QP Code: RO20MTECH197 Reg. No | | | | | | | | | | | AR 19

GIET UNIVERSITY, GUNUPUR – 765022

M. Tech (Second Semester Examinations) – October' 2021

MPCBT2020 – GENETIC ENGINEERING AND r-DNA TECHNOLOGY

(Biotechnology)

Time: 2 hrs Maximum: 50 Marks

(The figures in the right hand margin indicate marks)

PART – A

Q.1. Answer ***ALL*** questions (2 x 10 = 20)

a. Define Star activity of Restriction enzymes?

b. Differentiate between isoschizomer and neoschizomer with examples?

c. Write down the use of T4 DNA polymerase in r-DNA technology?

d. Give the sketch labelled diagram of pBR322

e. Write general structure of BAC vector?

f. What is the importance of 16s r-RNA sequencing?

g. Define Blue-white screening?

h. Write down the composition and functions of Lysis buffer used in RNA isolation?

i. Differentiate between NTP, dNTP and dd NTP.

j. What is germ line gene therapy?

PART – B **(6 x 5 = 30 Marks)**

Answer ***ANY FIVE*** questions Marks

2. What are Restriction enzymes? Explain the functions and types of Restriction enzymes? (6)

3. Discuss in details about the enzymes used in r-DNA technology (6)

4. What is site directed mutagenesis? Explain any three methods of mutagenesis with applications? (6)

5. Write notes on: (6)
   i. Nick translation method
   ii. RNase protection assays

6. What is gene library? Explain the process of construction of genomic DNA library with any two method of screening? (6)

7. Explain the process of heterologous Protein production using baculovirus expression system? (6)

8. Explain the mechanism of RNAi Technology? (6)

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