

SECTION – I

LHR-2-24

2. Write short answers to any EIGHT (8) questions :

16

- Define specific heat capacity of water. What is the value of specific heat of vaporization of water?
- Define enzyme. What is the function of binding site of the enzyme?
- Distinguish between reversible and irreversible inhibitors of enzymes.
- How the low and high temperatures respectively effect an enzyme activity?
- Name soil dwelling carnivorous fungus. How does it feed on soil nematodes?
- Define bioremediation. What is the role of lichens during ecological succession?
- Why annelids and arthropods are considered having same origin?
- What is the economic importance of mollusca?
- Differentiate the ostia and osculum.
- Define regeneration. Name the phylum in which regeneration is common.
- State the location of chloroplasts inside the leaf. Give their number per square millimeter of leaf surface also.
- Differentiate the external and cellular respiration.

3. Write short answers to any EIGHT (8) questions :

16

- What is biological control? Write one example.
- Differentiate terms biotechnology and molecular biology.
- Give chemical composition of primary and secondary cell wall.
- Write down two salient features of cell theory.
- What are trichonymphs?
- Give important features of red algae (any two).
- What is the role of pellicle in ciliates?
- How chalk was and is formed by foraminiferans?
- What is respiratory distress syndrome?
- Write down two properties of respiratory surfaces in animals.
- Differentiate terms imbibition and guttation.
- What is incipient plasmolysis?

4. Write short answers to any SIX (6) questions :

12

- Differentiate the capsids and capsomeres.
- Compare nucleus with nucleoid.
- Name two living genera of Psilopsida.
- How would you compare microphylls and megaphylls?
- What is prothallus? Give an example.
- What do you know about an embryo sac?
- What are deficiency symptoms of potassium and nitrogen in plants?
- How the predator-prey interaction helps in maintaining ecosystem stable?
- What is the difference between carnivores and omnivores?

SECTION – II

Note : Attempt any THREE questions.

- What is biological organization, explain it at organ and system level. 1,3
 - Describe respiration in birds. 4
- Give first two levels of protein organization. 4
 - Discuss different methods of asexual reproduction in fungi. 4
- Differentiate the prokaryotic and eukaryotic cells. 2,2
 - Write detailed note on digestion in cockroach. 4
- Discuss four viral diseases. 4
 - Describe lymphatic system. 4
- Describe different methods of nutrition in bacteria. 2,2
 - Describe Z-scheme of non-cyclic phosphorylation. 4

Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	Which one of the following is not well defined in plants than animals :
	(A) Tissue (B) Organs (C) Cells (D) Organelles
2	The type of monosaccharide rare in nature is :
	(A) Triose (B) Pentose (C) Tetrose (D) Hexose
3	The region in the active site of an enzyme that recognizes the proper substrate is :
	(A) Binding site (B) Catalytic site (C) Prosthetic group (D) Inhibitor
4	The cells which produce new cells for growth and development of the plant are :
	(A) Chlorenchymatous cells (B) Meristematic cells (C) Parenchymatous cells (D) Sclerenchymatous cells
5	An ancient disease caused by enveloped DNA virus is :
	(A) Small pox (B) Poliomyelitis (C) Influenza (D) Measles
6	When death rate becomes equal to newly formed bacteria is :
	(A) Lag phase (B) Log phase (C) Stationary phase (D) Decline phase
7	Which one of the following have a shell of interlocking cellulose plates impregnated with silica:
	(A) Dinoflagellates (B) Diatoms (C) Kelps (D) Red algae

(Turn Over)

1-8	Most of the visible part of the following organism consist of fungus :
	(A) Mycorrhizae (B) Lichen (C) Plant (D) Algae
9	The reproductive structure having two wings in the life-cycle of pinus is :
	(A) Ovule (B) Microsporophyll (C) Megasporophyll (D) Pollen grain
10	Coelenterate that exist only in polyp form is :
	(A) Hydra (B) Obelia (C) Aurelia (D) Physalia
11	The organ of excretion in arthropods is :
	(A) Nephridia (B) Malpighian tubules (C) Booklungs (D) Kidney
12	What is the location of ETC and chemiosmosis in animal cell :
	(A) Lysosomes (B) Mitochondria (C) Stroma (D) Granum
13	Who hypothesized that plants split water as a source of hydrogen, releasing oxygen as a by-product :
	(A) Calvin (B) Hans Krebs (C) Van Niel (D) T.W. Engelmann
14	The loss of appetite due to the fear of becoming obese is known as :
	(A) Dyspepsia (B) Obesity (C) Bulimia nervosa (D) Anorexia nervosa
15	The single circuit heart does not pump blood directly to all body parts in :
	(A) Salamander (B) Crow (C) Monkey (D) Shark
16	Guttation is loss of water through water secreting glands. What is the name of these glands :
	(A) Lenticels (B) Stomata (C) Hydathodes (D) Imbibition
17	The main body cavity in cockroach is known as :
	(A) Haemocoel (B) Coelom (C) Pseudocoel (D) Pericardium