



BIOLOGY

BOOKS - MTG BIOLOGY (ENGLISH)

TEST PAPER

Practice Paper 1

1. Which of the following statements is correct ?

- A. Round worms (aschelminthes) are pseudocoelomates
- B. Molluscs are acoelomates
- C. Insects are pseudocoelomates
- D. Flatworms (platyhelminthes) are coelomates

Answer: A



Watch Video Solution

2. Which of the following matches is correct ?

A. Cockroach - Crustacea

B. Pila - Pelecypoda

C. Spider - Arachnida

D. Unio - Gastropoda

Answer: C



Watch Video Solution

3. The type of epithelial cells which line the inner surface of Fallopian tubes, bronchioles and small bronchi are known as

A. squamous epithelium

B. ciliated epithelium

C. columnar epithelium

D. cubical epithelium

Answer: B



Watch Video Solution

4. In order for the blood to flow right atrium to left ventricle in mammalian heart, it must flow through

A. right ventricle, pulmonary arteries, lungs, pulmonary veins, left atrium

B. right ventricle, pulmonary veins, lungs, pulmonary arteries, left atrium

C. right ventricle, right atrium, lungs, pulmonary veins, left atrium

D. right ventricle, system aorta, lungs, pulmonary veins, left atrium

Answer: A



[Watch Video Solution](#)

5. Which one of the following organisms is correctly matched with its excretory organs?

- A. Humans - Kidneys, sebaceous gland and tear glands
- B. Earthworm - Pharyngeal, integumentary and septal glands
- C. Cockroach - Malpighian tubules and enteric caeca
- D. Frog - Kidneys, skin and buccal epithelium

Answer: B



[Watch Video Solution](#)

6. Read the following statements and select the correct option

Statement 1 : When the urine moves through the descending limb, it becomes hypertonic to blood plasma and as it passes through the ascending limb of Henl's loop it becomes hypotonic to blood plasma

Statement : The descending limb is permeable to sodium ions, while the ascending limb is impermeable to sodium ions

- A. Both statement 1 and 2 are correct and statement 2 is the correct explanation of statement 1
- B. Both statements 1 and 2 are correct but statement 2 is not the correct explanation of statement 1
- C. Statement 1 is correct but statement 2 is incorrect
- D. Both statements 1 and 2 are incorrect

Answer: C



Watch Video Solution

7. Which of the following parts of brain constitute the brain stem ?

- A. Midbrain and hindbrain
- B. Hindbrain and forebrain

C. Forebrain and midbrain

D. Forebrain only

Answer: A



Watch Video Solution

8. The innermost layer of the human eye is

A. choroid

B. cornea

C. sclera

D. retina

Answer: D



Watch Video Solution

9. Select the correct matching of a hormone, its source and function

A.

Hormone	Source	Function
Vasopressin	Posterior pituitary	Increase loss of water through ur

B.

Hormone	Source	Function
Norepinephrine	Adrenal medulla	Increase heart beat, rate of rep

C.

Hormone	Source	Function
Glucagon	Beta-cells of Islets of Langerhans	Stimulates glycogen

D.

Hormone	Source	Function
Prolactin	Posterior pituitary	Regulates growth of mammary g

Answer: B



View Text Solution

10. Select the correct sequence of events that occur during the delivery of

O_2 from blood to tissue

P : Absorption of CO_2 by the blood

Q : Reaction of absorbed CO_2 with H_2O to form H_2CO_3 within RBC and its conversion into H^+ and HCO_3^- ions

R : Reaction of absorbed CO_2 with H_2O in plasma to form H_2CO_3 and its conversion into H^+ and HCO_3^- ions.

S : Combination of H^+ with heme portion of HbO_2 to release O_2

T : Combination of HCO_3^- with heme portion of HbO_2 to form reduced haemoglobin and release of O_2

A. P,Q,T

B. P,R,S

C. P,Q,S

D. P,R,T

Answer: C



View Text Solution

11. Choose the correct statement

- A. The T-wave in an ECG represents excitation of ventricles
- B. The sum of P and T waves in a given time period can determine the heart beat rate of an individual.
- C. The end of the P-wave marks the end of the systole
- D. In a standard ECGs, a person is connected to the machine with three electrical leads

Answer: D



Watch Video Solution

12. A fall in glomerular filtration rate (GFR) activates

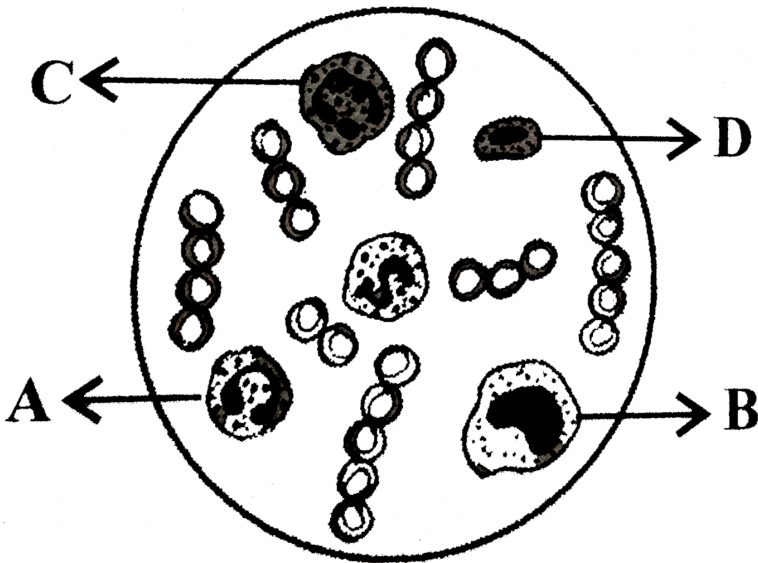
- A. juxtaglomerular cells to release renin
- B. atria of the heart to release ANF
- C. adrenal medulla to release adrenanline
- D. posterior pituitary to release vasopressin

Answer: A



Watch Video Solution

13. Select the correct option regarding the given figure



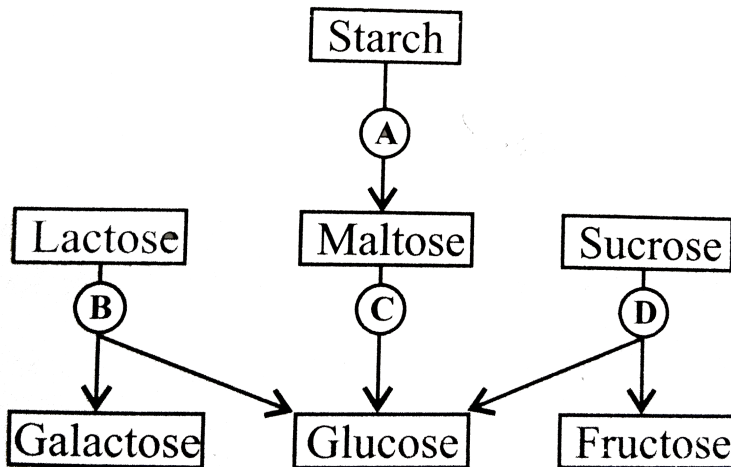
- A. D is eosinophil which is found more in asthma patients
- B. B is lymphocyte which helps in blood clotting
- C. C is neutrophil which is phagocytic in nature
- D. A is monocyte which release histamine, serotonin and heparin

Answer: C



Watch Video Solution

14. The given flowchart shows the fate of carbohydrates during digestion in the human alimentary canal. Identify the enzymes acting at stages indicated as A,B,C and D and select the correct option.



A. A-amylase, B-maltase, C-lactase,D-invertase

B. A-amylase,B-maltase,C-invertase,D-lactase

C. A-amylase,B-invertase,C-maltase,D-lactase

D. A-amylase,B-lactase,C-maltase,D-invertase

Answer: D



Watch Video Solution

15. The ability of producing concentrated (hypertonic) urine in vertebrates generally depends on

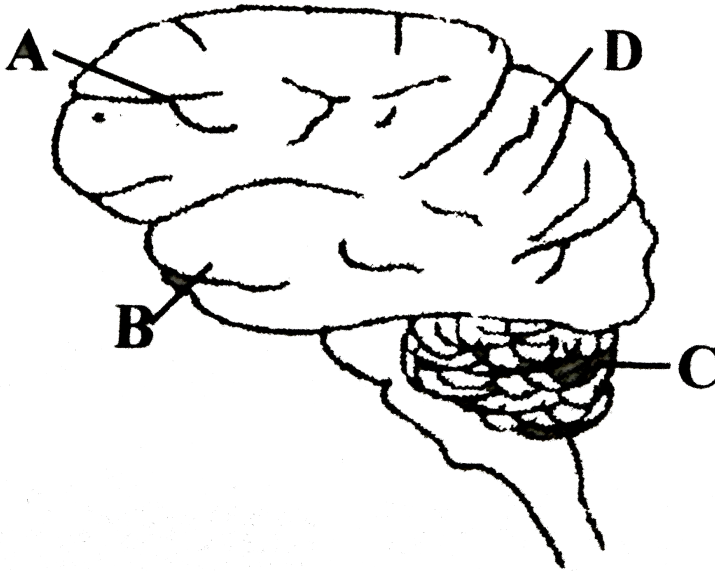
- A. area of Bowman's capsule epithelium
- B. length of the proximal convoluted tubule
- C. length of Henle's loop
- D. capillary network forming glomerulus

Answer: C



Watch Video Solution

16. Select the incorrect option regarding the given figure



A. D is parietal lobe which registers sensory perceptions

B. A is occipital lobe which decodes and interprets visual information

C. B is temporal lobe which is associated with memory and emotion

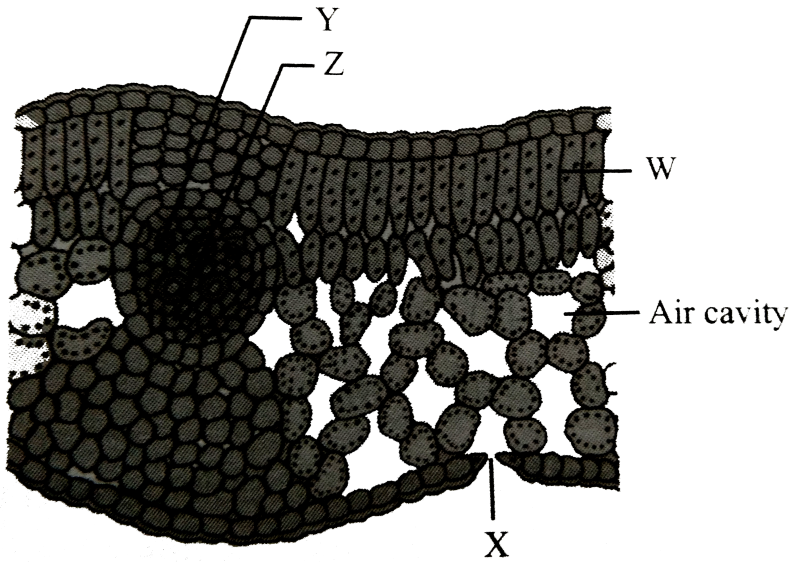
D. C is cerebellum which controls muscular activities

Answer: B



Watch Video Solution

17. Which of the following is correct regarding the given figure ?



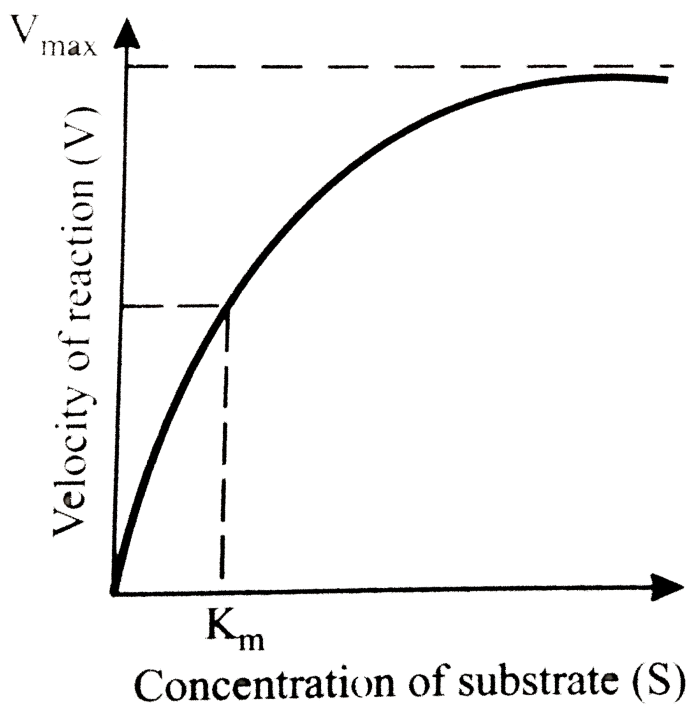
- A. W shows palisade parenchyma having chloroplasts arranged in layers
- B. Z shows phloem
- C. As water evaporates from X, it results in pulling of water, molecule by molecule from Y
- D. All of these

Answer: D



Watch Video Solution

18. At optimum temperature and pH, time required to reach maximum velocity of a reaction is 8 seconds, then what will be the time when substrate concentration is K_m ?



- A. 4 sec
- B. 16 sec
- C. 1 sec

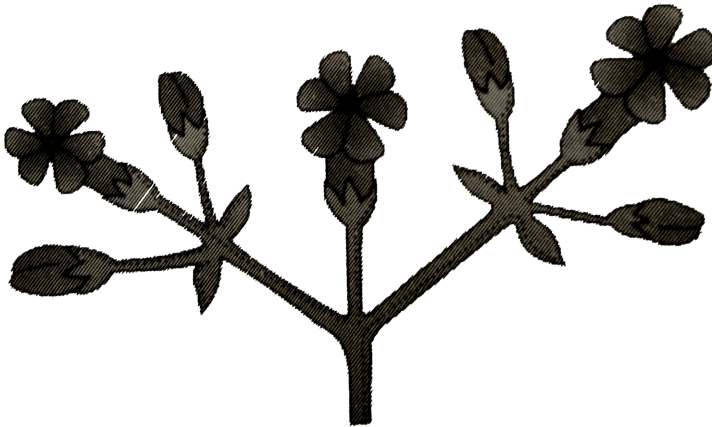
D. 2 sec

Answer: A



Watch Video Solution

19. What type of inflorescence does the given figure show ?



A. Uniparous cyme

B. Biparous cyme

C. Multiparous

D. Racemose

Answer: B



Watch Video Solution

20. Which of the following is the correct hierarchical sequence ?

- A. Phylum-Class-Order-Family
- B. Genus-Species-Order-Family
- C. Phylum-Division-Family-Class
- D. Division-Order-Class-Genus

Answer: A



Watch Video Solution

21. Match column *I* with column *II* and select the correct option from the codes given below.

Column I		Column II
A. Rhizopus	(i)	Ascomycetes
B. Penicillium	(ii)	Basidiomycetes
C. Ustilago	(iii)	Deuteromycetes
D. Alternaria	(iv)	Phycomycetes

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

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

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

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

Answer: C



Watch Video Solution

22. The thick filament in muscles is polymerised protein of

A. meromyosins

B. actins

C. troponins

D. tropomyosins

Answer: A

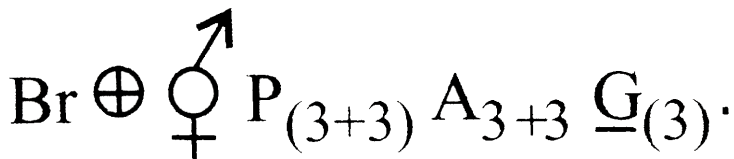


Watch Video Solution

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

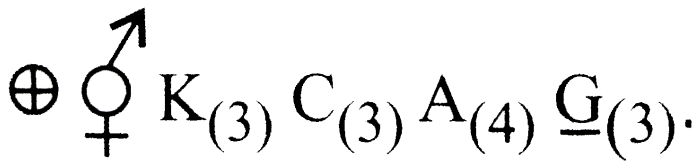
(i) In vexillary aestivation, the large posterior petal is called standard, two lateral ones are called wings and two small anterior petals are termed as keel

(ii) The floral formula for Liliaceae is



(iii) In pea flower, the stamens are monadelphous

(iv) The floral formula for Solanceae is



The correct statement are

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

Answer: B



View Text Solution

24. The release of chemical messenger from synaptic vesicles is under the influence of which of these ion (s) ?

- A. Cl^{-}
- B. Fe^{++} and S^{++}

C. Ca^{++}

D. Mg^{++} and Sr^{++}

Answer: C



Watch Video Solution

25. Which of the following statements is true ?

A. The collenchyma occurs in layers below the epidermis in monocotyledonous plants

B. Sclerenchyma cells are usually dead and without protoplasts

C. Xylem parenchyma cells are living and thin walled and their cell walls are made up of lignin

D. The companion cells are specialised sclerenchymatous cells

Answer: B



Watch Video Solution

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

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

Answer: D



Watch Video Solution

27. Which of the following is wrongly matched ?

- A. Sorghum - Kranz anatomy

B. PEP carboxylase - Mesophyll cells

C. Blackman - Law of limiting factors

D. PS II = P_{700}

Answer: D



Watch Video Solution

28. Consider the following statements

(A) Plant cells have centrioles which are absent in almost all animal cells

(B) Ribosomes are the site of protein synthesis

(C) The middle lamella is a layer made of calcium carbonate which holds the different neighbouring cells together

(D) In animal cell, steroidal hormones are synthesised by smooth endoplasmic reticulum

