RAN-2003001105020005

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B. Sc. (Biotechnology) (Sem. - V) Examination March - 2023

BT-15 : Genetic Engineering

Time: 2 Hours] **[Total Marks: 50**

સૂચના : / Instructions

(1) **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. (Biotechnology) (Sem. - V)**

Name of the Subject :

☛ **BT-15 : Genetic Engineering**

Subject Code No.: **2003001105020005**

Seat No.:

Student's Signature

(2) Figures to the right indicate full marks.

(3) Draw neat and labelled diagrams wherever necessary.

Q-1. Attempt the following questions in short (Any Four): **[08]**

1. What is rDNA technology?
2. Differences between adaptors and linkers.
3. Differentiate between Transfection and Transformation.
4. What is Blue white screening?
5. What is the function of terminal deoxynucleotide transferase?
6. Define: *Cos* sites.

Q-2. Attempt Any Two: **[14]**

1. Why PCR based gene cloning is so preferred than any technique?
2. Enlist the range of DNA manipulative enzyme & discuss on:
   a) Nucleases
   b) Polymerases
3. Explain: Vectors based on Phage Lambda.

Q-3. **Explain in detail Any Two:** **[14]**

1. What is cloning vector? Explain pBR322 and pUC8.
2. Why Eukaryotic vectors are required? Write in detail.
3. Explain: Vectors based on Ml3.

Q-4. **Attempt Any Two of the following:** **[14]**

1. How to identify Recombinants? Explain in detail.
2. What are the problems with the error rate of Taq polymerase in PCR? Explain its outline.
3. Strategies developed for sequence assembly.

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