

NOVEMBER/DECEMBER 2019

**MAM31 — MICROBIAL GENETICS AND
MOLECULAR BIOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A — (5 × 6 = 30 marks)

Answer ALL questions.

1. (a) Describe the Hershey and chase experiment.

Or

- (b) Write about the reversion and suppression mutation.

2. (a) Give a brief account on competence.

Or

- (b) Write an account on self transmissible and mobilizable Plasmid.

3. (a) Discuss the structure and function of PS101.

Or

- (b) Write about the classification of Plasmid.

4. (a) Elucidate the structure of T_{10} .

Or

- (b) Describe the genetic mapping of *E. coli*.

5. (a) How does the induction mechanism occur in Lac operon?

Or

- (b) Write a brief account on antisense RNA.

SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions.

6. Write elaborate account on mechanism of Recombination.

7. Illustrate the generalized and specialized transduction in detail.

8. Define T_1 Plasmid. Discuss in detail about gene transfer mechanism of T_1 Plasmid.

9. What are IS elements? Give a detailed account on properties and transposition mechanism of IS elements.

10. Narrate the process of gene regulation mechanism in Trp-Operon.