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(20425) Roll No.
B.Sc.(Bio-Tech.) - I Year.

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B.Sc. (Bio-Tech.) Examination, April-2025
Instrumentation and Bio analytical
Techniques

(B-106)

Time : Three Hours] [Maximum Marks : 50

Note : Attempt any **five** questions. **All** questions carry equal marks.

1. Enlist the basic components of centrifuge. Discuss its various types in details. 10
2. Classify Various membrane separation techniques and discuss the mechanisms involve in filtration mechanisms. 10
3. Give the name of a chromatographic technique where in immobilization technique is use to separate a mixture of compounds? 10

P.T.O.

4. Describe principle of:-
 - (a) What is the basic principle and instrumentation of pH meter? 5
 - (b) What is the principle and law of UV, visible and IR spectrophotometry? 5
5. Discuss the principle, instrument and application of thin layer chromatography. 10
6. Write short note on the following:-
 - (a) Absorption and Emission spectroscopy. 5
 - (b) Dark field microscopy. 5
7. Define thin layer chromatography (TLC). Discuss in details its methodology and its application. 10
8. Discuss in details the theory and application of SDS-polyacryl amide gel electrophoresis. 10

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9. Write short note on the following:

2.5×4=10

(a) Principle of polarography

(b) Paper chromatography

(c) Auto radiography

(d) Visible spectrophotometry

10. What do you understand by transmission electron microscope (TEM)? Discuss its principle, design and application. 10