Of the above statements

A. (A) and (B) only are correct

B. (C) and (D) only are correct

C. (B) and (D) only are correct

D. (A) and (D) only are correct

Answer: C



Watch Video Solution

29. Arrange the steps of catalytic action of an enzyme in order and select the correct option

I. The enzyme releases the products of the reaction and the enzyme is free to bind to another substrate

II. The active site of enzyme is in close proximity of the substrate and breaks the chemical bonds of the substrate

III. The binding of substrate induces the enzyme to alter its shape fitting more tightly around substrate.

VI. The substrate binds to the active site of the enzyme

A. IV,III,II,I

B. III,III,I,IV

C. IV,II,I,II

D. II,I,IV,III

Answer: A



Watch Video Solution

30. Some vascular bundles are described as open because these

A. are surrounded by pericycle but no endodermis

B. are capable of producing secondary xylem and phloem

C. possess conjunctive tissue between xylem and phloem

D. are not surrounded by pericycle

Answer: B



Watch Video Solution

31. The active component of photosystem-I is composed of

- A. chlorophyll-a with absorption peak at 680 nm
- B. chlorophyll-a with absorption peak at 700 nm
- C. chlorophyll-b with absorption peak at 680 nm
- D. chlorophyll-a and chlorophyll-b with absorption peak ay 700 nm

Answer: B



Watch Video Solution

32. Energy released during movement of electrons through the photosystems in photosynthesis is used to drive protons across the membrane against concentration gradient. As a result the protons accumulate in

- A. thylakoid lumen
- B. stoma of chloroplast

C. matrix of mitochondrion

D. none of these

Answer: A



Watch Video Solution

33. What is the role NAD^+ in cellular respiration ?

A. It functions as an enzyme

B. It functions as an electron carrier

C. It is a nucleotide source for ATP synthesis

D. It is the final electron acceptor for anaerobic respiration

Answer: B



Watch Video Solution

34. Human vertebral column of 33 vertebrae and _____ bones

A. 33

B. 26

C. 27

D. 29

Answer: B



Watch Video Solution

35. For a plasmolysed cell, which equation is correct ?

A. $DPD = OP + TP$

B. $DPD = - TP$

C. $DPD = OP$

D. $DPD = OP - TP$

Answer: C



Watch Video Solution

36. With reference to enzymes, which one of the following statements is true ?

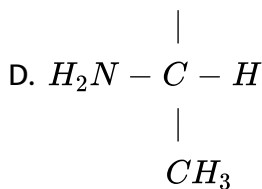
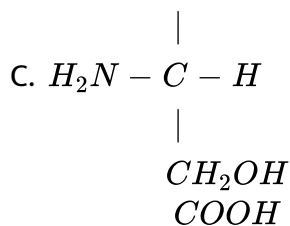
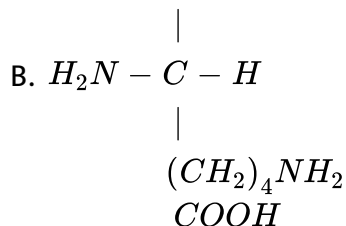
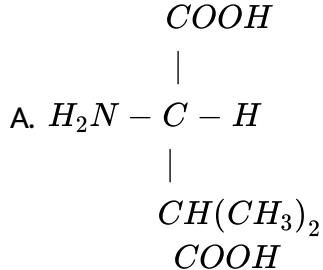
- A. Apoenzyme = Holoenzyme + Coenzyme
- B. Holoenzyme = Aponzyme + Coenzyme
- C. Coenzyme = Apoenzyme + Holoenzyme
- D. Holoenzyme = Coenzyme - Apoenzyme

Answer: B



Watch Video Solution

37. Which one of the following is a basic amino acid ?

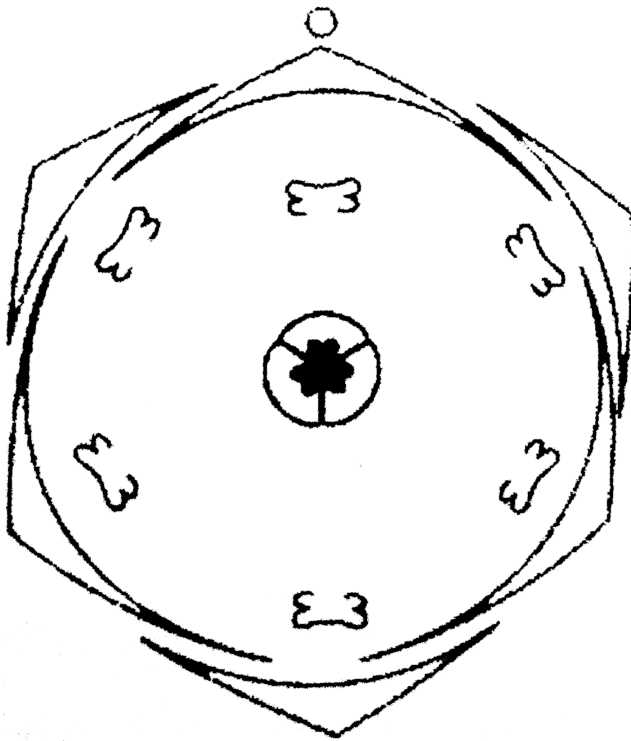


Answer: B



Watch Video Solution

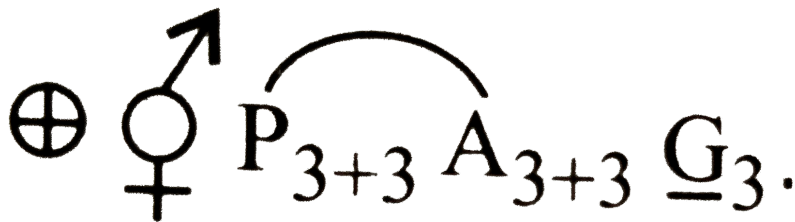
38. Which of the following is/are the characteristics of the family whose floral diagram is given ?



(i) Aloe, Asparagus and Colchicum belong to this family

(ii) Flower is zygomorphic

(iii) Floral formula is



(iv) Fruits are berry or capsule

A. (i),(ii) and (iii)

B. (iii) only

C. (i) only

D. (i),(iii) and (iv)

Answer: D



Watch Video Solution

39. In cockroaches, digestive juice is secreted by the

A. gizzard

B. Malpighian tubules

C. hepatic caeca

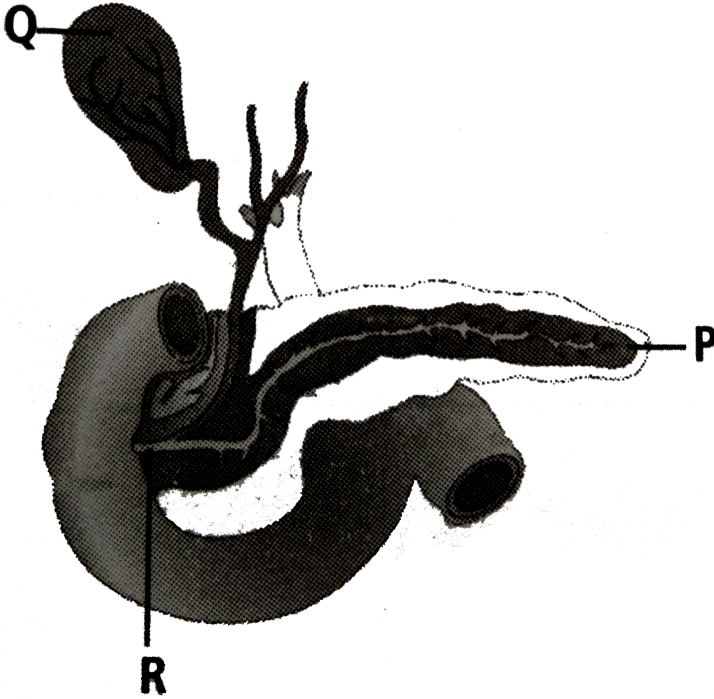
D. oesophagus

Answer: C



Watch Video Solution

40. Select an incorrect option regarding the given figure



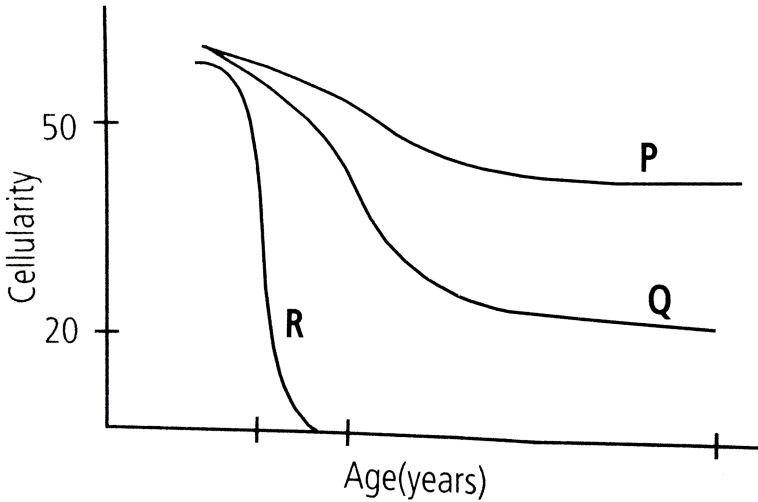
- A. a) P is a compound gland with exocrine and endocrine sections
- B. b) R is formed from duct of gall bladder along with the hepatic duct
- C. c) R is guarded by a sphincter of Oddi
- D. d) Q stores bile which is actually produced in liver

Answer: B



Watch Video Solution

41. Characteristic features of different blood vessels in the body are shown. What does P,Q and R represent ?



- A. P : Total area Q : Velocity R : Blood pressure
- B. P : Blood pressure Q : Velocity R : Total area
- C. P : Velocity Q : Total area R : Blood pressure
- D. P : Total area Q : Blood pressure R : Velocity

Answer: B



View Text Solution

42. Photosynthesis in C_4 plants is relatively less limited by atmospheric CO_2 levels because

- A. effective pumping of CO_2 into bundle sheath cells
- B. RuBisCo in C_4 plants has higher affinity for CO_2
- C. four carbon acids are the initial CO_2 fixation products
- D. the primary fixation of CO_2 is mediated via PEP carboxylase

Answer: D



Watch Video Solution

43. In which stage of the cell cycle are histone proteins synthesised in a eukaryotic cells ?

- A. G_2 - stage of prophase
- B. S-phase

C. Entire prophase

D. Telophase

Answer: B



Watch Video Solution

44. Relative rates of red blood cell production in the bone marrow of different bones at different ages are shown in the graph P,Q and R are likely to be, respectively



A. vertebra, rib and tibia

B. femur, carpal and rib

C. tibia, fibula and femur

D. radius, sternum and carpal

Answer: A



45. The salivary amylase shows maximum digestive action at pH _____

A. 3.6

B. 7.5

C. 8.5

D. 6.8

Answer: D



Watch Video Solution

46. Bundle of His is a part of which one of the following organs in humans

?

A. Stomach

B. Brain

C. Kidney

D. Heart

Answer: D



View Text Solution

47. Consider the following four statements (i-iv) regarding kidney transplant and select the two correct ones out of these

(i) Even if a kidney transplant is proper the recipient may need to take immuno-suppressants for a long time

(ii) The cell-mediated immune response is responsible for the graft rejection

(iii) The B-lumphocytes are responsible for rejection of the graft

(iv) The acceptance or rejection of a kidney transplant depends on specific interferons

The correct statements are

A. (ii) and (iii)

B. (iii) and (iv)

C. (i) and (iii)

D. (i) and (ii)

Answer: D



View Text Solution

48. One mineral activates the enzyme catalase and the other is a constituent of the ring structure of chlorophyll. These minerals are respectively

A. iron and magnesium

B. iron and manganese

C. magnesium and manganese

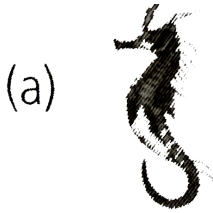
D. calcium and magnesium

Answer: A



Watch Video Solution

49. Which of these animals has three chambered heart, cloaca and respire by gills, lungs and through skin ?



A.



B.



C.



D.

Answer: B



Watch Video Solution

50. Digestion of both starch and protein is done by

- A. gastric lipase
- B. ptyalin enzyme
- C. gastric juice
- D. pancreatic juice

Answer: D



Watch Video Solution

Practice Paper 2

1. Which of the following represents order of Horse ?

- A. Perissodactyla
- B. Caballus
- C. Ferus

D. Equidae

Answer: A



Watch Video Solution

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

A. amphibia

B. reptilia

C. aves

D. osteichthyes

Answer: C



Watch Video Solution

3. In which of the following, scientific name, family and common name are correctly mentioned ?

- | | Scientific name | Family | Common name |
|----|-----------------|---------------|--------------------|
| A. | Batrachospermum | Rhodohycae | Frog's spawn algae |
| B. | Spirogyra | Chlorophyceae | Water net |
| C. | Lycopodium | Lycopodiaceae | Sanjeevani |
| D. | Selaginella | Lycopodiaceae | Little club moss |

Answer: A



Watch Video Solution

4. Which one of these animals is not a homoetherm ?

- A. Macropus
- B. Chelone
- C. Camelus
- D. Psittacula

Answer: B



Watch Video Solution

5. Adult human RBCs are enucleate. Which of the following statement (s) is/are most appropriate explanation for this feature ?

- (1) They do not need to reproduce
- (2) They are somatic cells
- (3) They do not metabolise
- (4) All their internal space is available for oxygen transport.

A. Only (1)

B. (1),(3) and (4)

C. (2) and (3)

D. only (4)

Answer: D



View Text Solution

6. Large volume of air that a person can expire after a forceful inspiration is called

- A. inspiratory reserve volume
- B. expiratory reserve volume
- C. vital capacity
- D. tidal volume

Answer: C



View Text Solution

7. Which cells of Crypts of Lieberkuhn secrete antibacterial lysozyme ?

- A. Paneth cells
- B. Zymogen cells
- C. Kupffer cells

D. Argentaffin cells

Answer: A



View Text Solution

8. Which of the following is an incorrect match?

A. Bowman's capsule - Glomerular filtration

B. DCT - Absorption of glucose

C. Henle's loop - Concentration of urine

D. PCT - Absorption of Na^+ and K^+ ions

Answer: B



View Text Solution

9. In human beings the cranium is formed by

- A. eight bones of which two are paired
- B. fourteen bones of which six are paired
- C. ten bones of which two are paired
- D. twelve bones of which four are paired

Answer: A



Watch Video Solution

10. The third ventricle of the brain is situated in the

- A. base of telencephalon
- B. roof of metencephalon
- C. roof of diencephalon
- D. base of prosencephalon

Answer: C



View Text Solution

11. Which of the these cells release renin when GFR drops ?

- A. Juxtaglomerular cells
- B. Adrenal cortex
- C. Adrenal medulla
- D. Posterior pituitary

Answer: A



Watch Video Solution

12. An investigator places as isolated neuron in a calcium-free medium, gives the neuron a suprathreshold stimulus and then performs an assay to test whether neurotransmitter is released into the medium. Which of the following outcomes would you predict ?

- A. No neurotransmitter is detected since influx of calcium into the synaptic knob is required for neurotransmitter release
- B. No neurotransmitter is detected since influx of calcium is required in order for the neuron to conduct an action potential
- C. Neurotransmitter is detected since calcium is not required for action potential conduction and the initial stimulus was suprathreshold
- D. We cannot predict the outcome without knowing whether the neuron was myelinated or not.

Answer: A



View Text Solution

13. Match column *I* (hormone) with column *II* (endocrine gland) and column *III* (function) and select the correct option from the given codes

	Column I	Column II	Column III
1.	Melatonin	A. Thyroid	(i) Acts on the renal tubules
2.	MSH	B. Adrenal	(ii) Regulates blood calcium level
3.	Aldosterone	C. Pituitary	(iii) Maintains diurnal rhythm of our
4.	TCT	D. Pineal	(iv) Acts on the melanocytes

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

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

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

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

Answer: B



View Text Solution

14. Decreased levels of estrogen is a common cause of

A. myasthenia gravis

B. tetany

C. osteoporosis

D. gout

Answer: C



Watch Video Solution

15. Histamine, serotonin and heparin are secreted by

A. monocytes

B. neutrophils

C. eosinophils

D. basophils

Answer: D



View Text Solution

16. Which of the following vitamins has some physiological effects similar to those of parathormone ?

A. Vitamin A

B. Vitamin D

C. Vitamin C

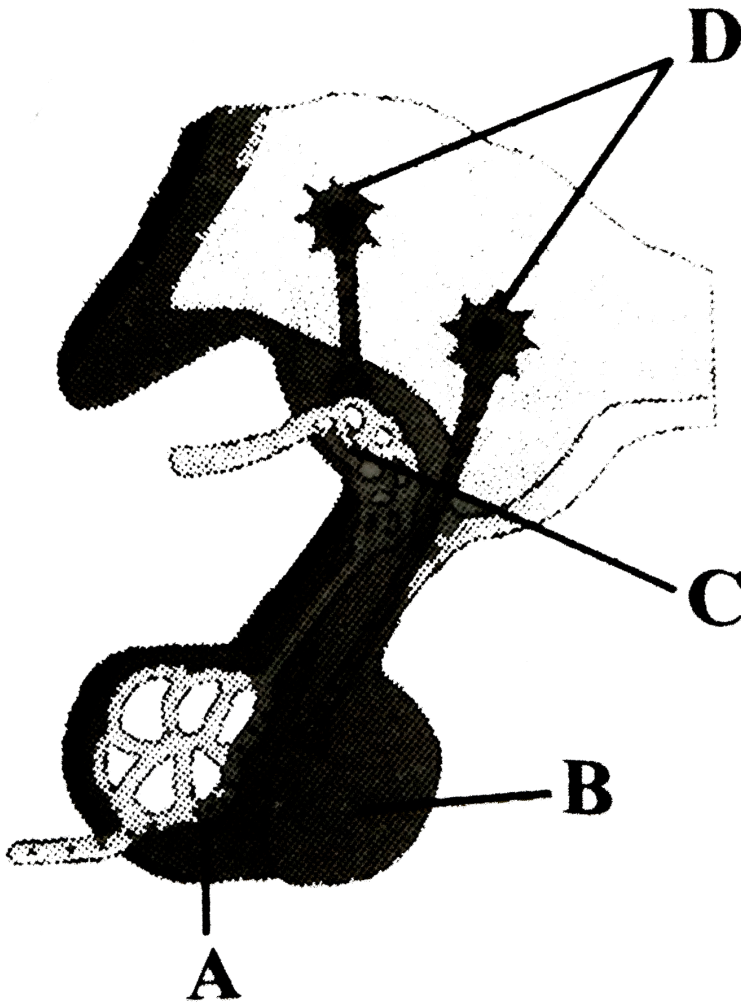
D. Vitamin B

Answer: B



View Text Solution

17. Which of the following is correct regarding the given diagram ?



A. Oxytocin and vasopressin are synthesised by B

B. Melatonin are synthesised by A

C. A is neurohypophysis and B is adenohypophysis

D. GnRH is released in C

Answer: D



Watch Video Solution

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

Column I

Column II

- | | | |
|--------------------|-------|--|
| A. Tricuspid valve | (i) | Between left atrium and left ventricle |
| B. Bicuspid valve | (ii) | Between right ventricle and pulmonary artery |
| C. Semilunar | (iii) | Between right atrium and right ventricle |

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

Answer: A



View Text Solution

19. Which of the following activates the adrenal cortex to release aldosterone ?

- A. Renin
- B. Angiotensin-I
- C. Angiotensin-II
- D. Angiotensinogen

Answer: C



Watch Video Solution

20. Which of the following joints is formed between atlas and axis vertebrae ?

- A. Saddle joint
- B. Fibrous joint

C. Cartilaginous joint

D. Pivot joint

Answer: D



Watch Video Solution

21. Given below is a list of different steps (i-vi) involved in respiration.

(i) Utilisation of O_2 by the cells for catabolic reactions.

