

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 polysaccharides? Write down the names of four examples.
- ii - What is optimum temperature?
- iii - State the theory of "Induce Fit Model".
- iv - Differentiate the irreversible and reversible inhibitors.
- v - Basidiomycetes are called club fungi. Why?
- vi - Give the biological names of Rusts and Smut.
- vii - Differentiate grade radiata and bilateria.
- viii - What is pseudocoelom? How it is different from coelom?
- ix - How host is disinfested from a parasite?
- x - Differentiate Urochordata and Cephalochordata.
- xi - What is the mechanism for ATP synthesis in cyclic and noncyclic photophosphorylation?
- xii - Why Calvin cycle is also called C<sub>3</sub> Pathway?

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

- i - Write down the organ level in plants.
- ii - Why it is important to control environmental pollution in Pakistan?
- iii - What will happen if a chromosome loses its centromere?
- iv - What are leucoplasts? Give their function.
- v - Write down any two characteristics of diatoms.
- vi - Give two main characters of Oomycetes?
- vii - How would you compare green algae with plants?
- viii - What are the symptoms of Malaria?
- ix - Why is Larynx also known as voice box?
- x - What is tuberculosis? Give its causative agents.
- xi - What is the contribution of Dixon in Ascent of sap?
- xii - Transpiration is considered as a necessary evil. How?

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

- i - Define binomial nomenclature, give its rules.
- ii - Give comparison between amphitrichous and peritrichous bacteria.
- iii - Define ovule and embryo sac.
- iv - Differentiate between the bryophytes and tracheophytes.
- v - Give two vegetative characters of family Solanaceae with example.
- vi - Compare Dicot with Monocot plants.
- vii - What is macrophagous feeding? Give an example.
- viii - Define digestion. Write down its types.
- ix - Write down the role of Gastrin.

**SECTION – II**

5. (a) Write down a note on biological organization at population and community level. (4)  
(b) In what ways is respiration in birds the most efficient and elaborate? (4)
6. (a) Why Carbon is considered to occupy the central position in skeleton of life? (4)  
(b) Write down the disease cycle of loose smut of wheat. (4)
7. (a) Write down in detail structure and functions of plasma membrane. (4)  
(b) Describe process of digestion in cockroach with the help of labelled diagram. (4)
8. (a) Write down the biological classification of Corn (zea mays). (4)  
(b) Explain pressure flow theory. (4)
9. (a) What are pleomorphic bacteria? Discuss different shapes of bacteria. (4)  
(b) What is glycolysis? Describe substrate level of phosphorylation in oxidative phase of glycolysis. (4)