Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (BT) (2018 Batch) (Sem.–3)

MOLECULAR BIOLOGY

Subject Code : BSBT-303-18

M.Code : 76610

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. Describe the structure of Nucleosome.

b. What causes dimerization of Thymine?

c. What is sigma factor?

d. What is the role of Rho factor in transcription?

e. Differentiate Induced and spontaneous mutations.

f. Which is the sense strand of DNA?

g. What is the role of promoter in a gene?

h. What are Base analogues?

i. What is the function of DNA polymerase?

j. How does penicillin work as antibiotic?

SECTION-B

2. Describe initiation of transcription in *E.coli*.

3. Describe Replication process as it occurs on Leading strand of DNA.

4. What are the characteristics of Genetic code?

5. Discuss Catabolite repression of Lac operon.

6. Explain photoreactivation for repair of mutated DNA.

SECTION-C

7. Explain the process of Translation in prokaryotes.

8. Discuss positive regulation of Lac operon.

9. a. Write the activities of chemical mutagens.

   b. How is excision repair of damaged DNA carried out by cell *invivo*?

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.