

SECTION – I

2. Write short answers to any EIGHT (8) questions : 16

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

3. Write short answers to any EIGHT (8) questions : 16

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

4. Write short answers to any SIX (6) questions : 12

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

SECTION – II

Note : Attempt any THREE questions.

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