct option.

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

**Answer:**

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**318.** All statements are true for both ferns and conifers, except

- A. Archegoniate embryophytes
- B. Oogamous sexual reproduction
- C. True stem, leaves and roots in main plant body

D. Independent free living existence of gametophytes

**Answer:**

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**319.** Trimerous actinomorphic flowers, trilocarpellary syncarpous ovary and fruit as capsule, rarely berry are characteristic features of

- A. Perennial herbs with underground bulb/corms/ rhizomes
- B. Green plants with descending imbricate in corolla
- C. Plants possessing simple and stipulate leaves
- D. Plants with perianth and non-endospermic seeds

**Answer:**

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**320.** Which is expressing right appropriate pairing?

- A. Gloriosa, tulip - Ornaments - Liliaceae
- B. Aloe - Cosmetics - Brassicaceae
- C. Indigofera - Dye - Solanaceae
- D. Muliathi, Belladonna - Medicine - Fabaceae

**Answer:**



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**321.** Branch of taxonomy in which DNA sequences, alkaloids, crystals may help in knowing relationships among organisms, is

- A. Cytotaxonomy

B. Morphotaxonomy

C. Karyotaxonomy

D. Chemotaxonomy

**Answer:**



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**322.** Mark the odd one (w.r.t. ploidy level in Zea mays seed)

A. Coleoptile, Plumule

B. Aleurone layer, Endosperm

C. Radicle, Tigellum

D. Scutellum, Coleorhiza

**Answer:**

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**323.** In which of the following set of plants development of 7 celled and 8 nucleated gametophyte is preceded by reduction division as well as mitosis?

- A. Chlamydomonas, Dryopteris
- B. Azolla, Ficus
- C. Pteris, Adiantum
- D. Pisum, Eucalyptus

**Answer:**

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**324.** Endosperm is consumed during seed development and the food is stored in cotyledons. This statement is true for

- A. Onion, Maize, Orchid
- B. Croton, Glycyrrhiza
- C. Gram, Tulip, Piper
- D. Wheat, Pisum, Sorghum

**Answer:**



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**325.** Go through the following matches (a) Spirulina - Rich source of protein (b) Gelidium - Polysulphate esters in cell wall (c) Chara - Cup-shaped chloroplast (d) Polysiphonia - Haplontic life cycle, Which of these are correct?

A. (c) & (d)

B. (a), (b) & (c)

C. (b) & (c)

D. (a) & (b)

**Answer:**



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**326.** Which of the following structures present in a gymnospermic seed represent the future sporophytic generation? (a) Perisperm (b) Tegmen (c) Radicle (d) Endosperm (e) Plumule (f) Testa. Mark the correct option

A. (a), (c) & (e)

B. (a), (c), (d) & (e)

C. (c) & (e)

D. (b), (c), (e) & (f)

**Answer:**



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**327.** Find the correct option w.r.t fruits of almond and *Mangifera indica*

- A. Fleshy and pseudocarpic
- B. Do not dehisce or split at maturity
- C. Develop from monocarpellary epigynous flowers
- D. Endocarp is thin and membranous

**Answer:**





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**328.** In flowers of guava and cucumber

- A. Thalamus is convex or conical
- B. Ovary wall and thalamus are free from each other
- C. Ovary is semi-inferior
- D. Stamens are superior in position other

**Answer:**

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**329.** False fruits with fleshy and edible thalamus are

- A. Strawberry, Tomato

B. Pear, Apple and Strawberry

C. Coconut, Apple

D. Pear, Date palm

**Answer:**



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**330.** Gametangia as well as zoosporangia are non jacketed and unicellular in

A. Chara, Volvox, Polysiphonia

B. Chlamydomonas, Ulothrix

C. Spirogyra, Chlamydomonas

D. Ulothrix, Porphyra, Volvox

**Answer:**

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**331.** Fucus and Volvox resemble each other in presence of

- A. Large and non-motile female gamete in oogonium
- B. Air bladders in the region of branching
- C. Non-sulphated phycocolloids in cell wall
- D. Internal fertilisation and gametic meiosis

**Answer:**

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**332.** Beginning with germination of spores in life cycle of Dryopteris, what is the sequence of structures that develop after germination? (a) Dioecious prothallus (b) Sporophyte plant (c) Sex cells (d) Gametophyte (e) Embryo (f) Zygote

A. (d), (c), (f), (b) & (e)

B. (d), (c), (f), (e) & (b)

C. (a), (c), (f), (e) & (b)

D. (a), (d), (c), (4), (e) & (b)

**Answer:**

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**333.** Consider the following structures/characters: (i) Multicellular asexual buds (ii) Protonema stage (iii) Sporic

meiosis (iv) Peristome in sporophyte (V) Multiflagellate sperms  
(vi) Vascular amphibians of plant kingdom . The structures/characters concerned with the life cycle of liverworts are:

- A. (i), (iv) & (vi)
- B. (i) & (iii)
- C. (i), (iii), (v) & (vi)
- D. (iii) & (v)

**Answer:**

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**334.** Find out the correct sequence (w.r.t. size of male gametophyte in decreasing manner)

A. Marchantia, Triticum, Spirogyra

B. Dryopteris, Sphagnum, Ulothrix

C. Zea mays, Eucalyptus, Pteris

D. Selaginella, Pinus, Mangifera

**Answer:**



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**335.** Which of the following options is correct w.r.t. active site of a protein in its tertiary structure?