(ii) Transport of gases by the blood.

(iii) Pulmonary ventilation by which atmospheric air is drawn in and CO_2 is released out.

(iv) Release of resultant CO_2 .

(v) Diffusion of O_2 and CO_2 between blood and tissues.

(vi) Diffusion of gases (O_2 and CO_2) across alveolar tissues.

Select an option which has correct sequence of all the steps.

A. a) (iii),(vi),(ii),(v),(i),(iv)

B. b) (iii),(vi),(i),(v),(ii),(iv)

C. c) (iv),(ii),(v),(iii),(i),(vi)

D. d) (iv),(vi),(ii),(v),(i),(iii)

Answer: A



Watch Video Solution

22. Select the incorrect match.

A. a) Lampbrush chromosomes - Diplotene bivalents

B. b) Allosomes - Sex chromosomes

C. c) Submetacentric chromosomes - L-shaped chromosomes

D. d) Polytene chromosomes - Oocytes of amphibians

Answer: D



Watch Video Solution

23. Which part of the human brain controls the urge for eating and drinking ?

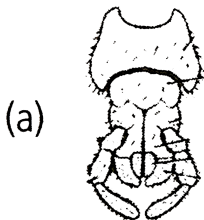
- A. a) Forebrain
- B. b) Midbrain
- C. c) Hindbrain
- D. d) Spinal cord

Answer: A



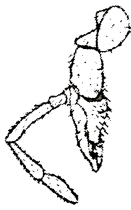
Watch Video Solution

24. Which of the following mouthparts of the cockroach is found in a pair and performs mastication ?



A.

(b)



B.

(c)



C.

(d)



D.

Answer: C



Watch Video Solution

25. Phallic organs in cockroach are related to

A. a) male excretory system

B. b) male reproductive system

C. c) female excretory system

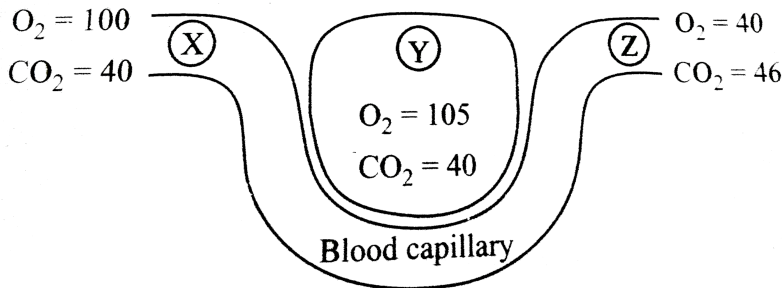
D. d) female reproductive system

Answer: B



Watch Video Solution

26. The given diagram shows a blood capillary in close contact with structure Y. The relative concentration (in units) of carbon dioxide (CO_2) and oxygen (O_2) are given at three different sites.



Which of the following statements is correct ?

A. a) Y is an alveolus and blood flow is from X to Z

B. b) Y is an alveolus and blood flow is Z to X

C. c) Y is a muscle and blood flow is from X to Z

D. d) Y is a muscle and blood flow is from Z to X

Answer: B



Watch Video Solution

27. R.Q. of sprouting photo tubers will be

A. a) > 1

B. b) 0

C. c) 1

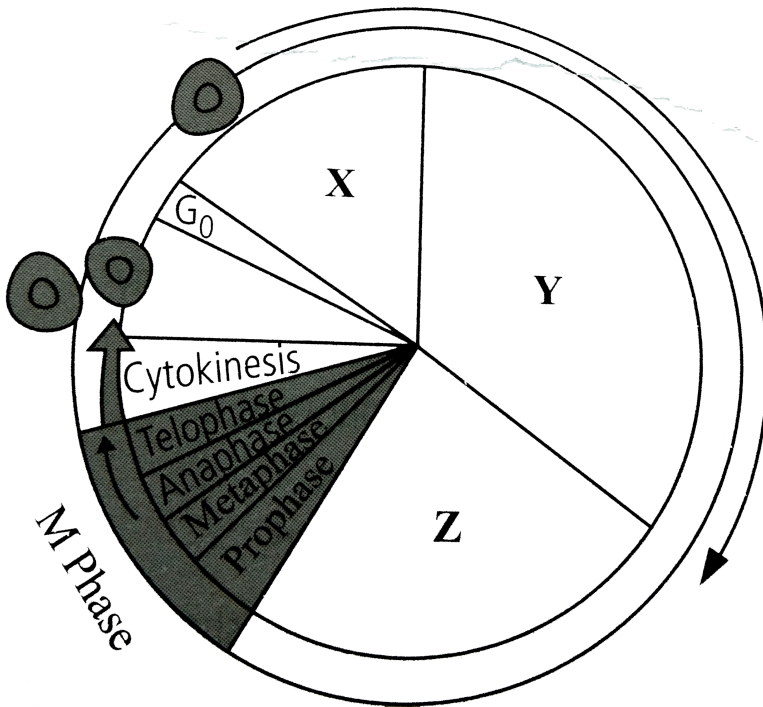
D. d) < 1

Answer: C



Watch Video Solution

28. Refer to the given diagram showing cell cycle and answer the questions that follow



(i) If the chromosome number at X is $2n$, what will be the number of chromosomes at Y?

(ii) Which phase is the longest phase of M phase?

- A. a) (i) $2n$ (ii) Telophase
- B. b) (i) $4n$ (ii) Metaphase
- C. c) (i) $2n$ (ii) Prophase

D. d) (i) (ii)
4n Anaphase

Answer: C



Watch Video Solution

29. The source of oxygen evolved during photosynthesis is

A. H_2O

B. $C_6H_{12}O_6$

C. CO_2

D. $n(CH_2O)$

Answer: A



Watch Video Solution

30. An enzyme promotes a chemical reaction by

- A. a) lowering the energy of activation
- B. b) changing the free energy difference between substrate and product
- C. c) increasing molecular motion
- D. d) All of these

Answer: A



Watch Video Solution

31. Gibberellic acid induces flowering

- A. a) in short day plants under long day conditions
- B. b) in day-neutral plants under dark conditions
- C. c) in some gymnospermic plants only
- D. d) in long day plants under short day conditions

Answer: D



[Watch Video Solution](#)

32. Which of the following statements is correct ?

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

Answer: A



[Watch Video Solution](#)

33. Consider the following statements regarding gymnosperms

- (A) In gymnosperms, the male and female gametophytes have an independent existence
- (B) The multicellular female gametophyte is retained within the megasporangium

(C) The gymnosperms are heterosporous

Of these statements.

A. a) (A) and (B) are true but (C) is false

B. b) (A) and (C) are true but (B) is false

C. c) (B) and (C) are false but (A) is true

D. d) (B) and (C) are true but (A) is false

Answer: D



Watch Video Solution

34. Find out the correct statement.

A. a) In lichens, the algal component is called phycobiont and fungal component is known as mycobiont, which are heterotrophic and autotrophic, respectively.

B. b) Viroid contain RNA of low molecular weight and protein coat

C. c) A virus contains both RNA and DNA

D. d) Viruses are obligatory parasites

Answer: D



Watch Video Solution

35. Select the correct match

- (A) Nitrosomonas - Nitrite to nitrate
- (B) Thiobacillus - Denitrification
- (C) Nostoc - Free-living nitrogen-fixer
- (D) Azotobacter - Anaerobic nitrogen-fixer

A. a) A and B

B. b) C and D

C. c) B and C

D. d) B and D

Answer: C



Watch Video Solution

36. In kranz anatomy, the bundle sheath cells have

- A. a) thin walls, many intercellular spaces and no chloroplasts
- B. b) thick walls, no intercellular spaces and large number of chloroplasts
- C. c) thin walls, no intercellular spaces and several chloroplasts
- D. d) thick walls, many intercellular spaces and few chloroplasts.

Answer: B



Watch Video Solution

37. Function of leghemoglobin (a red pigment) in root nodules of leguminous plants is

- A. a) to regulate O_2 supply in cells
- B. b) to regulate CO_2 supply in cells

C. c) to regulate production of phenolic compounds

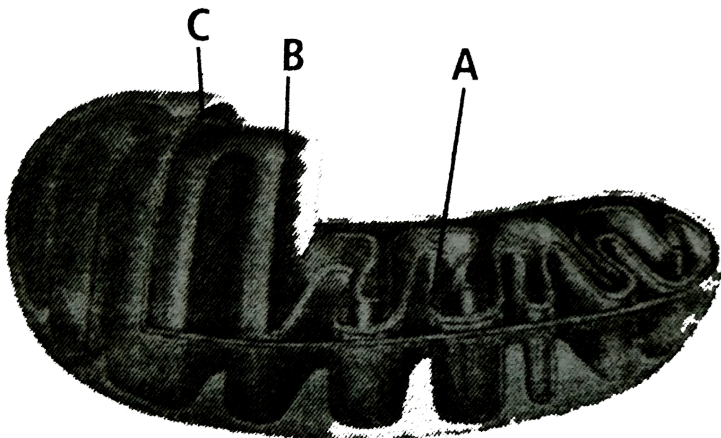
D. d) to regulate the Mo supply in cells

Answer: A



Watch Video Solution

38. The given figure shows the structures of a mitochondrion with its four parts labelled A, B, C and D. Select the part correctly matched with its function



A. C - Gives rise to inner membrane by splitting

B. B - Forms infoldings called cristae

C. A - Possesses single circular DNA molecule and ribosomes

D. none of these

Answer: B



View Text Solution

39. Which one out of A-D given below correctly represents the structural formula of a basic amino acid ?

A	B	C	D
$\begin{array}{c} \text{NH}_2 \\ \\ \text{H} - \text{C} - \text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{C} \\ // \quad \backslash \\ \text{O} \quad \text{OH} \end{array}$	$\begin{array}{c} \text{NH}_2 \\ \\ \text{H} - \text{C} - \text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{OH} \end{array}$	$\begin{array}{c} \text{CH}_2\text{OH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{NH}_2 \end{array}$	$\begin{array}{c} \text{NH}_2 \\ \\ \text{H} - \text{C} - \text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{NH}_2 \end{array}$

A. C

B. D

C. A

D. B

Answer: B



Watch Video Solution

40. Which of the following is true/false regarding transport of substances in plants ?

(i) Mass flow is the movement of substances in bulk as a result of pressure difference

(ii) Bulk flow is achieved only through a positive hydrostatic pressure gradient

(iii) The apoplast system is the system of interconnected protoplasts

(iv) Most of the water flow in the roots occurs via the apoplast since the cortical cells are loosely packed, and offer no resistance to water movement.

A. a) (i) and (iv) are true , (ii) and (iii) are false

B. b) (i) and (ii) are true , (iii) and (iv) are false

C. c) (ii) and (iii) are true , (i) and (iv) are false

D. d) (i), (ii) and (iv) are true , (iii) is false

Answer: A



Watch Video Solution

41. Which of the following is a correct match ?

A. a) Cray fish - Elasmobranch

B. b) Cuttle fish - Osteichthyes

C. c) Jelly fish - Echinodermata

D. d) Silver fish - Arthropoda

Answer: D



Watch Video Solution

42. Q.) _____ is a couple of layer thick, made of narrow, thin walled and nearly rectangular cells. It cuts dervatives on both sides. The outer cells differentiate into _____ or _____ while the inner cells differentiate into _____ or _____. The three together is called _____

Select the right sequence of words to complete the above given paragraph.

- A. a) Phellogen, cork, phellem, secondary cortex, phelloderm, periderm
- B. b) Phellem, phelloderm, cork, secondary cortex, phellogen, periderm
- C. c) Phellogen, cork, periderm, secondary cortex, phellem, phelloderm
- D. d) Phellem, secondary cortex, periderm, cork, phellogen, phelloderm

Answer: A



Watch Video Solution

43. Q.) Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body.

- A. a) Erythrocytes
- B. b) Leucocytes
- C. c) Neutrophils
- D. d) Thrombocytes

Answer: D



Watch Video Solution

44. Q.) Acetyl CoA is produced from pyruvate by

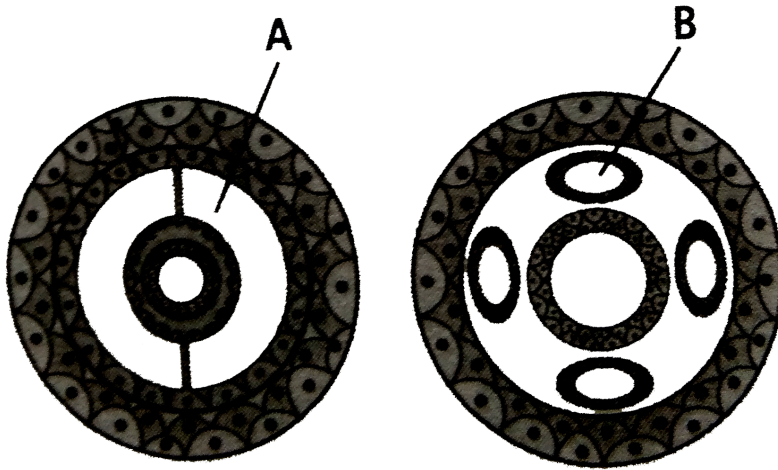
- A. a) oxidative decarboxylation
- B. b) oxidative photophosphorylation
- C. oxidative hydrogenation
- D. d) oxidative photorespiration

Answer: A



Watch Video Solution

45. Q) Refer to the given figure which shows sectional view of two types of coelom A and B. Select the correct option which represents groups of animals that possess A or B



- A. a) A - Aschelminthes and Annelids ,
B - Echinoderms and Chordates
- B. b) A - Annelids, Echinoderms and Chordates ,
B - Aschelminthes
- C. c) A - Echinoderms and Chordates ,
B - Aschelminthes and Annelids
- D. d) A - Aschelminthes ,
B - Annelids, Echinoderms and Chordates

Answer: B



Watch Video Solution

46. Q) Eustachian tube connects

- A. a) pharynx with middle ear
- B. b) middle ear with internal ear
- C. c) middle ear with external ear
- D. d) external ear with internal ear

Answer: A



Watch Video Solution

47. Q.) Which one is true about guttation ?

- A. a) It occurs through specialised pores called hydathodes
- B. b) It occurs in herbaceous plants when root pressure is low and transpiration is high

C. c) It only occurs during the day time

D. d) It occurs in plants growing under conditions of low soil moisture and high humidity

Answer: A



Watch Video Solution

48. At which stage, the homologous chromosomes separate due to repulsion, but are yet held by chiasmata?

A. a) Pachytene

B. b) Diplotene

C. c) Diakinesis

D. d) Zygotene

Answer: B



Watch Video Solution

49. In which of the following groups all are poly-saccharides ?

- A. a) Sucrose, glucose and fructose
- B. b) Maltose, lactose and fructose
- C. c) Glycogen, sucrose and maltose
- D. d) Glycogen, cellulose and starch

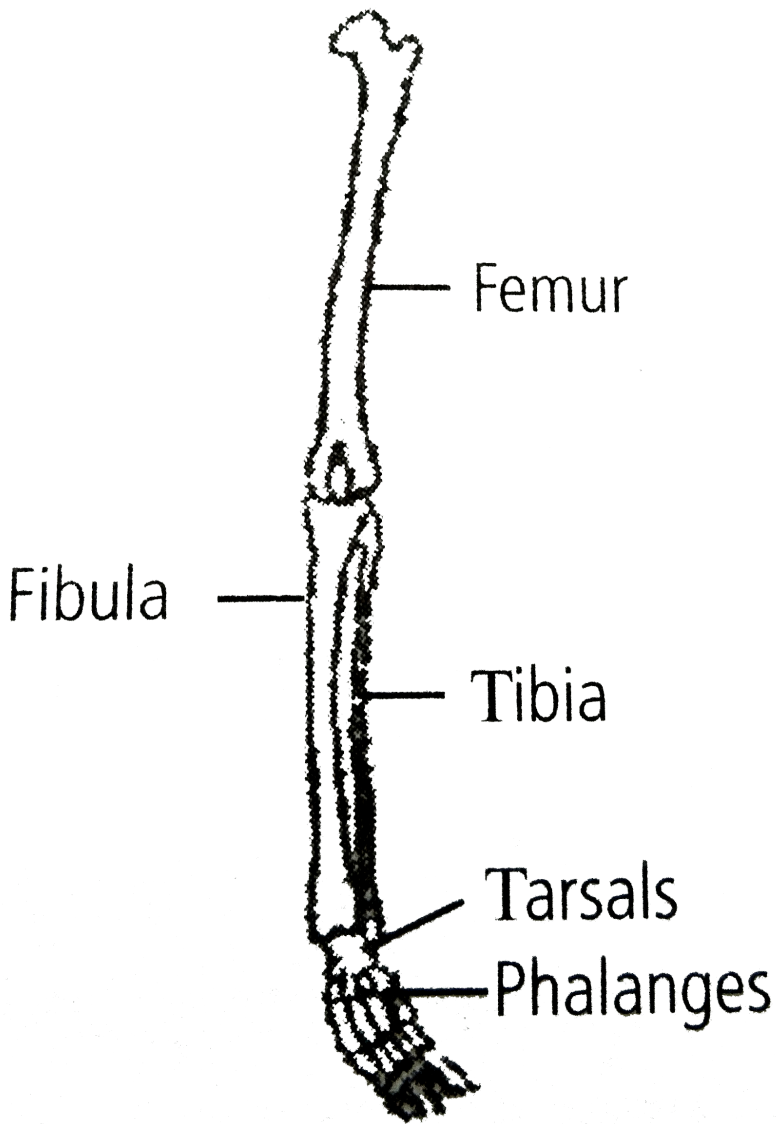
Answer: D



View Text Solution

50. Given diagram shows bone of the left human hindlimb as seen from front. It has certain mistakes in labelling.

Which of the following pairs contain both wrongly labelled bones ?



