PG Odd Semester (CBCS) Exam., December—2018

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. Compare the mechanisms of 'general-transduction' and 'specialized-transduction'. 14

2. Explain the role of 'tra-genes' in conjugation. Describe the process of conjugation with the help of suitable example. 14

UNIT—II

3. Write notes on the following : 7×2=14

(a) Insertion sequences (IS elements)

(b) Replicative mode of transposition

4. Describe the holiday model of general recombination. 14

UNIT—III

5. Write a detailed note on Ti plasmid and Ri plasmid. 14

6. Describe the genetic regulation of lysogenic cycle in -phage. 14

UNIT—IV

7. What is global regulation? Describe the global regulation mechanism by molecules such as c-AMP and ppGpp. 14

8. Explain the structure and regulation of lac operon. 14

UNIT—V

9. What is next generation sequencing (NGS)? Describe different types of NGS techniques. 14

10. What is genomics? Write a detailed note on 'characteristics of genomes' and 'genome analysis in bacteria'. 14

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