A. It is the catalytic site of the protein

B. It determines the turnover number of the protein during catalysis

- C. It is the site where competitive inhibitors can bind, reducing the rate of reaction
- D. All of these are correct

**Answer:**

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**336.** Which of the following is not a part of receptive zone of ommatidium in cockroach?

- A. Retinular pigment sheath
- B. Retinular cells
- C. Rhabdome
- D. Iris pigment sheath

**Answer:**



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**337.** Covalently attached organic cofactors of an apoenzyme are called

- A. Holoenzymes
- B. Conjugate enzymes
- C. Co-enzymes
- D. Prosthetic groups

**Answer:**



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**338.** Increase in concentration of substrate in case of competitive inhibition results in

- A. No change in rate of reaction
- B. Increase in rate of reaction to original  $V_{\max}$
- C. Decrease in  $K_m$  value of the enzyme
- D. Both (2) & (3)

**Answer:**

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**339.** How many out of the following feature(s) is/are common between skeletal and cardiac muscle fibres?

- (a) Presence of 'T-tubules
- (b) Number of nuclei per fibre

- (c) Intercalated discs
- (d) Presence of striations
- (e) Cylindrical shape of fibres
- (f) Only aerobic contractions

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

**Answer:**



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**340.** Nodes of Ranvier are

- A. Without neurilemma and myelin

B. Without neurilemma, but myelin present

C. With neurilemma and myelin

D. With neurilemma and without myelin

**Answer:**



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**341.** Isotropic band in a striated muscle fibre

A. Is a part of two consecutive sarcomeres, joined at 'z'-line.

B. Is non-uniformly dark

C. Makes the structure of sarcomere along with two halves of  
anisotropic bands

D. Both (1) & (3)

**Answer:**



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**342.** Which of the following is correct w.r.t. the respiration in cockroach?

- A. Tergo-sternal muscles contract and relax harmoniously to cause expiration and inspiration respectively
- B. Tracheolar fluid is withdrawn inside the tracheoles when oxygen requirement increases during activity.
- C. Expiration is passive as it occurs due to relaxation of muscles.
- D. Inspiration is active as it occurs due to contraction of muscles

**Answer:**

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**343.** Choose the incorrect statement w.r.t.  $\alpha$ -helical structure of proteins.

- A. The pitch of  $\alpha$ -helix is 0.54nm
- B. Keratin of hair is an example of  $\alpha$ -helical structure
- C. Only right handed helices are found in human proteins
- D. It is native structure of protein

**Answer:**

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**344.** All the following structures help in excretion, except

A. Malpighian tubules

B. Mycetocytes

C. Uricose glands

D. Nephrocytes

**Answer:**



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**345.** Which of the following is correct w.r.t. gastric caecae of cockroach?

A. 6-8 blind tubules at the junction of gizzard and midgut to secrete digestive enzymes.

B. 6-8 blind tubules at junction of midgut and ileum to secrete digestive enzymes.

C. 6-8 blind tubules at the junction of crop and gizzard which eliminate wastes from haemolymph.

D. 100-150 thin yellow tubules at the junction of foregut and midgut to eliminate wastes from haemolymph.

**Answer:**



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**346.** Titillator and pseudopenis w.r.t. cockroach are

A. Parts of ventral phallomere of males

B. Parts of anal cerci

C. Ovipositors of female, present in brood pouch

D. Parts of left phallomere of males

**Answer:**



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**347.** Juvenile hormone which retains the nymphal characteristics of cockroach and slows down the appearance of adult characteristics is secreted by its \_\_\_\_\_ glands.

A. Corpora cardiaca

B. Neural

C. Corpora allata

D. Prothoracic



**Answer:**



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**348.** Adenosine differs from cytosine because

- A. The former is purine nucleotide while the latter is a pyrimidine nucleoside
- B. The former is a component of DNA while the latter is found only in RNA
- C. The former is a purine nucleoside while the latter is a pyrimidine nitrogenous base
- D. The former is a nucleoside with ribose sugar while the latter is a nucleoside with deoxyribose sugar

**Answer:**

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**349.** The longest and shortest podomeres in the leg of the cockroach are \_\_\_\_\_ and \_\_\_\_\_ respectively

- A. Tarsus, Trochanter
- B. Tibia, Trochanter
- C. Femur, Tibia
- D. Tibia, Coxa

**Answer:**

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**350.** How many of the following statement(s) is/are incorrect w.r.t. Periplaneta?

