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PG2S-058-B-22
M.Sc. II Semester Degree Examination
MICROBIOLOGY
Microbial Genetics & Molecular Biology
Paper : HCT - 2.2

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer **all** sections.

SECTION-A

- 1. Write brief notes on any TEN of the following. (10×2=20)**
- a) Okazaki fragments.
 - b) Insertion sequences.
 - c) RNA polymerase in prokaryotes.
 - d) Point mutation.
 - e) RNA interference.
 - f) Law of independent assortment.
 - g) Competence.
 - h) Z forms of DNA.
 - i) tRNA
 - j) Feedback inhibition.
 - k) TATA box
 - l) Genome imprinting.

SECTION-B

- Write a short note on any SIX of the following. (6×5=30)**
2. Watson and Crick Model of DNA
 3. Post transcriptional modification in eukaryotes.

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4. Replicative and non replicative transposition.
5. Hershey and Chase experiment.
6. Ames test.
7. Structure of nucleosome.
8. Generalized and restricted transduction.
9. Genome organization in Prokaryotes.

SECTION-C

Answer any THREE of the following questions.

(3×10=30)

10. Explain in detail Lac operon Model in bacteria.
11. Give an account of polypeptide chain synthesis in prokaryotes.
12. Write in brief about repair mechanisms in DNA.
13. Explain semiconservative replication of DNA. Add a note on mechanism and enzymology of DNA replication.
14. Explain the process of bacterial conjugation.