A. Tibia and tarsals

B. Femur and fibula

C. Fibula and phalanges

D. Tarsals and femur

Answer: C



View Text Solution

Practice Paper 3

1. Which of the following statements regarding universal rules of biological nomenclature is incorrect ?

A. The first word in a biological name represents the genus

B. The first word denoting the genus starts with a capital letter

C. Both the words in a biological name, when handwritten, are separately underlined

D. Biological names are generally in Greek and written in italics

Answer: D



Watch Video Solution

2. Which of the following is correct ?

- A. All fungi are filamentous
- B. Transfer of DNA from one bacterium to another bacterium cannot take place
- C. Viruses cannot have both DNA and RNA together
- D. Protists reproduce asexually only

Answer: C



Watch Video Solution

3. Select the correct combination of the statements (i-iv) regarding the characteristics of certain organisms.

- (i) Methanogens are archaebacteria which produce methane in marshy areas
- (ii) Nostoc is a filamentous blue-green alga which fixes atmospheric nitrogen
- (iii) Chemosynthetic autotrophic bacteria synthesise cellulose from glucose
- (iv) Mycoplasma lack a cell wall and can survive without oxygen

The correct statements are

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

Answer: D



View Text Solution

4. Single-celled eukaryotes are included in Kingdom

A. Protista

B. Fungi

C. Plantae

D. Monera

Answer: A



Watch Video Solution

5. In which of the following classes of fungi, sexual reproduction is absent ?

A. Basidiomycetes

B. Deuteromycetes

C. Phycomycetes

D. Ascomycetes

Answer: B



[Watch Video Solution](#)

6. Algae have cells made up of

- A. cellulose, galactans and mannans
- B. hemicellulose, pectins and proteins
- C. pectins, cellulose and proteins
- D. cellulose, hemicellulose and pectins

Answer: A



[Watch Video Solution](#)

7. Which of the following statements is incorrect regarding bryophytes ?

- A. Zygote undergoes meiosis to produce sporophyte
- B. Zygote undergoes mitosis to form embryo proper
- C. Fertilisation takes place in presence of water

D. Sporophyte is parasitic over gametophyte

Answer: A



Watch Video Solution

8. Pick out wrong statement

- A. Double fertilisation is unique to gymnosperms and monocotyledons
- B. Sequoia, a gymnosperm, is one of the tallest trees
- C. Phaeophyceae members possess chlorophyll a,c, carotenoids and xanthophylls
- D. Moss is a gametophyte which consists of two stages namely, protonema stage and leafy stage.

Answer: A



Watch Video Solution

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

A. 

B. 

C. 

D. 

Answer: D



[View Text Solution](#)

10. Find the correct match

A. Mustard plant : Opposite phyllotaxy

B. Mustard plant : Alternate phyllotaxy

C. Guava plant : Alternate phyllotaxy

D. Guava plant : Whorled phyllotaxy

Answer: B



Watch Video Solution

11. In cyathium inflorescence

- A. single male flower is surrounded by female flowers
- B. male and female flowers are borne in different plants
- C. there is only one male and one female flower
- D. single female flower is surrounded by many peripheral male flowers

Answer: D



Watch Video Solution

12. Which one of the following is not correct ?

- A. Early wood is characterised by large number of xylary elements
- B. Early wood is characterised by vessels with wider cavities.
- C. Late wood is characterised by large number of xylary elements
- D. Late wood is characterised by vessels with narrower cavities

Answer: C



Watch Video Solution

13. A few drops of sap were collected by cutting across a plant stem by a suitable method. The sap was tested chemically. Which one of the following test results indicates that it is phloem sap ?

- A. Acidic
- B. Alkaline
- C. Low refractive index
- D. Absence of sugar

Answer: B



Watch Video Solution

14. Cell A and cell B are adjacent plant cells. In cell A $\Psi_s = -20$ bars and $\Psi_p = 8$ bars. In cell B, $\Psi_s = -12$ bars and $\Psi_p = 2$ bars. Then,

- A. water moves from cell A to cell B
- B. there is no movement of water between cell A and B
- C. water moves from cell B to cell A
- D. equal amount of water is simultaneously exchanged between cell A and cell B.

Answer: C



View Text Solution

15. Refer to the given flow chart regarding classification of Kingdom Animalia.



Which of the following is correct regarding 'P,Q,R and S ?

A. Q is Phylum Echinodermata

B. R is Phylum Aschelminthes

C. S is Phylum Coelenterata

D. P is Phylum Chodata

Answer: B



View Text Solution

16. With reference to factors affecting the rate of photosynthesis, which of the following statements is not correct ?

- A. Increasing atmospheric CO_2 concentration up to 0.05 % can enhance CO_2 fixation rate
- B. C_3 plants respond to higher temperature with enhanced photosynthesis while C_4 plants have much lower temperature optimum
- C. Tomato is a greenhouse crop which can be grown in CO_2 -enriched atmosphere for higher yield,
- D. Light saturation for CO_2 fixation occurs at 10 % of full sunlight.

Answer: B



[View Text Solution](#)

17. Which statement is wrong for Krebs' cycle ?

- A. There is one point in the cycle where FAD^+ is reduced to $FADH_2$

- B. During conversion of succinyl CoA to succinic acid, a molecule of GTP is synthesised
- C. The cycle starts with condensation of acetyl group (acetyl CoA) with pyruvic acid to yield citric acid.
- D. There are three points in the cycle where NAD^+ is reduced to $NADH + H^+$

Answer: C



View Text Solution

18. Match column *I* with column *II* for housefly classification and select the correct option using the codes given below

Column I		Column II
A. Family	(i)	Diptera
B. Order	(ii)	Arthropoda
C. Class	(iii)	Muscidae
D. Phylum	(iv)	Insecta

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

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

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

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

Answer: A



Watch Video Solution

19. The pineapple which under natural condition is difficult to blossom has been made to produce fruits throughout the year by application of

A. NAA, 2,4-D

B. phenyl acetic acid

C. cytokinin

D. none of these

Answer: A



Watch Video Solution

20. Consider the following statements and select the correct option

- (A) The endomembrane system includes plasma membrane, ER, Golgi complex, lysosomes and vacuoles
- (B) ER helps in the transport of substances, synthesis of proteins, lipoproteins and glycogen
- (C) Ribosomes are involved in protein synthesis
- (D) Mitochondria help in oxidative phosphorylation and generation of ATP

A. B, C and D are correct

B. A alone is correct

C. B alone is correct

D. C alone is correct

Answer: A



Watch Video Solution

21. Select the incorrect statement

- A. Ribozymes are nucleic acids with catalytic power
- B. Nucleic acids serve as genetic material
- C. Proteins, nucleic acids and polysaccharides are the only three types of macromolecules found in the living system
- D. Collagen is the most abundant protein in the whole of the biosphere and RuBisCo is the most abundant protein in animal world

Answer: D



Watch Video Solution

22. Select the correct statement with respect to mitosis

- A. Chromatids separate but remain in the centre of the cell in anaphase
- B. Chromatids start moving towards opposite poles in telophase
- C. Golgi complex and endoplasmic reticulum are still visible at the end of prophase
- D. Chromosomes move to the spindle equator and get aligned along equatorial plate in metaphase

Answer: D



View Text Solution

23. Beads on string like structures of A are seen in B, which further condense to form chromosomes in C stage of cell division. Identify A, B, C.

- | | | | |
|----|------------|-----------|-----------|
| | A | B | C |
| A. | Chromonema | Chromatin | Metaphase |
-
- | | | | |
|----|-----------|-----------|-----------|
| | A | B | C |
| B. | Chromatin | Chromatid | Metaphase |

- | | | | |
|----|------------|------------|----------|
| | A | B | C |
| C. | Chromonema | Chromosome | Anaphase |
| | A | B | C |
| D. | Chromonema | Chromatid | Anaphase |

Answer: A



Watch Video Solution

24. Match column *I* with column *II* and select the correct option from the codes given below

Column I		Column II
A. Choanocytes	(i)	Platyhelminthes
B. Chindoblasts	(ii)	Ctenophora
C. Flame cells	(iii)	Porifera
D. Nephridia	(iv)	Coelenterata
E. Comb plates	(v)	Annelida

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

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

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

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

Answer: C



View Text Solution

25. Read the following statements and select the correct option

- (i) Blood cells secrete fibres of structural proteins called collagen and elastin
- (ii) Neuroglial cells protect and support the nephrons
- (iii) Osteocytes are present in spaces called lacunae
- (iv) Striated muscle fibres are bundled together in a parallel fashion
- (v) Biceps are involuntary and striated.

- A. C and D statements are wrong
- B. A and C statements are wrong
- C. B and C statements are wrong
- D. A,B and E statements are wrong

Answer: D





[Watch Video Solution](#)

26. Male cockroach differs from female cockroach in having

- A. antennae
- B. labrum
- C. maxillae
- D. anal styles

Answer: D



[View Text Solution](#)

27. The gastric juice contains

- A. trypsin, pepsin, lipase
- B. pepsin, lipase, rennin
- C. pepsin, amylase, trypsin

D. pepsin, rennin, carboxypeptidase

Answer: B



Watch Video Solution

28. Pick the correct statement

- A. The contraction of internal intercostal muscles lifts up the ribs and sternum
- B. The thoracic cavity is anatomically an air tight chamber
- C. Healthy man can inspire approximately 500 ml of air per minute
- D. During expiration, the intrapulmonary pressure is slightly below the surrounding atmospheric pressure

Answer: B



View Text Solution

29. If the systolic pressure is 120 mm Hg and diastolic pressure is 80 mm Hg, the pulse pressure is _____

A. $120 \times 80 = 9600$ mm Hg

B. $120 + 80 = 200$ mm Hg

C. $120 - 80 = 40$ mm Hg

D. $\frac{120}{40} = 2$ mm Hg

Answer: C



Watch Video Solution

30. Select the correct statement

A. The juxta medullary nephrons have reduced Henle's loop

B. Vase recta is well developed in cortical nephrons

C. The PCT and DCT are situated in the medulla of the kidney

D. The ascending limb of the Henle's loop is connected to DCT

Answer: D



Watch Video Solution

31. The type of joint present between the humerus bone and the pectoral girdle is

- A. pivot joint
- B. ellipsoid joint
- C. gliding joint
- D. ball and socket joint

Answer: D



Watch Video Solution

32. Select the answer with correct matching of the structure its location and function

A.

Structure	Location	Function
Eustachian	Anterior part of internal ear	Equalises air pressure on

B.

Structure	Location	Function
Cerebellum	Midbrain	Controls respiration and gastric secretions

C.

Structure	Location	Function
Hypothalamus	Forebrain	Controls body temperature, urge for eat

D.

Structure	Location	Function
Blind spot	Near the place where optic nerve leaves the eye	Rods and

Answer: C



[View Text Solution](#)

33. Select the correct statement regarding the specific disorder of muscular of skeletal system

A. Muscular dystrophy - Age related shortening of muscles

B. Osteoporosis - Decrease in bone mass and higher chances of fractures with advancing age

C. Myasthenia gravis - Autoimmune disorder which inhibits sliding of myosin filaments

D. Gout - Inflammation of joints due to extra deposition of calcium

Answer: B



Watch Video Solution

34. Identify the origin of sympathetic nerve fibres and the location of their ganglia

A. They arise from thoraco-lumbar region of spinal cord and form ganglia just beside the vertebral column

B. They arise from thoraco-cervical region of spinal cord and form ganglia just beside the vertebral column

- C. They arise from cranio-sacral region of spinal cord and form ganglia very close to effector organ
- D. They arise from thoraco-lumbar region of spinal cord and form ganglia very close to effector organ

Answer: A



Watch Video Solution

35. The main mineralocorticoid in human is

- A. aldosterone
- B. cortisol
- C. testosterone
- D. adrenaline

Answer: A



View Text Solution

36. Refer to the given figure showing structure of Malpighian corpuscle.

To facilitate ultrafiltration through glomerular capillaries _____



- A. part 'D' is narrower than part 'A'
- B. part 'A' is narrower than part 'D'
- C. part 'C' is narrower than part 'D'
- D. part 'B' is narrower than part 'D'

Answer: A



View Text Solution

37. Prophase of the first meiotic division is typically longer on complex. It is subdivided into 5 phases , leptotene, zygotene, pachytene,diplotene and diakinesis. Which of the following statements is not correct of these phases ?

- A. The formation of synaptonemal complex is seen during zygotene stage
- B. The stage of pachytene is characterised by appearance of recombination nodules
- C. Diplotene stage is marked by terminalisation of chiasmata
- D. The compaction of chromosomes continues throughout the leptotene

Answer: c



Watch Video Solution

38. Identify P,Q, and R in the graph shown below



- | | | | |
|----|---------------|---------------|-------------|
| | P | Q | R |
| A. | Chlorophyll b | Chlorophyll a | Carotenoids |
| B. | P | Q | R |
| | Chlorophyll a | Chlorophyll b | Carotenoids |

	P	Q	R
C.	Chlorophyll a	Carotenoids	Chlorophyll b
	P	Q	R
D.	Chlorophyll b	Carotenoids	Chlorophyll a

Answer: C



View Text Solution

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

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

Answer: A



Watch Video Solution

40. Refer the given figure showing some steps of citric acid cycle. What changes takes place during the conversion of A to B ?



- A. CO_2 is liberated
- B. NAD^+ is converted to $NADH + H^+$
- C. GTP is formed from GDP
- D. All of these

Answer: D



View Text Solution

41. Plants require sulphur for

- A. ATP synthesis
- B. protein synthesis
- C. glucose synthesis

D. DNA replication

Answer: B



View Text Solution

42. An inflorescence with single, oldest, female flower and many younger male flowers has to be

A. verticillaster

B. hypanthodium

C. spike

D. cyathium

Answer: D



Watch Video Solution

43. Match the plant hormones listed in column *I* with their major role listed in column *II* and select the correct option from the codes given below

Column I	Column II
(A) Auxin	(i) Fruit ripening
(B) Cytokinin	(ii) Phototropism
(C) abscisic acid	(iii) Suppression of cell division
(D) Ethylene	(iv) Stomatal opening and closing
	(v) Growth of lateral buds

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

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

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

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

Answer: C



View Text Solution

44. During the transmission of nerve impulse through a nerve fibre, the potential on the inner side of the plasma membrane has which type of electric charge ?

- A. First positive, then negative and continue to be negative
- B. First negative, then positive and continue to be positive
- C. First positive, then negative and again back to positive
- D. First negative, then positive and again to negative

Answer: D



View Text Solution

45. Which of the labelled parts of human brain is connected with swallowing, coughing sneezing and vomiting ?



A. R

B. Q

C. S

D. P

Answer: A



View Text Solution

46. Which is essential for the growth of root tip?

A. Zn

B. Fe

C. Ca

D. Mn

Answer: C



Watch Video Solution

47. Which one of the following is incorrect for arteriosclerosis ?

- A. Constriction of arterial lumen reduces the blood flow
- B. Loss of dilation ability of the arterial wall and its rupture
- C. Cholesterol deposition at the inner wall of the artery
- D. Proliferation of the vascular muscles

Answer: B



Watch Video Solution

48. The below diagram is the cyclic series of reactions that occurs during carbon fixation stage of photosynthesis



- (i) Carbon dioxide is taken into the cycle at stage A
- (ii) Hydrogen from reduced hydrogen acceptor is used at stage B
- (iii) Energy from ATP used to drive stage C
- (iv) The substance formed at position Y is D

(v) If one molecule of substance Y is released per cycle, the cycle must turn E times for one molecule of sucrose ($C_{12}H_{22}O_{11}$) to be built up at position Z.

- A. A-4 , B-2 , C-2 and 3 , D-3-carbon sugar , E-4
- B. A-2 , B-3 , C-1 and 2 , D-pyruvic acid, E-2
- C. A-2 , B-4 , C-3 and 4 , D-glucose-1-phosphate, E-8
- D. A-1 , B-1 , C-2 and 4, D-citric acid , E-12

Answer: A



View Text Solution

49. The given graph shows pressure changes in the left side of the heart during a single heart beat



Between points W and X, which of the following valves are open or closed respectively ?

- | | | |
|----|------------------------------------|----------------------------|
| A. | Atrio-ventricular valves
Closed | Semilunar valves
Closed |
| B. | Atrio-ventricular valves
Closed | Semilunar valves
Open |
| C. | Atrio-ventricular valves
Open | Semilunar valves
Closed |
| D. | Atrio-ventricular valves
Open | Semilunar valves
Open |

Answer: B



View Text Solution

50. Which of these epithelia is chiefly involved in function like diffusion and thereby is found in the wall of blood vessel and air sacs of the lungs ?

A. 

B. 

C. 

D. 

