



RAN - 2003001105020004

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B.Sc. (Sem. V) Examination November - 2023

Introduction to Molecular Biology - II

Time: 2 Hours]

[Total Marks: 50

સૂચના : / Instructions

(૧)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

B.Sc. (Sem. V)

Name of the Subject :

Introduction to Molecular Biology - II

Subject Code No.: **2003001105020004**

Seat No.:

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Student's Signature

- (2) Figures to the right indicate full marks.
(3) Draw neat and labelled diagrams wherever necessary.

Q-1. Answer in short Any Four:

(8)

- Catabolite Repression & Antisense RNA
- Operator & Pribnow box
- Consensus sequences & Wobble position
- Aporepressor & Corepressor
- Structural gene & Attenuation

Q-2. Attempt Any Two:

(14)

- What is spliceosome? Explain the splicing of mRNA molecules in eukaryotes.
- Discuss details of initiation of transcription in eukaryotes.
- Discuss in detail mechanism of transcription in bacteria.

Q-3. Explain in detail Any Two:

(14)

- What are Riboswitches? Discuss their mechanism of action in regulation.
- What are Global regulatory systems and why they are necessary? Discuss the role of alternate sigma factors for regulation.
- Mechanism of catabolite repression.

Q-4. Attempt Any Two of the following:

(14)

- (a) Quorum sensing in prokaryotes.
 - (b) Lytic and lysogeny in Bacteriophage λ .
 - (c) Sporulation in *Bacillus*.
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