

- NOTE: 1. All questions are compulsory.
2. Figures to right indicate marks.
3. Draw labelled diagrams wherever necessary.

Q I Answer the following (Any Two) (20)

- 1) Give a brief account of sample preparation for Electron Microscopy.
- 2) Define Electrophoresis. Add a note on Horizontal gel Electrophoresis.
- 3) Elaborate on the types of Paper Chromatography.
- 4) Explain: Construction & working of SEM.

Q II Answer the following (Any Two) (20)

- 1) Differentiate between Mitosis & Meiosis.
- 2) What is RNA? Explain types of RNA.
- 3) Explain Ultrastructure of mitochondria with neat and labelled diagram.
- 4) What are peroxisomes and glycosomes? Explain their structure in detail.

Q III Answer the following (Any Two) (20)

- 1) What is chromosomal aberration? Give a detailed account on Duplication.
- 2) Give a brief account of Plastid transmission in plants.
- 3) What are Autopolyploids? Add a note on triploids & tetraploids.
- 4) Explain types of translocation; give one example of genetic effects of translocation.

Q IV Write short notes on (Any Three) (15)

- 1) Prophase I
- 2) Cell cycle
- 3) Advantages & disadvantages of Electron Microscopy.
- 4) Thin Layer Chromatography
- 5) Cri-du-chat syndrome
- 6) Down syndrome.