

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

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SECTION – I

2. Write short answers to any EIGHT questions.

(2 x 8 = 16)

- i - Discuss DNA working through genes.
- ii - How cofactors help enzymes in their working?
- iii - Relate two subsites of active site with enzyme action.
- iv - Why enzymes become denatured at high temperature?
- v - What are mycorrhizae? Write its two types.
- vi - Compare ascospores with basidiospores.
- vii - Describe features of deuterostomes.
- viii - What is spiral cleavage?
- ix - Compare insects with crustaceans.
- x - What are features of reptiles?
- xi - Briefly discuss role of water in photosynthesis.
- xii - Write down a note on anaerobic respiration.

3. Write short answers to any EIGHT questions.

(2 x 8 = 16)

- i - What is the role of pasteurization in food preservation?
- ii - What measures you suggest for endangered species?
- iii - Briefly describe the basic components of a eukaryotic cell.
- iv - Why haploid number of chromosome is present in germ cells?
- v - Green algae is considered as ancestor of plants. How?
- vi - What do you know about beautiful symmetrical patterns in diatoms?
- vii - How mosquito cause malaria in human?
- viii - Compare fungus like protists with fungi.
- ix - How would you define kingdom Plantae?
- x - Name the classes of pteropsida.
- xi - Mention two functions of platelets.
- xii - What is cuticular transpiration?

4. Write short answers to any SIX questions.

(2 x 6 = 12)

- i - Differentiate between virulent and non-virulent phages.
- ii - Give postulates of germ theory of diseases.
- iii - What is antiperistalsis? Give its causes and effects.
- iv - Write down names and position of salivary glands in human.
- v - What is botulism? Give its causes and symptoms.
- vi - What is composition of inhaled and exhaled air?
- vii - How is the skin of earthworm kept moist for the exchange of respiratory gases?
- viii - Differentiate between cutaneous and pulmonary respiration in frog.
- ix - Why ventilation in water is more difficult than in air?

SECTION – II

5. (a) How study of biology is useful to help mankind in food production and disease control? (4)
(b) Explain the influx of K⁺ ion in opening and closing of stomata. (4)
6. (a) Write down a note on primary structure of proteins. (4)
(b) What do you know about the land adaptations of fungi? (4)
7. (a) Write down a note on nutrition of bacteria. (4)
(b) Describe adaptive characteristics of bryophytes for terrestrial environment. (4)
8. (a) Describe the biological classification of corn. (4)
(b) In what way the electron transport chain involved in the production of energy? (4)
9. (a) Describe structure and function of lysosomes. (4)
(b) Explain digestion in amoeba. (4)