Answer: D

Test Paper 1

1. Which of the following statements is correct ?

- A. Round worms (aschelminthes) are pseudocoelomates
- B. Molluscs are acoelomates
- C. Insects are pseudocoelomates
- D. Flatworms (platyhelminthes) are coelomates

Answer: A

2. Which of the following matches is correct ?

- A. Cockroach - Crustacea

B. Pila - Pelecypoda

C. Spider - Arachnida

D. Unio - Gastropoda

Answer: C



Watch Video Solution

3. The type of epithelial cells which line the inner surface of Fallopian tubes, bronchioles and small bronchi are known as

A. squamous epithelium

B. ciliated epithelium

C. columnar epithelium

D. cubical epithelium

Answer: B



Watch Video Solution

4. In order for the blood to flow right atrium to left ventricle in mammalian heart, it must flow through

A. right ventricle, pulmonary arteries, lungs, pulmonary veins, left atrium

B. right ventricle, pulmonary veins, lungs, pulmonary arteries, left atrium

C. right ventricle, right atrium, lungs, pulmonary veins, left atrium

D. right ventricle, system aorta, lungs, pulmonary veins, left atrium

Answer: A



Watch Video Solution

5. Which one of the following organisms is correctly matched with its excretory organs?

- A. Humans - Kidneys, sebaceous gland and tear glands
- B. Earthworm - Pharyngeal, integumentary and septal glands
- C. Cockroach - Malpighian tubules and enteric caeca
- D. Frog - Kidneys, skin and buccal epithelium

Answer: B



Watch Video Solution

6. Read the following statements and select the correct option

Statement 1 : When the urine moves through the descending limb, it becomes hypertonic to blood plasma and as it passes through the ascending limb of Henl's loop it becomes hypotonic to blood plasma

Statement : The decending limb is permeable to sodium ions, while the ascending limb is impermeable to sodium ions

- A. Both statement 1 and 2 are correct and statement 2 is the correct explanation of statement 1

- B. Both statements 1 and 2 are correct but statement 2 is not the correct explanation of statement 1
- C. Statement 1 is correct but statement 2 is incorrect
- D. Both statements 1 and 2 are incorrect

Answer: C



Watch Video Solution

7. Which of the following parts of brain constitute the brain stem ?

- A. Midbrain and hindbrain
- B. Hindbrain and forebrain
- C. Forebrain and midbrain
- D. Forebrain only

Answer: A



Watch Video Solution

8. The innermost layer of the human eye is

A. choroid

B. cornea

C. sclera

D. retina

Answer: D



Watch Video Solution

9. Select the correct matching of a hormone, its source and function

A.

Hormone	Source	Function
Vasopressin	Posterior pituitary	Increase loss of water through ur

B.

Hormone	Source	Function
Norepinephrine	Adrenal medulla	Increase heart beat, rate of rep

C.

Hormone	Source	Function
Glucagon	Beta-cells of Islets of Langerhans	Stimulates glycogen

D.

Hormone	Source	Function
Prolactin	Posterior pituitary	Regulates growth of mammary g

Answer: B



View Text Solution

10. Select the correct sequence of events that occur during the delivery of O_2 from blood to tissue

P : Absorption of CO_2 by the blood

Q : Reaction of absorbed CO_2 with H_2O to form H_2CO_3 within RBC and its conversion into H^+ and HCO_3^- ions

R : Reaction of absorbed CO_2 with H_2O in plasma to form H_2CO_3 and its conversion into H^+ and HCO_3^- ions.

S : Combination of H^+ with heme portion of HbO_2 to release O_2

T : Combination of HCO_3^- with heme portion of HbO_2

to form reduced haemoglobin and release of O_2

A. P,Q,T

B. P,R,S

C. P,Q,S

D. P,R,T

Answer: C



View Text Solution

11. Choose the correct statement

A. The T-wave in an ECG represents excitation of ventricles

B. The sum of P and T waves in a given time period can determine the heart beat rate of an individual.

C. The end of the P-wave marks the end of the systole

D. In a standard ECGs, a person is connected to the machine with three electrical leads

Answer: D



Watch Video Solution

12. A fall in glomerular filtration rate (GFR) activates

A. juxtaglomerular cells to release renin

B. atria of the heart to release ANF

C. adrenal medulla to release adrenanline

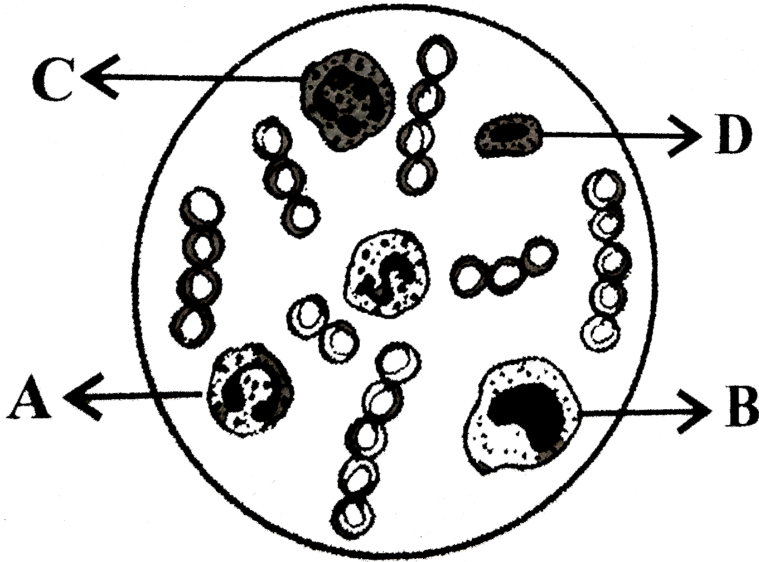
D. posterior pituitary to release vasopressin

Answer: A



Watch Video Solution

13. Select the correct option regarding the given figure



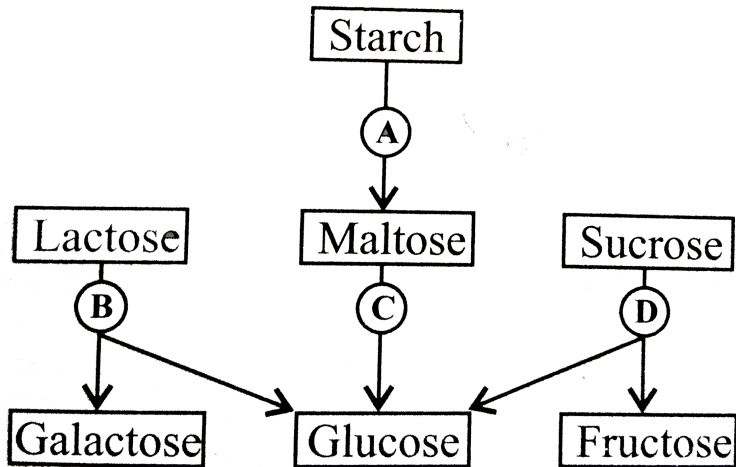
- A. D is eosinophil which is found more in asthma patients
- B. B is lymphocyte which helps in blood clotting
- C. C is neutrophil which is phagocytic in nature
- D. A is monocyte which release histamine, serotonin and heparin

Answer: C



Watch Video Solution

14. The given flowchart shows the fate of carbohydrates during digestion in the human alimentary canal. Identify the enzymes acting at stages indicated as A,B,C and D and select the correct option.



- A. A-amylase, B-maltase, C-lactase,D-invertase
- B. A-amylase,B-maltase,C-invertase,D-lactase
- C. A-amylase,B-invertase,C-maltase,D-lactase
- D. A-amylase,B-lactase,C-maltase,D-invertase

Answer: D



Watch Video Solution

15. The ability of producing concentrated (hypertonic) urine in vertebrates generally depends on

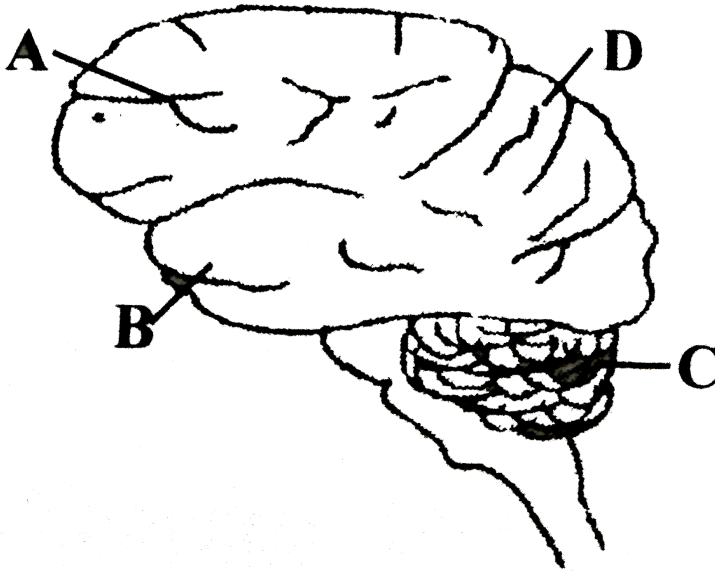
- A. area of Bowman's capsule epithelium
- B. length of the proximal convoluted tubule
- C. length of Henle's loop
- D. capillary network forming glomerulus

Answer: C



Watch Video Solution

16. Select the incorrect option regarding the given figure



A. D is parietal lobe which registers sensory perceptions

B. A is occipital lobe which decodes and interprets visual information

C. B is temporal lobe which is associated with memory and emotion

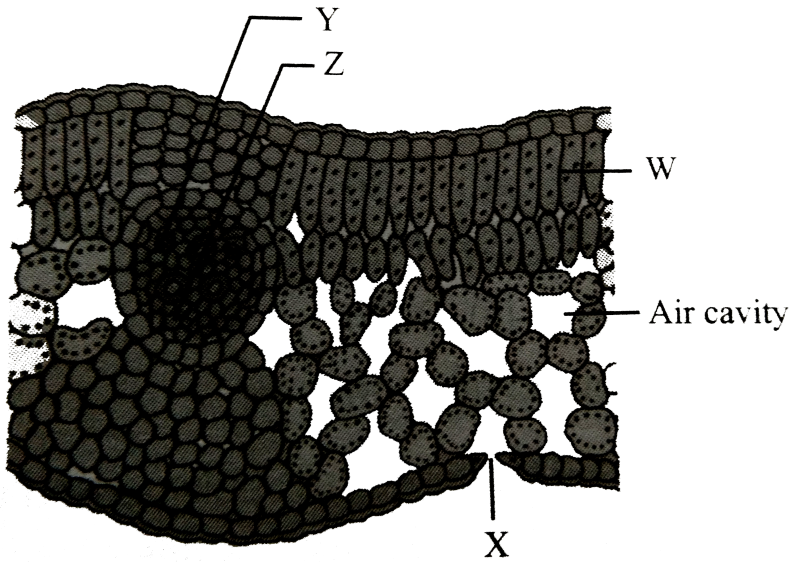
D. C is cerebellum which controls muscular activities

Answer: B



Watch Video Solution

17. Which of the following is correct regarding the given figure ?



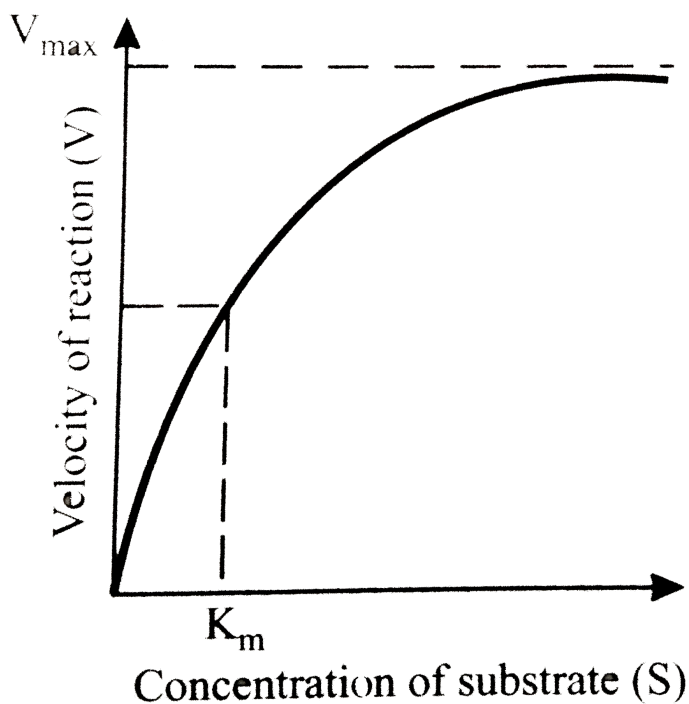
- A. W shows palisade parenchyma having chloroplasts arranged in layers
- B. Z shows phloem
- C. As water evaporates from X, it results in pulling of water, molecule by molecule from Y
- D. All of these

Answer: D



Watch Video Solution

18. At optimum temperature and pH, time required to reach maximum velocity of a reaction is 8 seconds, then what will be the time when substrate concentration is K_m ?



- A. 4 sec
- B. 16 sec
- C. 1 sec

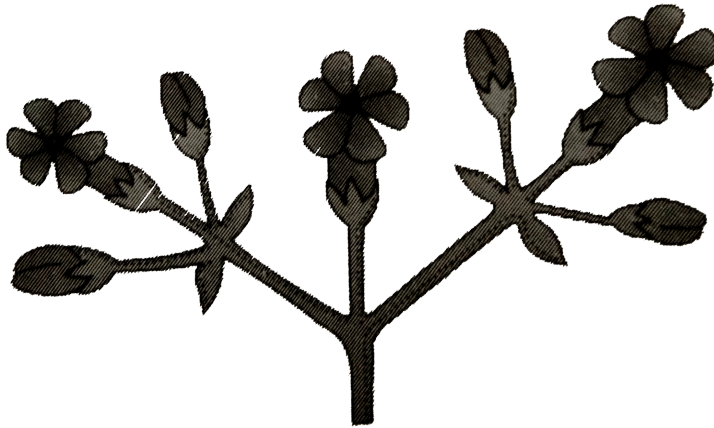
D. 2 sec

Answer: A



Watch Video Solution

19. What type of inflorescence does the given figure show ?



A. Uniparous cyme

B. Biparous cyme

C. Multiparous

D. Racemose

Answer: B



Watch Video Solution

20. Which of the following is the correct hierarchical sequence ?

- A. Phylum-Class-Order-Family
- B. Genus-Species-Order-Family
- C. Phylum-Division-Family-Class
- D. Division-Order-Class-Genus

Answer: A



Watch Video Solution

21. Match column *I* with column *II* and select the correct option from the codes given below.

Column I		Column II
A. Rhizopus	(i)	Ascomycetes
B. Penicillium	(ii)	Basidiomycetes
C. Ustilago	(iii)	Deuteromycetes
D. Alternaria	(iv)	Phycomycetes

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

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

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

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

Answer: C



Watch Video Solution

22. The thick filament in muscles is polymerised protein of

A. meromyosins

B. actins

C. troponins

D. tropomyosins

Answer: A

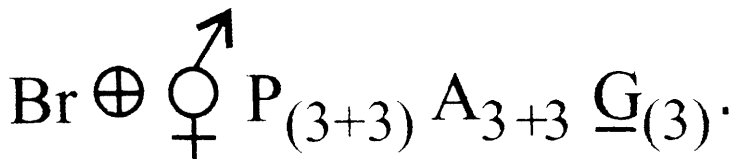


Watch Video Solution

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

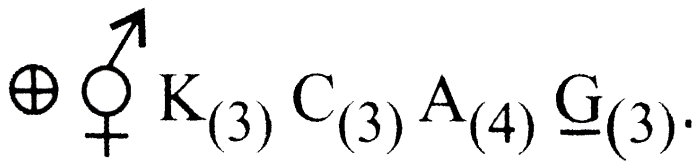
(i) In vexillary aestivation, the large posterior petal is called standard, two lateral ones are called wings and two small anterior petals are termed as keel

(ii) The floral formula for Liliaceae is



(iii) In pea flower, the stamens are monadelphous

(iv) The floral formula for Solanceae is



The correct statement are

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

Answer: B



View Text Solution

24. The release of chemical messenger from synaptic vesicles is under the influence of which of these ion (s) ?

- A. Cl^{-}
- B. Fe^{++} and S^{++}

C. Ca^{++}

D. Mg^{++} and Sr^{++}

Answer: C



Watch Video Solution

25. Which of the following statements is true ?

A. The collenchyma occurs in layers below the epidermis in monocotyledonous plants

B. Sclerenchyma cells are usually dead and without protoplasts

C. Xylem parenchyma cells are living and thin walled and their cell walls are made up of lignin

D. The companion cells are specialised sclerenchymatous cells

Answer: B



Watch Video Solution

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

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

Answer: D



Watch Video Solution

27. Which of the following is wrongly matched ?

- A. Sorghum - Kranz anatomy

B. PEP carboxylase - Mesophyll cells

C. Blackman - Law of limiting factors

D. PS II = P_{700}

Answer: D



Watch Video Solution

28. Consider the following statements

(A) Plant cells have centrioles which are absent in almost all animal cells

(B) Ribosomes are the site of protein synthesis

(C) The middle lamella is a layer made of calcium carbonate which holds the different neighbouring cells together

(D) In animal cell, steroidal hormones are synthesised by smooth endoplasmic reticulum

Of the above statements

A. (A) and (B) only are correct

B. (C) and (D) only are correct

C. (B) and (D) only are correct

D. (A) and (D) only are correct

Answer: C



Watch Video Solution

29. Arrange the steps of catalytic action of an enzyme in order and select the correct option

I. The enzyme releases the products of the reaction and the enzyme is free to bind to another substrate

II. The active site of enzyme is in close proximity of the substrate and breaks the chemical bonds of the substrate

III. The binding of substrate induces the enzyme to alter its shape fitting more tightly around substrate.

VI. The substrate binds to the active site of the enzyme

A. IV,III,II,I

B. III,III,I,IV

C. IV,II,I,II

D. II,I,IV,III

Answer: A



Watch Video Solution

30. Some vascular bundles are described as open because these

A. are surrounded by pericycle but no endodermis

B. are capable of producing secondary xylem and phloem

C. possess conjunctive tissue between xylem and phloem

D. are not surrounded by pericycle

Answer: B



Watch Video Solution

31. The active component of photosystem-I is composed of

- A. chlorophyll-a with absorption peak at 680 nm
- B. chlorophyll-a with absorption peak at 700 nm
- C. chlorophyll-b with absorption peak at 680 nm
- D. chlorophyll-a and chlorophyll-b with absorption peak at 700 nm

