Reg. No. | | | | | | | | | |

BSCMBC 284

Choice Based Credit System IV Semester B.Sc. Degree Examination, September 2022
(2021-22 Batch Onwards)
MICROBIOLOGY
Molecular Biology and Recombinant DNA Technology

Time : 3 Hours Max. Marks : 80

Instructions *: 1) Answer both Part – **A** and Part – **B**.*
*2) Draw **neat** labeled diagrams **wherever** necessary.*

PART – A

1. Answer **any ten** of the following questions : **(2×10=20)**

a) Eco R I

b) Reverse Transcription

c) Oncogene

d) Ligase

e) R_f value

f) Carcinogenesis

g) Malignancy

h) Codon

i) Nanotechnology

j) Cosmid

k) Column Chromatography

l) Repressor.

P.T.O.

PART – B

Answer **any four** questions choosing **one full** question from **each** Unit.

UNIT – I

2. a) Write a note on Central Dogma of molecular biology.
   b) Explain the mechanism of protein synthesis in prokaryotes with neat diagrams. **(5+10=15)**

OR

3. a) Give an account on the inhibitors of protein synthesis.
   b) Explain in detail the lac operon concept. **(5+10=15)**

UNIT – II

4. a) Write a note on carcinogens.
   b) Define Cancer. Explain the mechanism of transformation of cells. **(5+10=15)**

OR

5. a) Write a note on Viral oncogenes.
   b) Explain oncogene proteins. Add a note on Tumor Repressor Genes. **(5+10=15)**

UNIT – III

6. a) Give an account on hazards of genetic engineering.
   b) Define gene cloning vectors. Explain plasmids with 2 suitable examples. **(5+10=15)**

OR

7. a) Define gene therapy. Explain any one briefly.
   b) Explain the process of Insulin production. Add a note on the applications of genetic engineering. **(5+10=15)**

UNIT – IV

8. a) Discuss PCR and its applications.
   b) Define Electrophoresis. Explain the principle and procedure of PAGE. **(5+10=15)**

OR

9. a) Give an account of Western Blotting technique.
   b) Explain the principle, procedure and applications of TLC. **(5+10=15)**