- (a) Embryonically, the body is made of 20 segments which reduce to 14 in adults
- (b) Body part with unchanged number of segments throughout life cycle is thorax
- (c) Anal styles are 15 segmented appendages of male cockroaches
- (d) Anal cerci are unsegmented appendages of both male and female cockroaches

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

**Answer:**

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**351.** Find the correct set of lipids belonging to the same category.

- A. Lecithins, cephalins and prostaglandins
- B. Cephalins, prostaglandins and cholesterol
- C. Fats, oils and waxes
- D. Oils, waxes and lecithins

**Answer:**

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**352.** Which of the following is incorrect w.r.t cellulose?

- A. It is the most abundant biomolecule in biosphere

B. Its chemical modification yields emulsifiers, propellents and artificial silk.

C. It has B (1 → 4) glycosidic linkages between glucose residues

D. The cellulose fibres are long, uncoiled and branched

**Answer:**



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**353.** Select the correct set of secondary metabolites which are alkaloids.

A. Concanavalin and Rubber

B. Gums and Cellulose

C. Ricin and Abrin

## D. Morphine and Codeine

**Answer:**

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**354.** Starch and glycogen differ from each other in (a) Type of glycosidic bonding in straight chains (b) Type of monomer unit (c) Type of branching and glycosidic bonding at branches (d) Occurrence of coiling in the straight chain and resultant property of interaction with iodine and the components (e) Types of cells in which they are present as stored food

A. (a), (c), (d) & (e)

B. (d) & (e) only

C. (c) & (d) only

D. (a), (c) & (d) only

**Answer:**



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**355.** Which of the following is an exclusive feature of mammalian bones?

A. Haversian canals and Volkmann's canals

B. Lamellae

C. Hydroxyapatite salts impregnated between criss crossing collagen fibres

D. Osteocytes and osteoblasts

**Answer:**



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**356.** Which of the following is a correct example of the location of cartilage without perichondrium?

- A. Pubic symphysis and intervertebral disc
- B. Eustachian tube and epiglottis
- C. Auricle and tip of the nose
- D. Coastal cartilage and metaphysis plate

**Answer:**

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**357.** Which of the following tissues is avascular? (a) Skeletal muscles (b) Dense reticular tissue (C) Cartilage (d) Epithelium (e)



## Tendons

- A. (c) & (d) only
- B. (a), (c) & (d)
- C. (c), (d) & (e)
- D. (b), (c) & (d)

**Answer:**



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**358.** Type of neurons with a single process arising from cyton which divides later to form an axon and a long dendron are found in

- A. Olfactory epithelium and cochlea
- B. Grey matter of brain

C. Sensory dorsal roots of spinal cord in ganglion

D. Motor ventral roots of spinal cord

**Answer:**

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**359.** The functional structure of the enzyme pepsin is structure whose pattern of formation is \_\_\_\_\_ determined by its \_\_\_\_\_ structure.

A. Tertiary, Primary

B. Quaternary, Secondary

C. Primary, Secondary

D. Secondary, Tertiary

**Answer:**

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**360.** The parts of neurons where neurilemma is present but myelin sheath is absent are called

- A. Axon hillock
- B. Telodendria
- C. Nodes of Ranvier
- D. Dendrites

**Answer:**

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**361.** The epithelium which protects against mechanical and osmotic shocks is present in all, except

- A. Vagina
- B. Larger ducts of pancreas
- C. Buccal cavity
- D. Tubular parts of nephron

**Answer:**

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**362.** The cells of cockroach which produce and release urates in its blood are

- A. Corpora adiposa

B. Urate cells

C. Mycetocytes

D. Oenocytes

**Answer:**



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**363.** Multiple lipid globules and presence of larger quantity of mitochondria and oxygen for more energy production are characteristics of

A. Adipocytes of brown adipose tissue

B. Loose reticular tissue of spleen

C. Fibroblasts of areolar tissue

D. Adipocytes of yellow adipose tissue

**Answer:**



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**364.** Select the correct match w.r.t. cockroach.

- A. Utriculi majores -Middle covering spermatophore
- B. Seminal vesicle -Innermost covering of spermatophore
- C. Spermathecae - Production and storage of sperms
- D. Conglobate gland - Outermost covering of spermatophore

**Answer:**



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**365.** Which of the following statements is incorrect w.r.t. paurometabolous development of Periplaneta?

- A. Nymphs resemble the adults in all respects i.e., both structure and functions
- B. Nymphs come out of ootheca which were formed in brood pouch of female cockroach
- C. The intermediate development stages are called nymphs
- D. Nymphs moult about 13 times to reach the adult stage

**Answer:**



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**366.** In the circulatory system of cockroach, the filling of blood in relaxing heart chambers occurs when

- A. Alary muscles contract, pushing down the dorsal diaphragm
- B. Alary muscles relax, forcing the head sinus to send the blood from head towards tail through heart chambers
- C. Alary muscles contract, squeezing the pericardial sinus
- D. Alary muscles relax, pulling the dorsal diaphragm up in normal arched position

**Answer:**



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**367.** Which of the following is not considered a connective tissue?

