Roll No. | | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 11

M.Sc. (Medical Microbiology) (Sem.-2)

ELEMENTS OF MOLECULAR BIOLOGY

Subject Code : MMB-204-21

M.Code : 92127

Date of Examination : 12-07-22

Time : 3 Hrs. **Max. Marks : 70**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains EIGHT questions carrying FIVE marks each and students have to attempt any SIX questions.**
3. **SECTION-C will comprise of two compulsory questions with internal choice in both these questions. Each question carries TEN marks.**

SECTION-A

1. Write briefly :

a) Mutation

b) R-plasmid

c) Conjugation

d) Col plasmid

e) Transduction

f) Operon concept

g) Central dogma

h) Prokaryotic and Eukaryotic ribosomes

i) Translation

j) Gene expression.

SECTION-B

2. Explain with a suitable diagram the positive control of Lac operon.

3. With the help of suitable diagram, describe the mechanism of transcriptional termination in prokaryotes.

4. Briefly describe the process of DNA Replication in *E.coli*.

5. Explain the importance of DNA repair mechanism

6. Write a brief note on mutation in genetic variability.

7. Explain wobble hypothesis.

8. Explain rho dependent and rho independent terminations.

9. Enumerate the various differences between prokaryotic and eukaryotic transcription.

SECTION-C

10. Explain the transcriptional regulation of gene expression in prokaryotes.

OR

Discuss the mechanism of gene regulation in tryptophan operon.

11. Illustrate detailed structure of DNA with a suitable diagram.

OR

Discuss the biochemical basis of mutations & genetic mechanism of drug resistance.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.