

NOTE: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank.

1. 1 - Casparian strips are present in
(A) epidermis (B) endodermis (C) cortex (D) pericycle
- 2 - In hydra ectodermal cells get food from endodermal cells by
(A) osmosis (B) diffusion (C) active transport (D) facilitated diffusion
- 3 - pH gradient drives the formation of ATP across membrane in the process called
(A) respiration (B) chemiosmosis (C) calvin cycle (D) conduction
- 4 - Pseudocoelom is characteristic feature of phylum
(A) nematoda (B) echinodermata (C) mollusca (D) annelida
- 5 - Histoplasmosis is a
(A) heart disease (B) kidney disease (C) lungs disease (D) liver disease
- 6 - Study of social behaviour of human is called
(A) anatomy (B) social biology (C) paleontology (D) physiology
- 7 - Poisons like cyanides, antibiotics and some drugs are examples of
(A) enzymes (B) co-enzymes (C) inhibitors (D) cofactors
- 8 - Orders include related
(A) families (B) genera (C) species (D) classes
- 9 - Entamoeba histolytica causes amoebic
(A) cholera (B) fever (C) dysentery (D) migraine
- 10 - One complete heart cycle lasts for about
(A) 0.2 sec (B) 0.5 sec (C) 0.8 sec (D) 1.0 sec
- 11 - In earthworm exchange of gases mainly takes place through
(A) gills (B) lungs (C) skin (D) ostia
- 12 - Number of chloroplasts in each mesophyll cell is about
(A) 70 - 100 (B) 10 - 200 (C) 20 - 100 (D) 20 - 200
- 13 - Which of the following is a motile coelenterate?
(A) hydra (B) obelia colony (C) jelly fish (D) corals
- 14 - Double fertilization is a characteristic feature of
(A) gymnosperms (B) angiosperms (C) bryophytes (D) ferns
- 15 - Conjugation in bacteria is promoted by
(A) flagella (B) pili (C) cilia (D) gametes
- 16 - Group of ribosomes attached to mRNA molecule is
(A) lysosome (B) polysome (C) endosome (D) peroxisome
- 17 - Most abundant carbohydrate in nature is
(A) starch (B) glycogen (C) cellulose (D) agar

Note: Section I is compulsory. Attempt any three (3) questions from Section II.

(SECTION - I)**2. Write short answers to any EIGHT questions.****(2 x 8 = 16)**

- i - What are bioelements?
- ii - Define molecular biology.
- iii - What is binomial nomenclature?
- iv - Give lock and key model of enzyme.
- v - What is the role of enzyme concentration on the rate of enzyme action?
- vi - Define competitive inhibitors.
- vii - Define metamorphosis and nymph.
- viii - What is haemocyanin?
- ix - Give two beneficial roles of mollusca.
- x - What are tetrapoda?
- xi - What are hyphae and mycelium?
- xii - Differentiate between conidia and conidiophore.

3. Write short answers to any EIGHT questions.**(2 x 8 = 16)**

- i - What are plasmids?
- ii - What are zooflagellates? Give one example.
- iii - Define thallus.
- iv - Why euglenoids have special evolutionary significance?
- v - Why diatoms are important in aquatic food chains?
- vi - Define kingdom plantae.
- vii - What is homosporous? Give one example.
- viii - What is a porphyrin ring of a chlorophyll molecule?
- ix - What are cytochromes?
- x - What is a nutrient?
- xi - What is pyrosis?
- xii - Define villi.

4. Write short answers to any SIX questions.**(2 x 6 = 12)**

- i - Differentiate between microtubules and microfilaments.
- ii - What are Golgi apparatus? Give its functions.
- iii - Define monosaccharides with examples.
- iv - What are blood platelets? Give their main function.
- v - Where the human's heart is located in the body? Give names of layers that surround the heart.
- vi - What are Guard cells? Give their functions.
- vii - What do you mean by pulmonary respiration and cutaneous respiration?
- viii - What are the symptoms of emphysema?
- ix - What are parabronchi?

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(SECTION - II)

5. (a) Describe role of biology in protection and conservation of environment. (4)
(b) What is cardiac cycle? Describe its phases. (4)
6. (a) What a note on acylglycerols including fatty acids? (4)
(b) Explain and sketch the life cycle of rhizopus. (4)
7. (a) Write note on cytoskeleton. (4)
(b) Write note on digestion in stomach of man. (4)
8. (a) What are retroviruses? Discuss. (4)
(b) What is oxidative phosphorylation? Discuss. (4)
9. (a) Write down the different taxonomic groups of bacteria on the basis of pattern of flagella. (4)
(b) Write down the significance of alternation of generations. (4)

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