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

Total No. of Questions : 09

B.Sc. Hons. (Microbiology) (Sem.–2)

MOLECULAR BIOLOGY

Subject Code : BSMB-205-19

M.Code : 79876

Date of Examination : 17-12-2022

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a) What is structural gene?

b) What is mis-sense mutation?

c) Describe the structure of nucleosome.

d) What causes dimerization of thymine?

e) What are base analogues?

f) Explain types of DNA polymerases in prokaryotes.

g) What is photoreactivation?

h) What is the role of Rho factor in transcription?

i) What you mean by DNA methylation and acetylation?

j) What is the template stand of DNA?

SECTION-B

2. Discuss catabolic repression of lac operon.

3. Discuss replication process as it occurs on leading strand of DNA.

4. Describe initiation of transcription in E. coli.

5. Explain photoreactivation and excision repair mechanism?

6. Illustrate various inhibitors of translation.

SECTION-C

7. a) Write the activities of chemical mutagens.

   b) Explain the concept of alternative splicing and spliceosome machinery.

8. Explain process of initiation and elongation of translation in prokaryotes.

9) a) How does mismatched DNA repaired in E.coli?

   b) Illustrate organization of DNA prokaryotes and eukaryotes.

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