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25-BT-24

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION
MAY - JUNE 2025**

BIOTECHNOLOGY

Paper - IV

[Analytical Techniques]

[Max. Marks : 75]

[Time : 3:00 Hrs.]

[Min. Marks : 26]

Note : Candidate should write his/her Roll Number at the prescribed space on the question paper.
Student should not write anything on question paper.
Attempt all five questions. Each question carries an internal choice.
Each question carries **15 marks**.

Q. 1 What is NMR ? Explain principle and theory of NMR along with its application.

OR

Describe UV-visible Spectrophotometer with diagram ?

Q. 2 Write an essay on HPLC ?

OR

Explain theory and application of Agarose gel electrophoresis with diagram.

Q. 3 Write an essay on types of Centrifuge ?

OR

Write note on following -

- i) Sedimentation coefficient.
- ii) Sedimentation equilibrium method.

Q. 4 What is Radio Activity ? Explain Geiger - Muller counter in detail ?

OR

Write note on following -

- i) Auto radiography.
- ii) Radio immuno assay.

Q. 5 Write an essay on enzyme immobilization ?

OR

Explain theory and method of MADI - TOF ?