# PG Even Semester Exam, 2024

## Microbiology

2nd Semester

COURSE NO. MBCC- 552

**[ Molecular Tsiology and Recombinant DNA Technology ]**

Full Marks : 70
Pass Marks : 28

Time : 3 hours

*The figures in the margin indicate full marks for the questions*

*Answer five questions, selecting one from each unit.*

### UNIT-I

1. Describe different steps of DNA replication with suitable diagram. Discuss the role of different DNA polymerases in DNA replication. 10+4=14
2. Write notes on: 7x2=14
   a. Secondary structure of t-RNA
   b. Restriction endonuclease

### UNIT-II

3. Explain different types of DNA repair mechanisms. 14
4. Write notes on: 7x2=14
   a. Overlapping gene
   b. Deamination of DNA

### UNIT-III

5. Describe transcription process in prokaryotes. 14
6. Write notes on: 7x2=14
   a. Charging of t-RNA
   b. Translocation process in translation

### UNIT-IV

7. Discuss cloning strategy using cosmid vector with suitable diagram. 14
8. Write notes on: 7x2=14
   a. Characteristic feature of plasmid vector
   b. YAC

### UNIT-V

9. Describe working principle of PCR. Add a note on various types of PCR techniques. 10+4=14
10. Write short notes on : 7+7=14
    a. Recombinant growth hormone
    b. Recombinant vaccine

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