Answer: B



Watch Video Solution

32. Energy released during movement of electrons through the photosystems in photosynthesis is used to drive protons across the membrane against concentration gradient. As a result the protons accumulate in

- A. thylakoid lumen
- B. stoma of chloroplast

C. matrix of mitochondrion

D. none of these

Answer: A



Watch Video Solution

33. What is the role NAD^+ in cellular respiration ?

A. It functions as an enzyme

B. It functions as an electron carrier

C. It is a nucleotide source for ATP synthesis

D. It is the final electron acceptor for anaerobic respiration

Answer: B



Watch Video Solution

34. Human vertebral column of 33 vertebrae and _____ bones

A. 33

B. 26

C. 27

D. 29

Answer: B



Watch Video Solution

35. For a plasmolysed cell, which equation is correct ?

A. $DPD = OP + TP$

B. $DPD = - TP$

C. $DPD = OP$

D. $DPD = OP - TP$

Answer: C



Watch Video Solution

36. With reference to enzymes, which one of the following statements is true ?

A. Apoenzyme = Holoenzyme + Coenzyme

B. Holoenzyme = Aponzyme + Coenzyme

C. Coenzyme = Apoenzyme + Holoenzyme

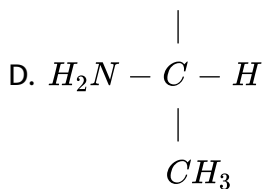
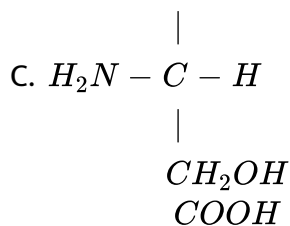
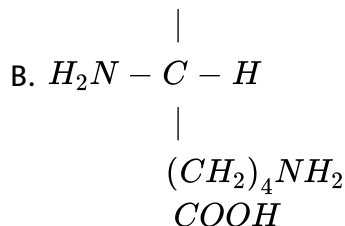
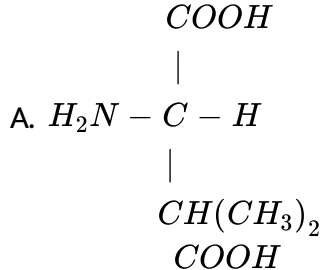
D. Holoenzyme = Coenzyme - Apoenzyme

Answer: B



Watch Video Solution

37. Which one of the following is a basic amino acid ?

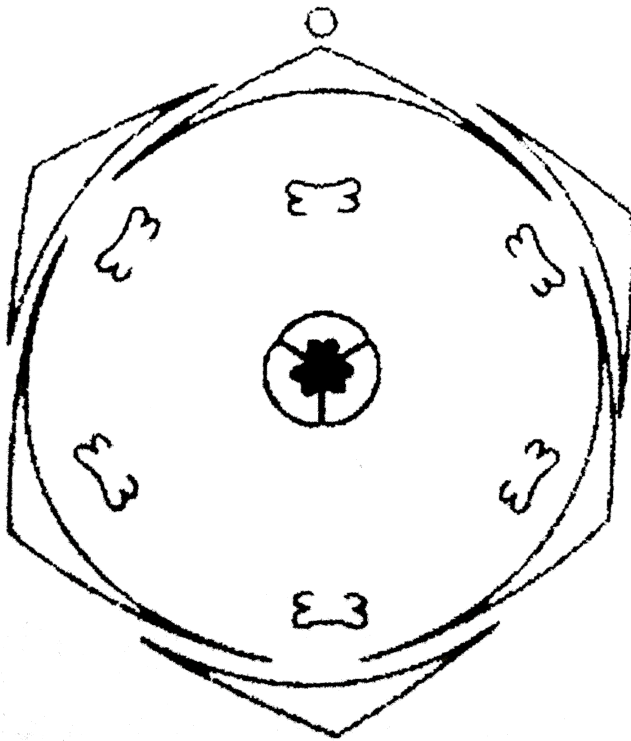


Answer: B



Watch Video Solution

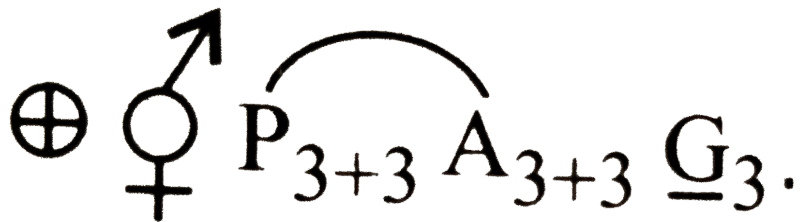
38. Which of the following is/are the characteristics of the family whose floral diagram is given ?



(i) Aloe, Asparagus and Colchicum belong to this family

(ii) Flower is zygomorphic

(iii) Floral formula is



(iv) Fruits are berry or capsule

A. (i),(ii) and (iii)

B. (iii) only

C. (i) only

D. (i),(iii) and (iv)

Answer: D



Watch Video Solution

39. In cockroaches, digestive juice is secreted by the

A. gizzard

B. Malpighian tubules

C. hepatic caeca

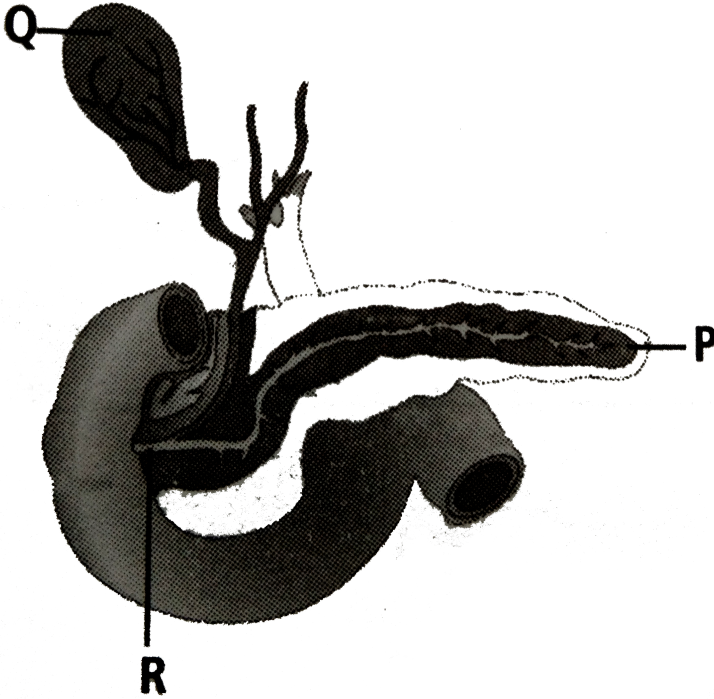
D. oesophagus

Answer: C



Watch Video Solution

40. Select an incorrect option regarding the given figure



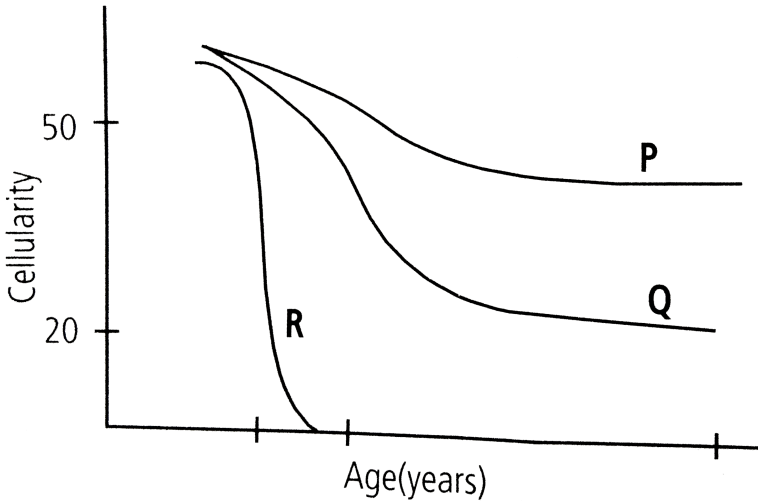
- A. a) P is a compound gland with exocrine and endocrine sections
- B. b) R is formed from duct of gall bladder along with the hepatic duct
- C. c) R is guarded by a sphincter of Oddi
- D. d) Q stores bile which is actually produced in liver

Answer: B



Watch Video Solution

41. Characteristic features of different blood vessels in the body are shown. What does P,Q and R represent ?



- A. P : Total area Q : Velocity R : Blood pressure
- B. P : Blood pressure Q : Velocity R : Total area
- C. P : Velocity Q : Total area R : Blood pressure
- D. P : Total area Q : Blood pressure R : Velocity

Answer: B



View Text Solution

42. Photosynthesis in C_4 plants is relatively less limited by atmospheric CO_2 levels because

- A. effective pumping of CO_2 into bundle sheath cells
- B. RuBisCo in C_4 plants has higher affinity for CO_2
- C. four carbon acids are the initial CO_2 fixation products
- D. the primary fixation of CO_2 is mediated via PEP caroxylase

Answer: D



Watch Video Solution

43. In which stage of the cell cycle are histone proteins synthesised in a eukaryotic cells ?

- A. G_2 - stage of prophase
- B. S-phase

C. Entire prophase

D. Telophase

Answer: B



Watch Video Solution

44. Relative rates of red blood cell production in the bone marrow of different bones at different ages are shown in the graph P,Q and R are likely to be, respectively



A. vertebra, rib and tibia

B. femur, carpal and rib

C. tibia, fibula and femur

D. radius, sternum and carpal

Answer: A



45. The salivary amylase shows maximum digestive action at pH _____

A. 3.6

B. 7.5

C. 8.5

D. 6.8

Answer: D



Watch Video Solution

46. Bundle of His is a part of which one of the following organs in humans

?

A. Stomach

B. Brain

C. Kidney

D. Heart

Answer: D



View Text Solution

47. Consider the following four statements (i-iv) regarding kidney transplant and select the two correct ones out of these

(i) Even if a kidney transplant is proper the recipient may need to take immuno-suppressants for a long time

(ii) The cell-mediated immune response is responsible for the graft rejection

(iii) The B-lumphocytes are responsible for rejection of the graft

(iv) The acceptance or rejection of a kidney transplant depends on specific interferons

The correct statements are

A. (ii) and (iii)

B. (iii) and (iv)

C. (i) and (iii)

D. (i) and (ii)

Answer: D



View Text Solution

48. One mineral activates the enzyme catalase and the other is a constituent of the ring structure of chlorophyll. These minerals are respectively

A. iron and magnesium

B. iron and manganese

C. magnesium and manganese

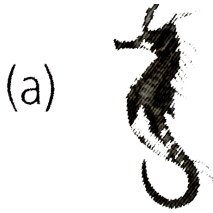
D. calcium and magnesium

Answer: A



Watch Video Solution

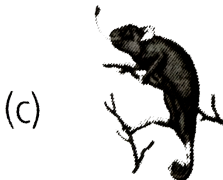
49. Which of these animals has three chambered heart, cloaca and respire by gills, lungs and through skin ?



A.



B.



C.



D.

Answer: B



Watch Video Solution

50. Digestion of both starch and protein is done by

- A. gastric lipase
- B. ptyalin enzyme
- C. gastric juice
- D. pancreatic juice

Answer: D



Watch Video Solution

Test Paper 2

1. Which of the following represents order of Horse ?

- A. Perissodactyla
- B. Caballus
- C. Ferus

D. Equidae

Answer: A



Watch Video Solution

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

A. amphibia

B. reptilia

C. aves

D. osteichthyes

Answer: C



Watch Video Solution

3. In which of the following, scientific name, family and common name are correctly mentioned ?

- | | Scientific name | Family | Common name |
|----|-----------------|---------------|--------------------|
| A. | Batrachospermum | Rhodohycae | Frog's spawn algae |
| B. | Spirogyra | Chlorophyceae | Water net |
| C. | Lycopodium | Lycopodiaceae | Sanjeevani |
| D. | Selaginella | Lycopodiaceae | Little club moss |

Answer: A



Watch Video Solution

4. Which one of these animals is not a homoetherm ?

- A. Macropus
- B. Chelone
- C. Camelus
- D. Psittacula

Answer: B



Watch Video Solution

5. Adult human RBCs are enucleate. Which of the following statement (s) is/are most appropriate explanation for this feature ?

- (1) They do not need to reproduce
- (2) They are somatic cells
- (3) They do not metabolise
- (4) All their internal space is available for oxygen transport.

A. Only (1)

B. (1),(3) and (4)

C. (2) and (3)

D. only (4)

Answer: D



View Text Solution

6. Large volume of air that a person can expire after a forceful inspiration is called

- A. inspiratory reserve volume
- B. expiratory reserve volume
- C. vital capacity
- D. tidal volume

Answer: C



View Text Solution

7. Which cells of Crypts of Lieberkuhn secrete antibacterial lysozyme ?

- A. Paneth cells
- B. Zymogen cells
- C. Kupffer cells

D. Argentaffin cells

Answer: A



View Text Solution

8. Which of the following is an incorrect match?

A. Bowman's capsule - Glomerular filtration

B. DCT - Absorption of glucose

C. Henle's loop - Concentration of urine

D. PCT - Absorption of Na^+ and K^+ ions

Answer: B



View Text Solution

9. In human beings the cranium is formed by

- A. eight bones of which two are paired
- B. fourteen bones of which six are paired
- C. ten bones of which two are paired
- D. twelve bones of which four are paired

Answer: A



Watch Video Solution

10. The third ventricle of the brain is situated in the

- A. base of telencephalon
- B. roof of metencephalon
- C. roof of diencephalon
- D. base of prosencephalon

Answer: C



View Text Solution

11. Which of the these cells release renin when GFR drops ?

- A. Juxtaglomerular cells
- B. Adrenal cortex
- C. Adrenal medulla
- D. Posterior pituitary

Answer: A



Watch Video Solution

12. An investigator places as isolated neuron in a calcium-free medium, gives the neuron a suprathreshold stimulus and then performs an assay to test whether neurotransmitter is released into the medium. Which of the following outcomes would you predict ?

- A. No neurotransmitter is detected since influx of calcium into the synaptic knob is required for neurotransmitter release
- B. No neurotransmitter is detected since influx of calcium is required in order for the neuron to conduct an action potential
- C. Neurotransmitter is detected since calcium is not required for action potential conduction and the initial stimulus was suprathreshold
- D. We cannot predict the outcome without knowing whether the neuron was myelinated or not.

Answer: A



View Text Solution

13. Match column *I* (hormone) with column *II* (endocrine gland) and column *III* (function) and select the correct option from the given codes

	Column I	Column II	Column III
1.	Melatonin	A. Thyroid	(i) Acts on the renal tubules
2.	MSH	B. Adrenal	(ii) Regulates blood calcium level
3.	Aldosterone	C. Pituitary	(iii) Maintains diurnal rhythm of our
4.	TCT	D. Pineal	(iv) Acts on the melanocytes

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

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

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

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

Answer: B



View Text Solution

14. Decreased levels of estrogen is a common cause of

A. myasthenia gravis

B. tetany

C. osteoporosis

D. gout

Answer: C



Watch Video Solution

15. Histamine, serotonin and heparin are secreted by

A. monocytes

B. neutrophils

C. eosinophils

D. basophils

Answer: D



View Text Solution

16. Which of the following vitamins has some physiological effects similar to those of parathormone ?

A. Vitamin A

B. Vitamin D

C. Vitamin C

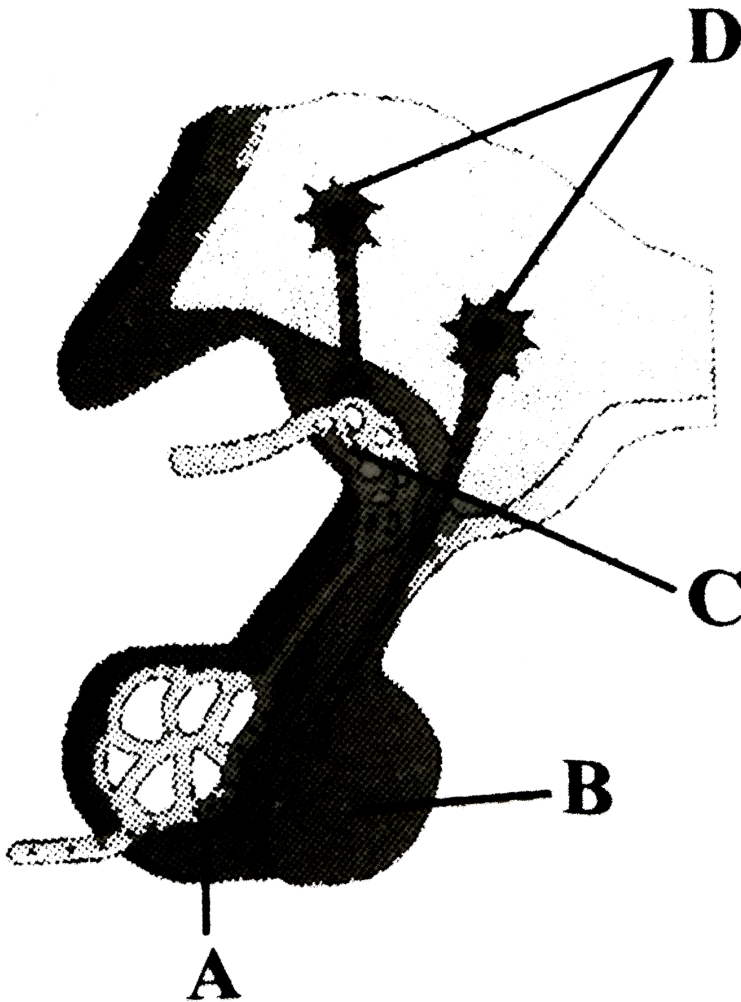
D. Vitamin B

Answer: B



View Text Solution

17. Which of the following is correct regarding the given diagram ?



A. Oxytocin and vasopressin are synthesised by B

B. Melatonin are synthesised by A

C. A is neurohypophysis and B is adenohypophysis

D. GnRH is released in C

Answer: D



Watch Video Solution

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

Column I

Column II

- | | | | |
|----|-----------------|-------|--|
| A. | Tricuspid valve | (i) | Between left atrium and left ventricle |
| B. | Bicuspid valve | (ii) | Between right ventricle and pulmonary artery |
| C. | Semilunar | (iii) | Between right atrium and right ventricle |

A. A B C
(iii) (i) (ii)

B. A B C
(i) (iii) (ii)

C. A B C
(i) (ii) (iii)

D. A B C
(ii) (i) (iii)

Answer: A



View Text Solution

19. Which of the following activates the adrenal cortex to release aldosterone ?

- A. Renin
- B. Angiotensin-I
- C. Angiotensin-II
- D. Angiotensinogen

Answer: C



Watch Video Solution

20. Which of the following joints is formed between atlas and axis vertebrae ?

- A. Saddle joint
- B. Fibrous joint

C. Cartilaginous joint

D. Pivot joint

Answer: D



Watch Video Solution

21. Given below is a list of different steps (i-vi) involved in respiration.

(i) Utilisation of O_2 by the cells for catabolic reactions.

