



RAN-2203000206026001

T. Y. B. Sc. (Micro) Sem.-VI Examination September - 2025

Microbiology MB-601: Genetic Engineering

Time: 2 Hours]

[Total Marks: 50

સૂચના : / Instructions

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

Name of the Examination:

T. Y. B. Sc. (Micro) Sem.-VI

Name of the Subject :

Microbiology MB-601: Genetic Engineering

Subject Code No.: 2203000206026001

Seat No.:

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Student's Signature

(2) Figures to the right indicate full marks of the question.

(3) Draw neat and labeled diagrams whenever necessary.

Q.1. Give the specific answers

(08)

- State Genetic Engineering.
- State Stuffer fragment.
- State ribozyme vector.
- State three types of polymorphisms occur in gene and intragenic regions.
- State X-gal and IPTG.
- State anti-cancer drugs produced by genetic engineering.
- State complementary DNA library.
- State vector and ovary cells used to develop recombinant hepatitis vaccine.

Q.2. Explain/comment on any two of the following.

(14)

- DNA profiling by PCR of short tandem repeats have three limitations.
- Insertional inactivation involves antibiotic resistant gene.
- PCR is a very uncomplicated technique for DNA amplification.

Q.3. Answer the following (Any Two) (14)

- a. Enlist types of vectors used in genetic engineering and explain any one.
- b. Explain cloning a δ -endotoxin gene in maize.
- c. Explain insertion of phage DNA in bacterial cell.

Q.4. Write short note on any two of the following (14)

- a. Protoplast fusion and cell cloning.
 - b. An ideal vector- properties.
 - c. Preparation of complementary DNA.
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