



APRIL/MAY 2019

**MAM31 — MICROBIAL GENETICS AND
MOLECULAR BIOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A — (5 × 6 = 30 marks)

Answer ALL questions.

1. (a) How Griffith proved that DNA is the genetic material?

Or

- (b) Write a brief account on non-sense and missense mutation with example.

2. (a) Write about the specialized transduction.

Or

- (b) Describe the mechanism of conjugation.

3. (a) Write about the structure of PBR322.

Or

- (b) Briefly explain plasmid replication.

4. (a) Give an account on types of transposon.

Or

- (b) Critically analyze the genetic organization of Tn3.
5. (a) Write short notes on promoter gene and operator gene.

Or

- (b) How Lac-operon regulated positively?

SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions.

6. Define the following terms:

- (a) Mutagen
- (b) Tautomer
- (c) Transversion
- (d) Hot spots
- (e) Reversion.

7. Give elaborate account on mechanism of Transformation.

8. (a) Explain the mechanism of plasmid incompatibility.

- (b) Describe the structure of PSC101.

9. Discuss the genetic mapping of T4 bacteriophage and T4 r11 system.

10. Write in detailed account on post translation modification.