(ii) Transport of gases by the blood.

(iii) Pulmonary ventilation by which atmospheric air is drawn in and CO_2 is released out.

(iv) Release of resultant CO_2 .

(v) Diffusion of O_2 and CO_2 between blood and tissues.

(vi) Diffusion of gases (O_2 and CO_2) across alveolar tissues.

Select an option which has correct sequence of all the steps.

A. a) (iii),(vi),(ii),(v),(i),(iv)

B. b) (iii),(vi),(i),(v),(ii),(iv)

C. c) (iv),(ii),(v),(iii),(i),(vi)

D. d) (iv),(vi),(ii),(v),(i),(iii)

Answer: A



Watch Video Solution

22. Select the incorrect match.

A. a) Lampbrush chromosomes - Diplotene bivalents

B. b) Allosomes - Sex chromosomes

C. c) Submetacentric chromosomes - L-shaped chromosomes

D. d) Polytene chromosomes - Oocytes of amphibians

Answer: D



Watch Video Solution

23. Which part of the human brain controls the urge for eating and drinking ?

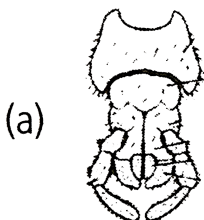
- A. a) Forebrain
- B. b) Midbrain
- C. c) Hindbrain
- D. d) Spinal cord

Answer: A



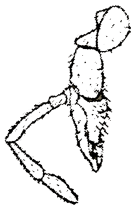
Watch Video Solution

24. Which of the following mouthparts of the cockroach is found in a pair and performs mastication ?



A.

(b)



B.

(c)



C.

(d)



D.

Answer: C



Watch Video Solution

25. Phallic organs in cockroach are related to

A. a) male excretory system

B. b) male reproductive system

C. c) female excretory system

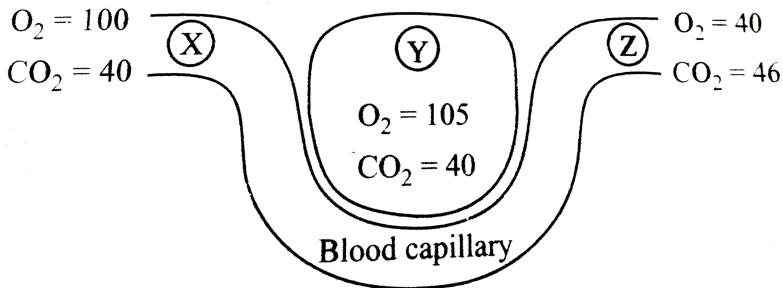
D. d) female reproductive system

Answer: B



Watch Video Solution

26. The given diagram shows a blood capillary in close contact with structure Y. The relative concentration (in units) of carbon dioxide (CO_2) and oxygen (O_2) are given at three different sites.



Which of the following statements is correct ?

A. a) Y is an alveolus and blood flow is from X to Z

B. b) Y is an alveolus and blood flow is Z to X

C. c) Y is a muscle and blood flow is from X to Z

D. d) Y is a muscle and blood flow is from Z to X

Answer: B



Watch Video Solution

27. R.Q. of sprouting photo tubers will be

A. a) > 1

B. b) 0

C. c) 1

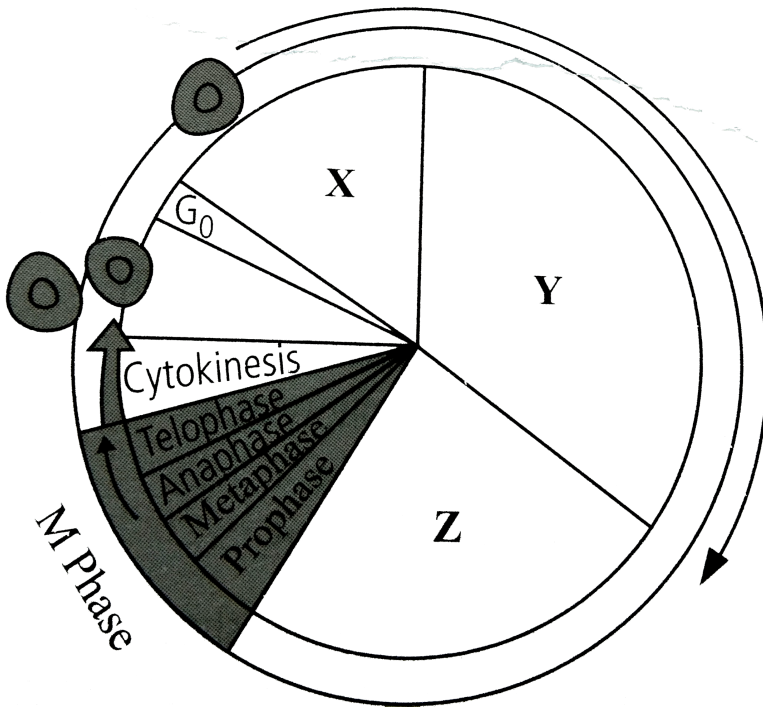
D. d) < 1

Answer: C



Watch Video Solution

28. Refer to the given diagram showing cell cycle and answer the questions that follow



(i) If the chromosome number at X is $2n$, what will be the number of chromosomes at Y?

(ii) Which phase is the longest phase of M phase?

- A. a) (i) $2n$ (ii) Telophase
- B. b) (i) $4n$ (ii) Metaphase
- C. c) (i) $2n$ (ii) Prophase

D. d) (i) (ii)
4n Anaphase

Answer: C



Watch Video Solution

29. The source of oxygen evolved during photosynthesis is

A. H_2O

B. $C_6H_{12}O_6$

C. CO_2

D. $n(CH_2O)$

Answer: A



Watch Video Solution

30. An enzyme promotes a chemical reaction by

- A. a) lowering the energy of activation
- B. b) changing the free energy difference between substrate and product
- C. c) increasing molecular motion
- D. d) All of these

Answer: A



Watch Video Solution

31. Gibberellic acid induces flowering

- A. a) in short day plants under long day conditions
- B. b) in day-neutral plants under dark conditions
- C. c) in some gymnospermic plants only
- D. d) in long day plants under short day conditions

Answer: D



[Watch Video Solution](#)

32. Which of the following statements is correct ?

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

Answer: A



[Watch Video Solution](#)

33. Consider the following statements regarding gymnosperms

- (A) In gymnosperms, the male and female gametophytes have an independent existence
- (B) The multicellular female gametophyte is retained within the megasporangium

(C) The gymnosperms are heterosporous

Of these statements.

A. a) (A) and (B) are true but (C) is false

B. b) (A) and (C) are true but (B) is false

C. c) (B) and (C) are false but (A) is true

D. d) (B) and (C) are true but (A) is false

Answer: D



Watch Video Solution

34. Find out the correct statement.

A. a) In lichens, the algal component is called phycobiont and fungal component is known as mycobiont, which are heterotrophic and autotrophic, respectively.

B. b) Viroid contain RNA of low molecular weight and protein coat

C. c) A virus contains both RNA and DNA

D. d) Viruses are obligatory parasites

Answer: D



Watch Video Solution

35. Select the correct match

- (A) Nirosonomas - Nitrite to nitrate
- (B) Thiobacillus - Denitrification
- (C) Nostoc - Free-living nitrogen-fixer
- (D) Azotobacter - Anaerobic nitrogen-fixer

A. a) A and B

B. b) C and D

C. c) B and C

D. d) B and D

Answer: C



Watch Video Solution

36. In kranz anatomy, the bundle sheath cells have

- A. a) thin walls, many intercellular spaces and no chloroplasts
- B. b) thick walls, no intercellular spaces and large number of chloroplasts
- C. c) thin walls, no intercellular spaces and several chloroplasts
- D. d) thick walls, many intercellular spaces and few chloroplasts.

Answer: B



Watch Video Solution

37. Function of leghemoglobin (a red pigment) in root nodules of leguminous plants is

- A. a) to regulate O_2 supply in cells
- B. b) to regulate CO_2 supply in cells

C. c) to regulate production of phenolic compounds

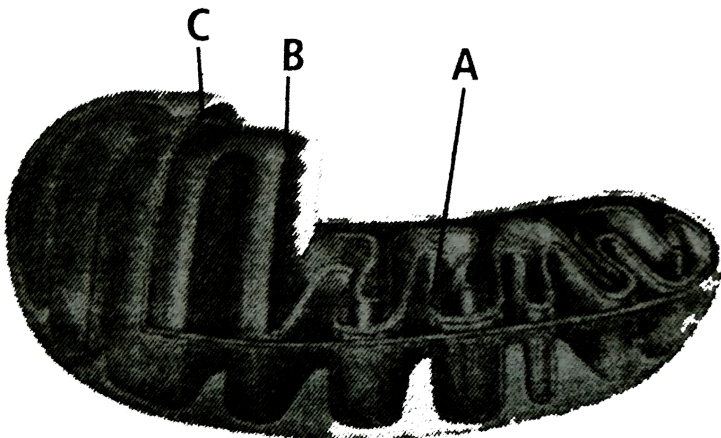
D. d) to regulate the Mo supply in cells

Answer: A



Watch Video Solution

38. The given figure shows the structures of a mitochondrion with its four parts labelled A, B, C and D. Select the part correctly matched with its function



A. C - Gives rise to inner membrane by splitting

B. B - Forms infoldings called cristae

C. A - Possesses single circular DNA molecule and ribosomes

D. none of these

Answer: B



View Text Solution

39. Which one out of A-D given below correctly represents the structural formula of a basic amino acid ?

A	B	C	D
$\begin{array}{c} \text{NH}_2 \\ \\ \text{H} - \text{C} - \text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{C} \\ // \quad \backslash \\ \text{O} \quad \text{OH} \end{array}$	$\begin{array}{c} \text{NH}_2 \\ \\ \text{H} - \text{C} - \text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{OH} \end{array}$	$\begin{array}{c} \text{CH}_2\text{OH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{NH}_2 \end{array}$	$\begin{array}{c} \text{NH}_2 \\ \\ \text{H} - \text{C} - \text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{NH}_2 \end{array}$

A. C

B. D

C. A

D. B

Answer: B



Watch Video Solution

40. Which of the following is true/false regarding transport of substances in plants ?

(i) Mass flow is the movement of substances in bulk as a result of pressure difference

(ii) Bulk flow is achieved only through a positive hydrostatic pressure gradient

(iii) The apoplast system is the system of interconnected protoplasts

(iv) Most of the water flow in the roots occurs via the apoplast since the cortical cells are loosely packed, and offer no resistance to water movement.

A. a) (i) and (iv) are true , (ii) and (iii) are false

B. b) (i) and (ii) are true , (iii) and (iv) are false

C. c) (ii) and (iii) are true , (i) and (iv) are false

D. d) (i), (ii) and (iv) are true , (iii) is false

Answer: A



Watch Video Solution

41. Which of the following is a correct match ?

A. a) Cray fish - Elasmobranch

B. b) Cuttle fish - Osteichthyes

C. c) Jelly fish - Echinodermata

D. d) Silver fish - Arthropoda

Answer: D



Watch Video Solution

42. Q.) _____ is a couple of layer thick, made of narrow, thin walled and nearly rectangular cells. It cuts dervatives on both sides. The outer cells differentiate into _____ or _____ while the inner cells differentiate into _____ or _____. The three together is called _____

Select the right sequence of words to complete the above given paragraph.

- A. a) Phellogen, cork, phellem, secondary cortex, phelloderm, periderm
- B. b) Phellem, phelloderm, cork, secondary cortex, phellogen, periderm
- C. c) Phellogen, cork, periderm, secondary cortex, phellem, phelloderm
- D. d) Phellem, secondary cortex, periderm, cork, phellogen, phelloderm

Answer: A



Watch Video Solution

43. Q.) Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body.

- A. a) Erythrocytes
- B. b) Leucocytes
- C. c) Neutrophils
- D. d) Thrombocytes

Answer: D



Watch Video Solution

44. Q.) Acetyl CoA is produced from pyruvate by

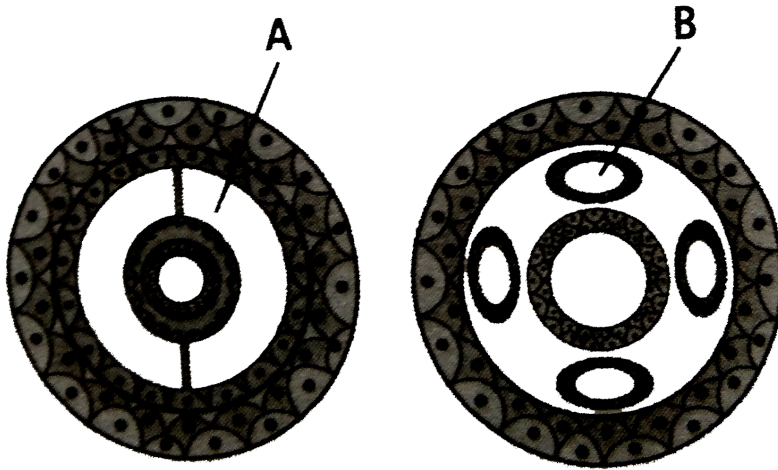
- A. a) oxidative decarboxylation
- B. b) oxidative photophosphorylation
- C. oxidative hydrogenation
- D. d) oxidative photorespiration

Answer: A



Watch Video Solution

45. Q) Refer to the given figure which shows sectional view of two types of coelom A and B. Select the correct option which represents groups of animals that possess A or B



- A. a) A - Aschelminthes and Annelids ,
B - Echinoderms and Chordates
- B. b) A - Annelids, Echinoderms and Chordates ,
B - Aschelminthes
- C. c) A - Echinoderms and Chordates ,
B - Aschelminthes and Annelids
- D. d) A - Aschelminthes ,
B - Annelids, Echinoderms and Chordates

Answer: B



Watch Video Solution

46. Q) Eustachian tube connects

- A. a) pharynx with middle ear
- B. b) middle ear with internal ear
- C. c) middle ear with external ear
- D. d) external ear with internal ear

Answer: A



Watch Video Solution

47. Q.) Which one is true about guttation ?

- A. a) It occurs through specialised pores called hydathodes
- B. b) It occurs in herbaceous plants when root pressure is low and transpiration is high

C. c) It only occurs during the day time

D. d) It occurs in plants growing under conditions of low soil moisture and high humidity

Answer: A



Watch Video Solution

48. At which stage, the homologous chromosomes separate due to repulsion, but are yet held by chiasmata?

A. a) Pachytene

B. b) Diplotene

C. c) Diakinesis

D. d) Zygotene

Answer: B



Watch Video Solution

49. In which of the following groups all are poly-saccharides ?

- A. a) Sucrose, glucose and fructose
- B. b) Maltose, lactose and fructose
- C. c) Glycogen, sucrose and maltose
- D. d) Glycogen, cellulose and starch

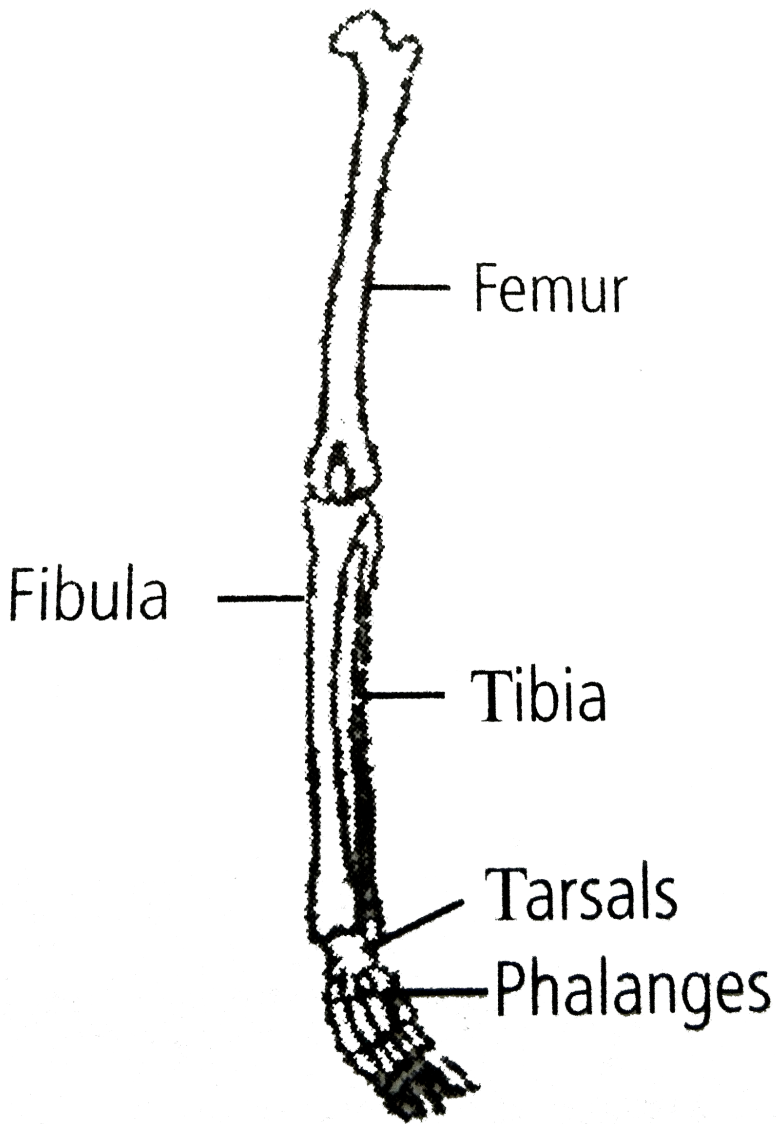
Answer: D



View Text Solution

50. Given diagram shows bone of the left human hindlimb as seen from front. It has certain mistakes in labelling.

Which of the following pairs contain both wrongly labelled bones ?



