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24-BT-24

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION
JUNE - JULY 2024**

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 five questions. Each question carries an internal choice.
Each question carries **15 marks**.

Q. 1 Describe followings - (15 Marks)

- i) Cell Disintegration methods.
- ii) Ultra filtration.

OR

Write note on followings - (15 Marks)

- i) Circular Dichorism.
- ii) NMR.

Q. 2 Write a note on macro molecules separation chromatographic methods. (15 Marks)

OR

Describe theory and applications of followings - (15 Marks)

- i) Agarose gel electrophoresis.
- ii) 2 D Electrophoresis.

Q. 3 Write a note on principle and theory of centrifugation along with its application ? (15 Marks)

OR

Describe followings - (15 Marks)

- i) Density gradient centrifugation.
- ii) Ultra Centrifuge.

P.T.O.

Q. 4 Write a detailed note on different radio activity measurement techniques? (15 Marks)

OR

Describe followings - (15 Marks)

- i) Radio immuno assay.
- ii) Radio tracer techniques.

Q. 5 Describe theory and methods of protein crystallization ? (15 Marks)

OR

Write a note on Enzyme and Cell immobilization techniques. (15 Marks)

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