

Note: Section I is compulsory. Attempt any TWO (2) questions from Section II.

SECTION - I

Q.2 Write short answers to any FIVE (5) questions: 10

- i Define pharmacology.
- ii Write down the role of biotechnology profession in the field of Biology.
- iii Define micromolecules and give an example.
- iv How we can formulate hypothesis?
- v Define biological law.
- vi What is the role of bio-informatics in data analysis?
- vii Define plasmodesmata.
- viii Why cell membrane is called semi-permeable barrier?

Q.3 Write short answers to any FIVE (5) questions: 10

- i Differentiate between taxonomy and systematics.
- ii Write down two characteristics of kingdom monera.
- iii How cytokinesis occurs in animals?
- iv What is crossing over? Where does it occur?
- v Differentiate between somatic cell and germ line cell.
- vi Define mitosis.
- vii Define respiration.
- viii What are redox reactions?

Q.4 Write short answers to any FIVE (5) questions: 10

- i What is meant by co-factors and co-enzymes?
- ii Define biological detergent.
- iii What is meant by Emil Fisher Lock and Key model?
- iv Define macronutrients and micronutrients.
- v Write down two symptoms of scurvy.
- vi Define transpiration.
- vii What is meant by leukemia (blood cancer)?
- viii Write down two preventive measures of Dengue Fever.

SECTION-II

Note: Attempt any TWO (2) questions.

Q.5(a) Explain any five careers in Biology. 5

(b) Draw and label diagram of mitochondria and write down its functions. 4

Q.6(a) What are endangered species? Write down about endangered species in Pakistan? 5

(b) Write down a note on energy budget of respiration. 4

Q.7(a) Write down a note on digestion in large intestine. 5

(b) Write down a note on transport of water in plants. 4