PG Odd Semester (CBCS) Exam., December—2016

MICROBIOLOGY

(3rd Semester)

Course No. : MIBCC–303

(Microbial Genetics and Genomics)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. What is transduction? Explain the process of specialized and generalized transduction in detail with the help of suitable diagram. 7+7=14

2. Explain the role of 'tra' genes in conjugal transfer of F-plasmid. What is the function of ori-T in this process? 14

UNIT—II

3. Describe the different mechanisms of transposition. 14

4. Write notes on the following : 7+7=14

(a) IS elements

(b) Classes of transposable elements

UNIT—III

5. Write notes on the following : 7+7=14

(a) Ti-plasmid

(b) Degradative plasmids

6. Explain how lytic and lysogenic cycles are controlled at genetic level in -phage. 14

UNIT—IV

7. What are the functions of genes present in 'trp' operon? Explain the genetic regulation mechanism of 'trp' operon by attenuation of transcription. 14

8. Write notes on the following : 7+7=14

(a) Gene silencing

(b) Protein folding

UNIT—V

9. Write a detailed note on the general characteristics of bacterial genome. 14

10. Explain the role of SAGE and microarray in functional genomics. 7+7=14

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