A. Tibia and tarsals

B. Femur and fibula

C. Fibula and phalanges

D. Tarsals and femur

Answer: C



View Text Solution

Test Paper 3

1. Which of the following statements regarding universal rules of biological nomenclature is incorrect ?

- A. The first word in a biological name represents the genus
- B. The first word denoting the genus starts with a capital letter
- C. Both the words in a biological name, when handwritten, are separately underlined
- D. Biological names are generally in Greek and written in italics

Answer: D



Watch Video Solution

2. Which of the following is correct ?

- A. All fungi are filamentous
- B. Transfer of DNA from one bacterium to another bacterium cannot take place
- C. Viruses cannot have both DNA and RNA together
- D. Protists reproduce asexually only

Answer: C



Watch Video Solution

3. Select the correct combination of the statements (i-iv) regarding the characteristics of certain organisms.

- (i) Methanogens are archaebacteria which produce methane in marshy areas
- (ii) Nostoc is a filamentous blue-green alga which fixes atmospheric nitrogen
- (iii) Chemosynthetic autotrophic bacteria synthesise cellulose from glucose
- (iv) Mycoplasma lack a cell wall and can survive without oxygen

The correct statements are

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

Answer: D



View Text Solution

4. Single-celled eukaryotes are included in Kingdom

A. Protista

B. Fungi

C. Plantae

D. Monera

Answer: A



Watch Video Solution

5. In which of the following classes of fungi, sexual reproduction is absent ?

A. Basidiomycetes

B. Deuteromycetes

C. Phycomycetes

D. Ascomycetes

Answer: B



[Watch Video Solution](#)

6. Algae have cells made up of

- A. cellulose, galactans and mannans
- B. hemicellulose, pectins and proteins
- C. pectins, cellulose and proteins
- D. cellulose, hemicellulose and pectins

Answer: A



[Watch Video Solution](#)

7. Which of the following statements is incorrect regarding bryophytes ?

- A. Zygote undergoes meiosis to produce sporophyte
- B. Zygote undergoes mitosis to form embryo proper
- C. Fertilisation takes place in presence of water

D. Sporophyte is parasitic over gametophyte

Answer: A



Watch Video Solution

8. Pick out wrong statement

- A. Double fertilisation is unique to gymnosperms and monocotyledons
- B. Sequoia, a gymnosperm, is one of the tallest trees
- C. Phaeophyceae members possess chlorophyll a,c, carotenoids and xanthophylls
- D. Moss is a gametophyte which consists of two stages namely, protonema stage and leafy stage.

Answer: A



Watch Video Solution

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

A. 

B. 

C. 

D. 

Answer: D



[View Text Solution](#)

10. Find the correct match

A. Mustard plant : Opposite phyllotaxy

B. Mustard plant : Alternate phyllotaxy

C. Guava plant : Alternate phyllotaxy

D. Guava plant : Whorled phyllotaxy

Answer: B



Watch Video Solution

11. In cyathium inflorescence

- A. single male flower is surrounded by female flowers
- B. male and female flowers are borne in different plants
- C. there is only one male and one female flower
- D. single female flower is surrounded by many peripheral male flowers

Answer: D



Watch Video Solution

12. Which one of the following is not correct ?

- A. Early wood is characterised by large number of xylary elements
- B. Early wood is characterised by vessels with wider cavities.
- C. Late wood is characterised by large number of xylary elements
- D. Late wood is characterised by vessels with narrower cavities

Answer: C



Watch Video Solution

13. A few drops of sap were collected by cutting across a plant stem by a suitable method. The sap was tested chemically. Which one of the following test results indicates that it is phloem sap ?

- A. Acidic
- B. Alkaline
- C. Low refractive index
- D. Absence of sugar

Answer: B



Watch Video Solution

14. Cell A and cell B are adjacent plant cells. In cell A $\Psi_s = -20$ bars and $\Psi_p = 8$ bars. In cell B, $\Psi_s = -12$ bars and $\Psi_p = 2$ bars . Then,

- A. water moves from cell A to cell B
- B. there is no movement of water between cell A and B
- C. water moves from cell B to cell A
- D. equal amount of water is simultaneously exchanged between cell A and cell B.

Answer: C



View Text Solution

15. Refer to the given flow chart regarding classification of Kingdom Animalia.



Which of the following is correct regarding 'P,Q,R and S ?

- A. Q is Phylum Echinodermata
- B. R is Phylum Aschelminthes
- C. S is Phylum Coelenterata
- D. P is Phylum Chodata

Answer: B



View Text Solution

16. With reference to factors affecting the rate of photosynthesis, which of the following statements is not correct ?

- A. Increasing atmospheric CO_2 concentration up to 0.05 % can enhance CO_2 fixation rate
- B. C_3 plants respond to higher temperature with enhanced photosynthesis while C_4 plants have much lower temperature optimum
- C. Tomato is a greenhouse crop which can be grown in CO_2 -enriched atmosphere for higher yield,
- D. Light saturation for CO_2 fixation occurs at 10 % of full sunlight.

Answer: B



[View Text Solution](#)

17. Which statement is wrong for Krebs' cycle ?

- A. There is one point in the cycle where FAD^+ is reduced to $FADH_2$

- B. During conversion of succinyl CoA to succinic acid, a molecule of GTP is synthesised
- C. The cycle starts with condensation of acetyl group (acetyl CoA) with pyruvic acid to yield citric acid.
- D. There are three points in the cycle where NAD^+ is reduced to $NADH + H^+$

Answer: C



View Text Solution

18. Match column *I* with column *II* for housefly classification and select the correct option using the codes given below

Column I		Column II
A. Family	(i)	Diptera
B. Order	(ii)	Arthropoda
C. Class	(iii)	Muscidae
D. Phylum	(iv)	Insecta

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

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

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

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

Answer: A



Watch Video Solution

19. The pineapple which under natural condition is difficult to blossom has been made to produce fruits throughout the year by application of

A. NAA, 2,4-D

B. phenyl acetic acid

C. cytokinin

D. none of these

Answer: A



Watch Video Solution

20. Consider the following statements and select the correct option

- (A) The endomembrane system includes plasma membrane, ER, Golgi complex, lysosomes and vacuoles
- (B) ER helps in the transport of substances, synthesis of proteins, lipoproteins and glycogen
- (C) Ribosomes are involved in protein synthesis
- (D) Mitochondria help in oxidative phosphorylation and generation of ATP

A. B, C and D are correct

B. A alone is correct

C. B alone is correct

D. C alone is correct

Answer: A



Watch Video Solution

21. Select the incorrect statement

- A. Ribozymes are nucleic acids with catalytic power
- B. Nucleic acids serve as genetic material
- C. Proteins, nucleic acids and polysaccharides are the only three types of macromolecules found in the living system
- D. Collagen is the most abundant protein in the whole of the biosphere and RuBisCo is the most abundant protein in animal world

Answer: D



Watch Video Solution

22. Select the correct statement with respect to mitosis

- A. Chromatids separate but remain in the centre of the cell in anaphase
- B. Chromatids start moving towards opposite poles in telophase
- C. Golgi complex and endoplasmic reticulum are still visible at the end of prophase
- D. Chromosomes move to the spindle equator and get aligned along equatorial plate in metaphase

Answer: D



View Text Solution

23. Beads on string like structures of A are seen in B, which further condense to form chromosomes in C stage of cell division. Identify A, B, C.

- | | | | |
|----|------------|-----------|-----------|
| | A | B | C |
| A. | Chromonema | Chromatin | Metaphase |
-
- | | | | |
|----|-----------|-----------|-----------|
| | A | B | C |
| B. | Chromatin | Chromatid | Metaphase |

- | | | | |
|----|------------|------------|----------|
| | A | B | C |
| C. | Chromonema | Chromosome | Anaphase |
| | A | B | C |
| D. | Chromonema | Chromatid | Anaphase |

Answer: A



Watch Video Solution

24. Match column *I* with column *II* and select the correct option from the codes given below

Column I		Column II
A. Choanocytes	(i)	Platyhelminthes
B. Chindoblasts	(ii)	Ctenophora
C. Flame cells	(iii)	Porifera
D. Nephridia	(iv)	Coelenterata
E. Comb plates	(v)	Annelida

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

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

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

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

Answer: C



View Text Solution

25. Read the following statements and select the correct option

- (i) Blood cells secrete fibres of structural proteins called collagen and elastin
- (ii) Neuroglial cells protect and support the nephrons
- (iii) Osteocytes are present in spaces called lacunae
- (iv) Striated muscle fibres are bundled together in a parallel fashion
- (v) Biceps are involuntary and striated.

- A. C and D statements are wrong
- B. A and C statements are wrong
- C. B and C statements are wrong
- D. A,B and E statements are wrong

Answer: D



[Watch Video Solution](#)

26. Male cockroach differs from female cockroach in having

- A. antennae
- B. labrum
- C. maxillae
- D. anal styles

Answer: D



[View Text Solution](#)

27. The gastric juice contains

- A. trypsin, pepsin, lipase
- B. pepsin, lipase, rennin
- C. pepsin, amylase, trypsin

D. pepsin, rennin, carboxypeptidase

Answer: B



Watch Video Solution

28. Pick the correct statement

- A. The contraction of internal intercostal muscles lifts up the ribs and sternum
- B. The thoracic cavity is anatomically an air tight chamber
- C. Healthy man can inspire approximately 500 ml of air per minute
- D. During expiration, the intrapulmonary pressure is slightly below the surrounding atmospheric pressure

Answer: B



View Text Solution

29. If the systolic pressure is 120 mm Hg and diastolic pressure is 80 mm Hg, the pulse pressure is _____

A. $120 \times 80 = 9600$ mm Hg

B. $120 + 80 = 200$ mm Hg

C. $120 - 80 = 40$ mm Hg

D. $\frac{120}{40} = 2$ mm Hg

Answer: C



Watch Video Solution

30. Select the correct statement

A. The juxta medullary nephrons have reduced Henle's loop

B. Vase recta is well developed in cortical nephrons

C. The PCT and DCT are situated in the medulla of the kidney

D. The ascending limb of the Henle's loop is connected to DCT

Answer: D



Watch Video Solution

31. The type of joint present between the humerus bone and the pectoral girdle is

- A. pivot joint
- B. ellipsoid joint
- C. gliding joint
- D. ball and socket joint

Answer: D



Watch Video Solution

32. Select the answer with correct matching of the structure its location and function

A.

Structure	Location	Function
Eustachian	Anterior part of internal ear	Equalises air pressure on

B.

Structure	Location	Function
Cerebellum	Midbrain	Controls respiration and gastric secretions

C.

Structure	Location	Function
Hypothalamus	Forebrain	Controls body temperature, urge for eat

D.

Structure	Location	Function
Blind spot	Near the place where optic nerve leaves the eye	Rods and

Answer: C



View Text Solution

33. Select the correct statement regarding the specific disorder of muscular of skeletal system

A. Muscular dystrophy - Age related shortening of muscles

- B. Osteoporosis - Decrease in bone mass and higher chances of fractures with advancing age
- C. Myasthenia gravis - Autoimmune disorder which inhibits sliding of myosin filaments
- D. Gout - Inflammation of joints due to extra deposition of calcium

Answer: B



Watch Video Solution

34. Identify the origin of sympathetic nerve fibres and the location of their ganglia

- A. They arise from thoraco-lumbar region of spinal cord and form ganglia just beside the vertebral column
- B. They arise from thoraco-cervical region of spinal cord and form ganglia just beside the vertebral column

- C. They arise from cranio-sacral region of spinal cord and form ganglia very close to effector organ
- D. They arise from thoraco-lumbar region of spinal cord and form ganglia very close to effector organ

Answer: A



Watch Video Solution

35. The main mineralocorticoid in human is

- A. aldosterone
- B. cortisol
- C. testosterone
- D. adrenaline

Answer: A



View Text Solution

36. Refer to the given figure showing structure of Malpighian corpuscle.

To facilitate ultrafiltration through glomerular capillaries _____



- A. part 'D' is narrower than part 'A'
- B. part 'A' is narrower than part 'D'
- C. part 'C' is narrower than part 'D'
- D. part 'B' is narrower than part 'D'

Answer: A



View Text Solution

37. Prophase of the first meiotic division is typically longer on complex. It is subdivided into 5 phases , leptotene, zygotene, pachytene,diplotene and diakinesis. Which of the following statements is not correct of these phases ?

- A. The formation of synaptonemal complex is seen during zygotene stage
- B. The stage of pachytene is characterised by appearance of recombination nodules
- C. Diplotene stage is marked by terminalisation of chiasmata
- D. The compaction of chromosomes continues throughout the leptotene

Answer: c



Watch Video Solution

38. Identify P,Q, and R in the graph shown below



- | | | | |
|----|---------------|---------------|-------------|
| | P | Q | R |
| A. | Chlorophyll b | Chlorophyll a | Carotenoids |
| | P | Q | R |
| B. | Chlorophyll a | Chlorophyll b | Carotenoids |

	P	Q	R
C.	Chlorophyll a	Carotenoids	Chlorophyll b
	P	Q	R
D.	Chlorophyll b	Carotenoids	Chlorophyll a

Answer: C



View Text Solution

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

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

Answer: A



Watch Video Solution

40. Refer the given figure showing some steps of citric acid cycle. What changes takes place during the conversion of A to B ?



- A. CO_2 is liberated
- B. NAD^+ is converted to $NADH + H^+$
- C. GTP is formed from GDP
- D. All of these

Answer: D



View Text Solution

41. Plants require sulphur for

- A. ATP synthesis
- B. protein synthesis
- C. glucose synthesis

D. DNA replication

Answer: B



View Text Solution

42. An inflorescence with single, oldest, female flower and many younger male flowers has to be

A. verticillaster

B. hypanthodium

C. spike

D. cyathium

Answer: D



Watch Video Solution

43. Match the plant hormones listed in column *I* with their major role listed in column *II* and select the correct option from the codes given below

Column I	Column II
(A) Auxin	(i) Fruit ripening
(B) Cytokinin	(ii) Phototropism
(C) abscisic acid	(iii) Suppression of cell division
(D) Ethylene	(iv) Stomatal opening and closing
	(v) Growth of lateral buds

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

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

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

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

Answer: C



View Text Solution

44. During the transmission of nerve impulse through a nerve fibre, the potential on the inner side of the plasma membrane has which type of electric charge ?

- A. First positive, then negative and continue to be negative
- B. First negative, then positive and continue to be positive
- C. First positive, then negative and again back to positive
- D. First negative, then positive and again to negative

Answer: D



View Text Solution

45. Which of the labelled parts of human brain is connected with swallowing, coughing sneezing and vomiting ?



A. R

B. Q

C. S

D. P

Answer: A



View Text Solution

46. Which is essential for the growth of root tip?

A. Zn

B. Fe

C. Ca

D. Mn

Answer: C



Watch Video Solution

47. Which one of the following is incorrect for arteriosclerosis ?

- A. Constriction of arterial lumen reduces the blood flow
- B. Loss of dilation ability of the arterial wall and its rupture
- C. Cholesterol deposition at the inner wall of the artery
- D. Proliferation of the vascular muscles

Answer: B



Watch Video Solution

48. The below diagram is the cyclic series of reactions that occurs during carbon fixation stage of photosynthesis



- (i) Carbon dioxide is taken into the cycle at stage A
- (ii) Hydrogen from reduced hydrogen acceptor is used at stage B
- (iii) Energy from ATP used to drive stage C
- (iv) The substance formed at position Y is D

(v) If one molecule of substance Y is released per cycle, the cycle must turn E times for one molecule of sucrose ($C_{12}H_{22}O_{11}$) to be built up at position Z.

- A. A-4 , B-2 , C-2 and 3 , D-3-carbon sugar , E-4
- B. A-2 , B-3 , C-1 and 2 , D-pyruvic acid, E-2
- C. A-2 , B-4 , C-3 and 4 , D-glucose-1-phosphate, E-8
- D. A-1 , B-1 , C-2 and 4, D-citric acid , E-12

Answer: A



View Text Solution

49. The given graph shows pressure changes in the left side of the heart during a single heart beat



Between points W and X, which of the following valves are open or closed respectively ?

- | | | |
|----|------------------------------------|----------------------------|
| A. | Atrio-ventricular valves
Closed | Semilunar valves
Closed |
| B. | Atrio-ventricular valves
Closed | Semilunar valves
Open |
| C. | Atrio-ventricular valves
Open | Semilunar valves
Closed |
| D. | Atrio-ventricular valves
Open | Semilunar valves
Open |

Answer: B



View Text Solution

50. Which of these epithelia is chiefly involved in function like diffusion and thereby is found in the wall of blood vessel and air sacs of the lungs ?

A.

B.

C.

D.

Answer: D



View Text Solution