K22U 1756

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (CBCSS – Supplementary) Examination, April 2022
(2016-18 Admissions)
GENERAL COURSE IN MICROBIOLOGY
4A13 MCB : Molecular Biology

Time : 3 Hours

Max. Marks : 40

Instruction *: Draw diagrams* ***wherever*** *necessary.*

SECTION – A

(Answer **all four** questions.) **(4×1=4)**

1. Attenuation in operon.
2. Structure of RNA polymerase.
3. SOS repair.
4. Central dogma.

SECTION – B

(Answer very briefly on **any seven** questions out of ten.) **(7×2=14)**

5. Experiment of DNA as the genetic material.
6. Notes on condensins and cohesions.
7. Structure of RNA and types.
8. What are the factors involved in regulation of transcription in eukaryotes ?
9. Types of eukaryotic RNA polymerases and functions.
10. One gene – one polypeptide hypothesis.

P.T.O.

11. Structure of promoters in prokaryotes.

12. Semi-conservative model of replication.

13. Explain the rolling circle model of replication.

14. Notes on structure and functions of histones.

SECTION – C

(Answer **any four** questions out of six briefly.) **(4×3=12)**

15. Notes on Watson and Crick model of DNA.

16. Write the properties of genetic code.

17. Describe different forms of DNA.

18. What are the different enzymes and accessory protein involved in replication ?

19. Describe the detailed structures of ribosomes.

20. Types of transcription termination in prokaryotes.

SECTION – D

(Answer **any two** questions out of four.) **(2×5=10)**

21. Describe the composition, structure of nucleosome and packaging of DNA.

22. Give detailed account on DNA repair mechanisms with suitable examples.

23. Explain the mechanism of prokaryotic transcription and translation.

24. Write the detailed notes on operon concept and explain all forms of *Lac operon* regulation.