A. Adipose tissue

B. Cartilage

C. Muscle

D. Blood

**Answer:**



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**368.** Select the incorrect match

A. Absence of collagen -Ligament

B. Goblet cells -Unicellular exocrine glands

C. Nissl's granules -Cyton

D. Gap junctions -Communicating junctions

**Answer:**



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**369.** The type of muscular tissue which forms the wall of hollow visceral organs like stomach and urinary bladder is

- A. Multi unit smooth muscles
- B. Striated involuntary muscles
- C. Striated muscles
- D. Single unit smooth muscles

**Answer:**



**370.** In the mouth parts of cockroach, A and B parts help in grinding the food and acting like the tongue respectively. The correct options for A and B respectively are

- A. Maxilla, Hypopharynx
- B. Mandible, Hypopharynx
- C. Maxilla, Labium
- D. Mandible, Labium

**Answer:**

**371.** Formation of bond between which pair of substrates given below is not a type of dehydration reaction?

- A. Adenine and deoxyribose in DNA
- B. Guanine and cytosine in DNA
- C. Glucose and fructose in sucrose
- D. Glycerol and stearic acid in fats

**Answer:**



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**372.** Total number of spiracles present in the thoracic region of cockroach is

- A. 8

B. 16

C. 2

D. 4

**Answer:**



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**373.** Which of the following statements is correct w.r.t. neuroglial cells?

- A. They make up less than half of the neural tissue of the body
- B. They form the blood brain barrier and support the neurons
- C. They are excitable cells which conduct the impulses generated in response to a suitable stimulus

D. They are always ectodermal in origin

**Answer:**



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**374.** Read the following statements and choose the option which includes all incorrect statements. (a) Inulin is a fructosan polysaccharide (b) Backbone of DNA helices is made of hydrogen bonds between nitrogenous bases (c) Enzyme that catalyses the removal of groups from substrates by the mechanism which leaves double bonds in products is a hydrolase (d) Insulin is a proteinaceous hormone

A. (b) & (c) only

B. (a) & (b) only

C. (a), (b) & (c)

D. (b), (c) & (d)

**Answer:**



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**375.** Select the correct statement about epithelial tissue.

- A. Simple cuboidal epithelium is specialized for protection
- B. Pseudostratified epithelium consists of two distinct layers of cells as well as nuclei
- C. Simple squamous epithelial lining of blood vessels is called mesothelium
- D. Mesothelium is derived from embryonic mesoderm

**Answer:**

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**376.** An aggregate fruit, which develops from multicarpellary apocarpous ovary is

- A. Pomegranate
- B. Strawberry
- C. Jackfruit
- D. Mulberry

**Answer:**

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**377.** A proteinaceous aleurone layer :br (a) Is present in maize grain. Br (b)Consists of triploid cells.br (c)Provides nourishment.



Br (d) Is a part of endosperm.

- A. Only (a) is correct
- B. Only (a) & (d) are correct
- C. Only (a), (c) & (d) are correct
- D. All (a) (b), (c) & (d) are correct

**Answer:**



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**378.** Absorption of water and minerals is done by root hairs which are present in zone of

- A. Maturation
- B. Elongation
- C. Meristematic activity

D. Root Cap

**Answer:**



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**379. 95.** The plant which is used to extract the blue dye is

A. Trifolium

B. Lupin

C. Sesbania

D. Indigofera

**Answer:**



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**380.** The seed coat is fused with fruit wall in

- A. Wheat
- B. Maize
- C. Gram
- D. Both (1) & (2)

**Answer:**

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**381.** Read the following statements and choose the correct option, A- Mango is a drupe type of fruit. B-The standard petal of a papilionaceous corolla is also called vexillum.

- A. Only A is correct
- B. Only B is correct

C. Both A & B are correct

D. Only A & B are incorrect

**Answer:**



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**382.** In a racemose inflorescence the main axis

A. Bears a solitary flower

B. Has unlimited growth

C. Terminates in a flower

D. Has limited growth & flowers grow in basipetal

**Answer:**



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**383.** Select the true statement(s) regarding banana,

- A. It is a parthenocarpic fruit
- B. It has stolons
- C. Mesocarp and endocarp are edible parts of its fruits
- D. Both (1) & (3)

**Answer:**



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**384.** How many of the following plants have opposite phyllotaxy?

