(ii) Holiday model

(iii) Role of RecA, RuvABC in recombination.

UNIT-III

5. Explain the genetic regulation between lytic and lysogenic cycle of λ-phase. 14

6. Describe the regulation of lytic cycle of any virulent phage. What is cascade in such genetic regulation process. 10+4=14

UNIT-IV

7. Explain the positive and negative regulation of lac-operon. 14

8. Describe the following : 7x2=14

(i) Global regulation by ppGpp.

(ii) Attenuation genetic regulation takes place only in prokaryotes.

UNIT-V

9. Explain the Col plasmids and Penicillinase plasmid structure and functions. 7+7=14

10. What are plasmid families? Explain the plasmid families and incompatibility among plasmids. 14

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PG Even Semester Examination, September, 2023

MICROBIOLOGY

(2nd Semester)

Course No: MBCC-554 (IDC)
(Microbial Genetics)

FM: 70
Pass Marks : 28
Time: 3 Hours

The figures in the right margin indicate full marks for the question

Answer all questions taking one from each unit.

UNIT-I

1. What is conjugation? Explain the genetic mechanism of conjugation with role of different genes in the process. 4+10=14

2. Explain the process of transformation in Gram positive and Gram negative bacteria with help of diagram. 7+7=14

UNIT-II

3. What are transposons? Explain the molecular models for the process of transposon. 4+10=14

4. Write notes on any two of the following : 7x2=14

(i) Insertion sequence elements