



RAN-2503001305022001

B.Sc. (NCF-NEP) (Sem.-V) Examination March - 2026
BT-MJ-502: Genetic Engineering (Paper - I)

Time: 1 Hours]

[Total Marks: 25

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book	Seat No.: <table border="1"> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> Student's Signature						

- Q1. Short Question/One-Word Answer (Any 5 out of 6) 05**
- Draw the genetic map of pBR322.
 - Define insertional inactivation.
 - Draw the structure of ddNTP and give its significance.
 - Give the function of *gag*, *pol* and *env* in retroviral.
 - Define Cosmid
 - What is function of luciferase? Write down the reaction it carries in pyro sequencing.
- Q.2. Short Note (Any 2 out of 3) 10**
- Vectors from plasmid
 - Shuttle vectors
 - Cosmid Vector with its importance
- Q.3. Short Note (Any 2 out of 3) 10**
- Pyro sequencing method for DNA sequencing
 - Any three direct gene transfer techniques
 - Illumine sequencing technique