Instructions: (1) All questions are compulsory.
(2) All questions carry equal marks.
(3) Illustrate your answers with neat and labelled diagrams.

1. Compare a spectrophotometer with a colorimeter.
   OR
2. Describe working, principle and uses of any spectrophotometer.

3. Write notes on:
   (a) Working of a cytophotometer
   (b) Microbial techniques.
   OR

5. Discuss various types of chromatography as studied by you.
   OR
6. Write notes on:
   (a) Gel electrophoresis
   (b) Measurement of radioactivity.

7. Write notes on:
   (a) Size, distribution and types of quadrats.
   (b) Organic carbon of soil - its determination.
   OR
8. Describe the physical and chemical properties of water.

9. Write notes on:
   (a) Standard deviation and chi-square
   (b) Regression.
   OR
10. Suggest the application of statistical methods in plant research.