



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.