(Mustard, China rose, Guava, Calotropis, Alstonia, Sunflower, Nerium)

- A. Two

B. Three

C. Five

D. Six

**Answer:**



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**385.** Select the incorrect statement

A. Offset occurs in Pistia

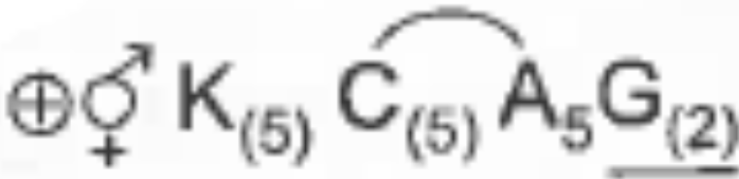
B. Ovary is half inferior in the flowers of plum

C. kiel is the characteristic floral feature of bean

D. In pea flower the stamens are monadelphous

**Answer:**

**386.** The floral formula of a plant family is given below. By identifying the formula select the true statement about that family



- A. Persistent calyx
- B. Ovary superior with single ovule
- C. Bisexual & zygomorphic flowers
- D. Non endospermic seeds

**Answer:**

**387.** A perispermic seed differs from an endospermic seed in

- A. Lacking persistent nucellus
- B. Having persistent nucellus
- C. Having stored food
- D. Being developed from haploid ovule

**Answer:**



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**388.** Axile placentation is seen in

- A. Pea & Lemon
- B. Tomato & Lemon
- C. Tomato & Mustard



## D. Sunflower & Marigold

**Answer:**

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**389.** The albuminous seed in which seed coat is thick and non membranous, is present in

- A. Coconut
- B. Groundnut
- C. Pea
- D. Soyabean

**Answer:**

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**390.** Phylloclade is present in A which is a modified B. Select the correct option for A & B.

- A. A-Asparagus .B-Leaf
- B. A-Opuntia ,B-Photosynthetic stem
- C. A-Opuntia,B-Photosynthetic root
- D. A-Euphorbia,B-Photosynthetic root,

**Answer:**



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**391.** The eyes of the potato tuber are axillary buds, it indicates that potato is

- A. Homologous to radish

B. A modified underground tap root

C. A modified underground stem

D. A modified underground adventitious root

**Answer:**



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**392. Pneumatophores**

A. Pneumatophores

B. Can be seen in plants growing in swampy areas

C. Are called absorbing roots

D. Both (1) & (2)

**Answer:**

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**393.** An example of edible underground adventitious root is

- A. Ginger
- B. Carrot
- C. Sweet potato
- D. Turnip

**Answer:**

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**394.** The tap root of mustard plant differs from fibrous root of wheat plant in

- A. Arising from the base of the stem
- B. Absorbing water & minerals from the soil
- C. Being direct elongation of the radicle
- D. Not penetrating the soil deeply

**Answer:**



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**395.** Choose the incorrect statement.

- A. Improving flavours and taste of tea is brought about by the activity of certain bacteria
- B. Monocystis & Giardia are protists

C. For the first time bacteria were observed by

A.V.Leeuwenhoek

D. Bordeaux mixture is the first popular antibacterial mixture

**Answer:**



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**396.** Read the following statements and select the correct ones:  
(a) Anabaena is included under kingdom Monera,  
(b) Nostoc is a filamentous blue green alga,  
(c) Cyanobacteria perform, oxygenic photosynthesis & they can have nitrogenase.

A. Only (a) (b)

B. Only (b) & (c)

C. Only (a), (b) & (c)

D. All (a), (b) (c) & (d)

**Answer:**



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**397.** Nuclear membrane and membrane bound cell organelles are absent in

A. Plasmodium

B. Streptococcus

C. *Euglena viridis*

D. *Paramecium caudatum*

**Answer:**

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**398.** How many of the following organisms are autotrophic but lack photosynthetic pigments? [Nitrosomonas, Lactobacillus, Nitrobacter, Nostoc, Chlorobium]

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

**Answer:**

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**399.** Mycoplasma: br (a) Lack cell wall , br (b) Can survive without oxygen, br (c) Are primitive organisms responsible for production of biogas, br (d) Are smallest living organisms

- A. Only (a) & (b) are correct
- B. Only (a) & (d) are correct
- C. Only (c) is incorrect
- D. Only (a) & (d) are incorrect

**Answer:**



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**400.** What is true for Archaeobacteria

- A. They all are halophiles

- B. They differ from eubacteria in having different cell wall
- C. They have membrane bound cell organelles
- D. They lack introns in their genetic material

**Answer:**



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**401.** Which statements are true about heterocyst? Br (a) Thick cell wall is permeable to oxygen , br (b) it lacks PS-II, br (c) PS-I remains active which generates ATP required to fix nitrogen.

- A. All except (a)
- B. All except (b)
- C. All except (c)
- D. All (a), (b) and (c)

**Answer:**

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**402.** Mark the incorrect statement.

- A. Physarum is a slime mould
- B. Members of Protista are primarily aquatic
- C. Euglenoids are biflagellated
- D. The protistan cell body contains a nucleoid & other cell organelles.

