

**2003001105020005**  
**EXAMINATION FEBRUARY -MARCH 2024**  
**BACHELOR OF SCIENCE (FIFTH SEMESTER)**  
**(BIOTECHNOLOGY)**  
**BT-15 GENETIC ENGINEERING LEVEL 2**

[Time: As Per Schedule]

[Max. Marks: 50]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

- a. Name of the Examination : **BACHELOR OF SCIENCE (FIFTH SEMESTER)**
  - b. Name of the Subject : **(BIOTECHNOLOGY) BT-15 GENETIC ENGINEERING LEVEL 2**
  - c. Subject Code No : **2003001105020005**
2. Sketch neat and labelled diagram wherever necessary.  
3. Figures to the right indicate full marks of the question.  
4. All questions are compulsory.

Seat No:

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Student's Signature

**Q.1 Attempt the following questions in short (Any Four)**

**8**

1. Draw the genetic map of pUC 18.
2. What is klenow fragment?
3. What is the advantage of Heat shock treatment?
4. Define contigs.
5. Functions of *Cos* sites.

**Q.2 Attempt Any Two:**

**14**

1. Describe in detail about nomenclature, classification and basic features of Restriction endonucleases.
2. Write on: Ligation enzymes
3. Explain different vectors from plasmid with appropriate diagrams.

**Q.3 Explain in detail Any Two:**

**14**

1. Give brief on Vectors From Yeast.
2. Define: Transformation. Write in detail.
3. Write about in vitro packaging of lambda DNA.

**Q.4 Attempt Any Two of the following:**

**14**

1. Write on: Shotgun method
2. Give an idea on: Real Time PCR
3. Plaque Hybridization.

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