

**M.Phil/Pre Ph.D Regular & Supplementary Examinations – OCTOBER, 2023**  
**R210102**

**Paper –II: Biochemical and Biophysical Technology.**  
**Biotechnology**

Time : 3 hrs

Maximum Marks : 100

**Answer One Question from Each Unit**  
**All Questions Carry Equal Marks**

**UNIT-1**

1. a. Describe the preparations of Buffers and their applications.  
b. Write an account on Centrifugation techniques and their uses.

OR

2. a. Describe the Svedberg Co-efficient and its applications.  
b. Explain the methods of isolation of cells and sub cellular organelles.

**UNIT-11**

3. a. Describe the principle, methodology and applications of Gel Filtration Chromatography.  
b. Describe the methodology, principle and applications of Western Blotting.

OR

4. a. Describe the principle, methodology and applications of Pulse Field electrophoresis.  
b. Explain the gradient electro phoretic techniques and their applications.  
c.

**UNIT-111**

5. a. Describe the production of Monoclonal antibodies and their applications.  
b. Explain the functions of adjuvants and Haptens.

OR

6. a. Describe the Immuno precipitation reactions and their importance.  
b. Explain the construction of cDNA and genomic libraries.

**UNIT-IV**

7. a. Describe the principle, methodology and applications of NMR.  
b. Describe the Biological uses and effects of radiation.

OR

8. a. Describe the principle, methodology and applications of UV spectrophotometer.  
b. Explain the Cerenkove radiation and autoradiography and their importance.

**UNIT-V**

9. a. Describe the principle, methodology and applications of Phase Contrast Microscopy.  
b. Explain sequence analysis and sequence alignment with examples.

OR

10. a. Enumerate the construction of Phylogenetic tree and its importance..  
b. Describe the significance and applications of Genomics.

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