**Answer:**

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**403.** Find the correct match, :

- A. Euglenoids - Cellulosic cell wall
- B. Chrysophytes - Mostly photosynthetic
- C. Slime moulds - Autotrophic
- D. Protozoans - Only parasites

**Answer:**



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**404.** Read the following statements and choose the correct option:  
A. Diatomaceous earth is formed by the siliceous shells of diatoms  
B. Diatoms are microscopic & float passively in water currents

- A. Only A is correct
- B. Only B is correct
- C. Both A&B are correct
- D. Both A&B are incorret

**Answer:**



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**405.** A unicellular organism which has a gullet, thousands of cilia one macronucleus & one micronucleus, is put under the group of

- A. Flagellated protozoans
- B. Eubacteria
- C. Sporozoans
- D. Ciliated protozoans

**Answer:**

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**406.** select the incorrect statement about dinoflagellates

- A. They are mostly marine & photosynthetic
- B. The cell wall has stiff cellulosic plates
- C. Gonyaulax is a red dinoflagellate
- D. Most of them have single flagellum

**Answer:**

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**407.** Mycorrhiza is an association between

A. Roots of higher plants and fungi

B. Algae & fungi

C. Roots of higher plants and algae

D. Algae & cyanobacteria

**Answer:**



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**408.** Bacterial viruses :br A. Infect the bacteria , br B. Usually have double stranded DNA, br C. Are also called bacteriophages, br D.Lack protein coat

A. Only A is correct

B. Only A & C are correct

C. Only B is correct

D. Only D is incorrect

**Answer:**



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**409.** Viruses have properties of both living and non-living things.

They are considered as living because they

- A. Carry metabolic activities
- B. Can multiply within the host cells
- C. Respire anaerobically
- D. Grow & divide rapidly in external medium

**Answer:**



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**410.** A prion is a

- A. Causative agent of mad-cow disease
- B. Proteinaceous infectious particle
- C. Worm that causes scrapie disease of sheep
- D. Both (1) & (2)

**Answer:**



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**411.** A virus differs from a viroid as it

- A. Contains a nucleic acid
- B. Has proteinaceous capsid
- C. Is smaller than viroids

D. Does not cause diseases in plants

**Answer:**



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**412.** Mark True (T) or False(F) for the following statements & choose the correct option. Br (A) Phycobiont partner of lichens synthesises food for its other partner, br (B) Lichens do not grow in air polluted areas, br (C) Animals store their food reserve in the form of glycogen or fat

A. A-T ,B-F, C-T

B. A-F,B-F,C-T

C. A-T, B-T, C-T

D. A-F, B-T, C-T

**Answer:**



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**413.** Bladderwort is a

- A. Parasite
- B. Insectivorous plant
- C. Partial heterotroph
- D. Both (2) & (3)

**Answer:**



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**414.** Select the features of Rhizopus. Br (a) Saprophytic fungus, br (b) Hyphal wall contains chitin, br (c) Non motile mitospores, br (d) Motile gametes

A. Only (a) & (d)

B. Only (b) & (c)

C. Only (a) & (c)

D. All except (d)

**Answer:**



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**415.** Select the pair of fungi which belongs to clas deuteromycetes.

- A. Alternaria & Morels
- B. Aspergillus & Bracket fungi
- C. Colletotrichum & Alternana
- D. Trichoderma & Aspergillus

**Answer:**



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**416.** Ergot of Rye' causing organism

- A. Has coenocytic & aseptate mycelium
- B. is a sac fungus
- C. Has cellulosic cell wall
- D. Reproduces by motile asexual spores

**Answer:**



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**417.** The spores produced exogenously on the basidium are

- A. Haploid
- B. Asexual spores
- C. Sexual spores
- D. Both (1)& (3)

**Answer:**



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**418.** Which of the following statements is incorrect regarding fungi?

- A. It is a unique kingdom of heterotrophic Organisms
- B. They are mostly terrestrial
- C. They prefer to grow in warm & humid places
- D. They are always diploid with thalloid body

**Answer:**



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**419.** Pneumoconiosis is a type of

- A. Emphysema
- B. Occupational renal disease

C. Occupational respiratory disease

D. Coronary artery disease

**Answer:**



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**420.** Partial pressure of oxygen and carbon dioxide are same in which regions of human body respectively?

A. Deoxygenated blood and alveoli

B. Oxygenated blood and tissues

C. Atmospheric air and alveoli

D. Deoxygenated blood and tissues

**Answer:**





**421.** The end of which wave in an ECG marks the end of ventricular systole?

- A. QRS complex
- B. P wave
- C. T wave
- D. Q wave

**Answer:**

**422.** Select the disease/symptom which is incorrectly described

- A. Angina pectoris is a pathological condition of heart characterised by severe chest-pain possibly due to inadequate supply of blood to heart muscles
- B. When heart muscles are suddenly damaged by inadequate blood supply, the condition is known as cardiac arrest
- C. Cardiac arrest is actually complete and permanent stoppage of heart
- D. When heart fails to pump adequate amount of blood as required by tissue the condition is known as heart failures

**Answer:**



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**423.** During summer when body loses more water due to profuse sweating and dehydration what will happen?

