

MSc Sem.-I Examination

403

Bio-Informatics

February-2025

Time : 2-30 Hours]

[Max. Marks : 70

Q1 (A) Give a note on Plant Vacuoles [7]
 (B) Give note on functions of plasma membrane. [7]

OR

Q1 (A) Give a note on Nuclear Pores and Nucleosome Organization in detail. [7]
 (B) Give Structure and Functions of Plasmodesmata. [7]

Q2 (A) Write a note brief note on various phases of cell cycle. [7]
 (B) Discuss in detail about Lysosomes. [7]

OR

Q2 (A) Give role of Cyclins & Cyclin dependent Kinases in cell cycle regulation [7]
 (B) Give major structural parts of Golgi Bodies. [7]

Q3 (A) Explain in detail: Density Gradient centrifugation. [7]
 (B) What is FISH? Which are the different types of FISH? Write down the different types of probes used in FISH technique. [7]

OR

Q3 (A) Explain in detail: UV-Visible spectrophotometry. [7]
 (B) What is separation technique? Write down different methods used for separation of solid in liquid mixtures in detail. [7]

Q4 (A) Explain the stages of germination in detail. [7]
 (B) Describe fruit ripening and explain the physiological process during fruit ripening. [7]

OR

Q.4 (A) Explain the role of ABA and ethylene in detail. [7]
 (B) Describe types of photoreceptors and their role. [7]

Q5 Answer the following questions. (Any seven) [14]

1. What is the unit of measurement used for expressing dimension (size) of cells?
2. What is Apoptosis?
3. Define Biological clock.
4. What is necrosis?
5. Cells without a membrane-bound nucleus & membrane systems in cytoplasm are ___ cells.
6. Write down differences between rate-zonal and Isopycnic centrifugation.
7. Which are the clinical applications of electrophoresis?
8. Write down any four limitations of confocal microscopy.
9. Write down any four applications of Chromatography.
10. Define: Seed dormancy & Seed Viability
11. Write the properties Phytochrome receptor.
12. Name the gene included in ABC model of Flowering.