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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 : 05-06-2023

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) What is lac operon?
- b) What is central dogma?
- c) Difference between prokaryotic and eukaryotic transcription?
- d) What are promoters and its regulating factors?
- e) What happens in the elongation part during translation of mRNA?
- f) Define genetic code with example.
- g) Name different types of mutations.
- h) Explain conjugation and transformation.
- i) Define acetylation and methylation of gene.
- j) Define SOS repair.

SECTION-B

2. Explain mechanism of DNA replication; also give an idea about unidirectional and bidirectional replication.
3. Discuss about the methyl-directed mismatch repair and nucleotide excision repair.
4. Explain in detail about different types of mutations.
5. Discuss about the process of transformation in bacteria. Also tell about F-plasmid and R-plasmid.
6. Write in detail about eukaryotic transcription.
7. Discuss about lac-operon concept in detail.
8. Explain about the process of translation in prokaryotes.
9. Write in detail about initiation, elongation and termination of prokaryotic transcription

SECTION-C

10. Discuss in detail different types of repair mechanism in DNA damage.

OR

Write about biochemical basis of mutation and genetic mechanism of drug resistance.

11. Discuss about rho dependent and rho independent terminations in prokaryotic transcription. Also write about the transcription cycle in prokaryotes.

OR

Give idea about positive control and negative control in lac-operon.

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.