- A. Osmolarity of body fluids decreases
- B. Decrease in secretion of Atrial natriuretic peptide
- C. Decrease in secretion of ADH from pituitary
- D. Increase in glomerular filtration rate

**Answer:**



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**424.** Read the following sentences carefully and select the false statement writ humans

- A. Enterohepatic portal system deoxygenated and nutrient loaded blood from intestine to liver
- B. Right auricle is considered as collecting chamber of heart whereas left ventricle is considered as distributing chamber of the heart
- C. Largest amount of urea is present in renal vein
- D. Blood pressure in the pulmonary artery is more than that in pulmonary vein

**Answer:**



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**425.** Which of the following option given below is correct representation of net filtration pressure?

A. (Glomerular hydrostatic pressure) - (capsular hydrostatic pressure)

B. (Glomerular hydrostatic pressure) - (capsular hydrostatic pressure + blood colloidal osmotic pressure)

C. (Glomerular hydrostatic pressure + capsular osmotic pressure)

D. (Capsular hydrostatic pressure + blood colloidal osmotic pressure) (Glomerular hydrostatic pressure)

**Answer:**



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**426.** Parameter not affected by sympathetic stimulation of heart

- A. Cardiac output
- B. Stroke volume
- C. Duration of cardiac cycle
- D. Involuntary nature of cardiac musculature

**Answer:**



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**427.** Difference between arteries & veins cannot be based on

- A. Diameter of lumen
- B. Direction of blood flow w.r.t heart
- C. Presence of valves in veins.
- D. Presence of endothelium in their wall

**Answer:**



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**428.** Which capacity or volume is used for assessing pulmonary function through spirometer?

- A. Functional residual capacity
- B. Total lung capacity
- C. Vital capacity
- D. Residual volume

**Answer:**



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**429.** Select the correct statement.

- A. Diabetes insipidus is characterised by deficiency of vasopressin and aldosterone secretion from anterior pituitary
- B. Glycosuria and ketonuria are indicative of diabetes mellitus
- C. Difference between cortical and JG nephrons is absence of peritubular capillaries in JG nephrons
- D. GFR in a healthy individual is nearly 125 ml/day

**Answer:**

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**430.** In descending limb of loop of Henle, filtrate becomes



- A. Hypotonic to plasma
- B. Isotonic to plasma
- C. Hypertonic to plasma
- D. Isotonic to lymph

**Answer:**



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**431.** Medulla of kidney is divided into a number of pyramids by invagination of cortex within medulla known as

- A. Chordae tendinae
- B. Columns of Bertini
- C. Cortical pyramids
- D. Duct Of Bellini

**Answer:**



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**432.** All of the following are present in renal cortex, except

- A. Malpighian corpuscles
- B. Convoluted tubules
- C. Afferent arteriole
- D. Loop of Henle

**Answer:**



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**433.** Electrical activities of heart are measured by an instrument known as

- A. Electrocardiogram
- B. Electrocardiograph
- C. Electromyogram
- D. Stethoscope

**Answer:**



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**434.** Which of the following is mismatched with its duration?

- A. Auricular systole -0.1 sec
- B. Ventricular systole -0.3 sec

C. Auricular cycle -0.6 sec

D. Joint diastole-0.4 sec

**Answer:**



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**435.** Read the given statements and select the correct option w.r.t. true and false :

- (a) Duration of each cardiac cycle is 0.8 seconds which can be altered in fear or fight conditions,
- (b) Rapid passive ventricular filling takes place when auricles are in diastole and auriculoventricular valves remain closed,
- (c) Semilunar valves open when intraventricular pressure exceeds the pressure within aorta,
- (d) Sinoatrial node comprises of autoexcitable tissue.

A. (a)-T,(b)-F,(C)-T, (d) -T

B. (a)-F,(b)-F,(C)-F, (d) -T

C. (a)-T,(b)-F,(C)-T, (d) -F

D. (a)-F,(b)-T,(C)-T, (d) -F

**Answer:**



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**436.** During isovolumetric contraction of ventricles

A. Atrioventricular valves open

B. Pressure within ventricles decrease

C. Blood volume in ventricles remains constant

D. Semilunar valves remain open

**Answer:**

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**437.** Select the correct match among given options in context of humans.

- A. Average cardiac output -70 ml
- B. Stroke volume- 70 ml
- C. Hypertension -110/70 mmHg
- D. Pulmonary vein-Semilunar valves

**Answer:**

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**438.** During ventricular systole in human heart

- A. Closure of semilunar valves occurs
- B. Blood enters ventricles from auricles
- C. Pressure within ventricles increases
- D. Opening of cuspid valves takes place

**Answer:**



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**439.** if stretch receptors in wall of urinary bladder are destroyed

- A. Micturition reflex occurs normally
- B. Filling at bladder remains unattended
- C. Person has to undergo hemoanalysis

D. Formation of one comes to a halt

**Answer:**



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**440.** Choose incorrectly matched pair in relation to human excretory system.

