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25-BC-41

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

BIOCHEMISTRY

Paper - I

[Molecular Biology]

[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 Describe general properties and modifications of Nucleosomes and Solenoid structure. (15 Marks)

OR

Discuss the following –

i) Complexity of the Eukaryotic gene. (7½ Marks)

ii) Structural organization of DNA. (7½ Marks)

Q. 2 Explain mechanism of replication in Bacteria and Viruses. (15 Marks)

OR

Discuss the following –

i) Inhibitors of Replication. (7½ Marks)

ii) Reverse transcriptase. (7½ Marks)

Q. 3 Discuss post Transcriptional processing of RNA. (15 Marks)

OR

Discuss the following –

i) Enzymes of transcription in Eukaryotes. (7½ Marks)

ii) Inhibitors of transcription. (7½ Marks)

P.T.O.

Q. 4 Discuss the following –

- i) Concept of the genetic code. (7½ Marks)
- ii) Post translational processing. (7½ Marks)

OR

Explain the mechanism of protein synthesis in Eukaryotes. (15 Marks)

Q. 5 Describe regulation of gene expression in Prokaryotes. (15 Marks)

OR

Explain structure and mechanism of Trp Operon. (15 Marks)

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