- A. Site for minimum reabsorption in nephron -Ascending limb of loop of Henle
- B. Conditional sodium reabsorption-DCT
- C. Reabsorption of bicarbonates - DCT & PCT
- D. Absorption of urea - Collecting duct

**Answer:**





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**441.** Total percentage of  $CO_2$  which is transported through blood plasma is

A. 0.07

B. 0.7

C. 0.77

D. 0.23

**Answer:**

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**442.** Diffusion membrane for gaseous exchange at alveolar surface, lacks a layer composed of

- A. Basement substances between alveolar and capillary walls
- B. Simple squamous epithelium of alveoli
- C. endothelium alveolar capillaries
- D. Wilsele libros en wall of alveolar blood capillaries

**Answer:**



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**443.** Lymph collected from all parts of body is eventually drained into blood vessels known as

- A. Subclavian veins
- B. Hepatic veins
- C. Renal arteries
- D. Subclavian arteries

**Answer:**



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**444.** Read the following statements carefully and select correct choice from below:

(a) First heart sound lub is produced due to closure of atrioventricular valves,

(b) First heart sound is of longer duration than second heart sound dub.

A. (a) is correct but (b) is wrong

B. (b) is correct but (a) is wrong

C. Both (a) and (b) are brrect

D. Both (a) & (b) are wrong

**Answer:**



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**445.** A person with blood group B met with an accident and loses a lot of blood. Which pair of individuals can donate blood to him?

A.  $AB^+$ ,  $B^+$

B.  $AB^-$ ,  $B^-$

C.  $A^+$ ,  $B$

D.  $O^+$ ,  $B^-$

**Answer:**



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**446.** Granulated blood cells with bilobed nucleus associated with helminthic infections are

- A. Eosinophils
- B. Basophils
- C. Neutrophils
- D. Monocytes

**Answer:**



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**447.** Cell fragments required for blood clotting are derived from which cells of bone marrow?

- A. Platelets

B. Megakaryocytes

C. Thrombocytes

D. Leucocytes

**Answer:**



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**448.** The function of renin in an infant is

A. Digestion of caesin in milk

B. Conversion of angiotensinogen into angiotensin

C. Vasodilation of blood vessels

D. Increased secretion of water

**Answer:**

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**449.** In case of injury, enzyme thrombokinase responsible for

- A. Release of heparin from monocytes in blood
- B. Conversion of prothrombin into thrombin
- C. Conversion of thrombin into prothrombin
- D. Conversion of fibrinogen into fibrin

**Answer:**

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**450.** Pneumotaxic centre present in pons is responsible for all except

- A. Alteration of respiratory rate
- B. Duration of inspiration
- C. Moderation of the function of respiratory rhythm centre
- D. Direct stimulation of diaphragm

**Answer:**



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**451.** Dialysing fluid lacks

- A. Urea
- B. Glucose
- C. Water
- D. Sodium



**Answer:**



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**452.** Closed circulatory system with 4 chambered heart is found in all of the following except

- A. Birds
- B. Mammals
- C. Amphibians
- D. Some reptiles

**Answer:**



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**453.** Land snails are

- A. Ammonoteid
- B. Ammonotelic
- C. ureotelic
- D. Uricotelic

**Answer:**



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**454.** At which level does trachea divide into two primary bronchi in humans?

- A. 5th cervical vertebra
- B. 7th cervical vertebra

C. 5th thoracic vertebra

D. 5th lumbar vertebra

**Answer:**



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**455.** Which of the following is incorrect regarding human respiratory system?

A. The nasal chamber opens into nasopharynx

B. Pharynx opens into trachea through larynx

C. Outer pleural membrane of lungs is in direct contact with lung surface

D. Space between outer pleural membrane and inner pleural membrane is known as pleural cavity

**Answer:**



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**456.** Function not performed by conducting part of respiratory tract is

- A. Filtration of inspired air
- B. Humidification of inspired air
- C. To bring inhaled air to body temperature
- D. Gaseous exchange

**Answer:**



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**457.** Select the odd one w.r.t. organism and its corresponding respiratory organ/structure,

- A. Earthworm- Nephridia
- B. Cockroach-Tracheal tubes
- C. Sponges - Body surface
- D. Tadpole of frog - Gills

**Answer:**



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**458.** Even in presence of hormone ADH, maximum water is reabsorbed in

- A. Proximal convoluted tubule

- B. Distal convoluted tubule
- C. Both DCT and collecting tubule
- D. Loop of Henle

**Answer:**



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**459.** Removal of nitrogenous metabolic waste products from the human body occurs mainly by

- A. Digestion
- B. Sweating
- C. Excretion
- D. Osmoregulation

**Answer:**



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