

25063

M.Sc. DEGREE EXAMINATION, APRIL 2018.

Microbiology

SECOND SEMESTER

Paper III — MICROBIAL GENETICS

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

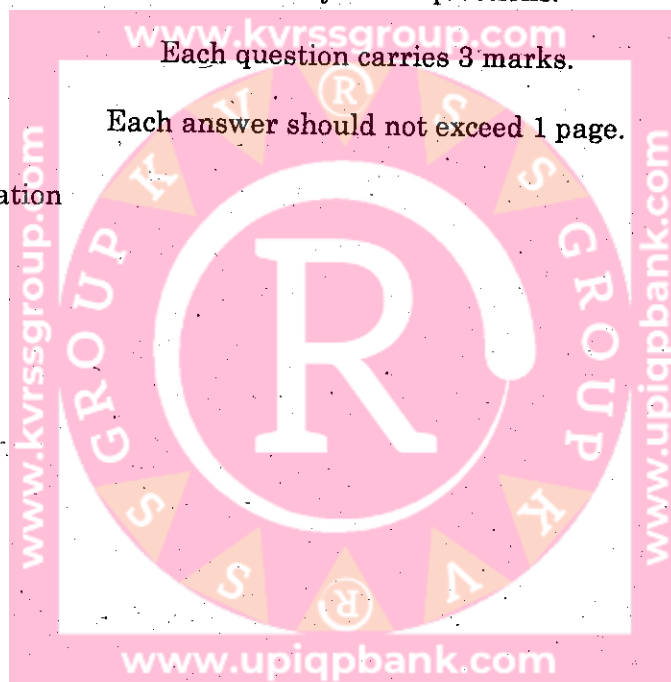
PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Frameshift mutation
2. Nested gene
3. Synapse
4. Conjugation
5. F plasmid
6. Ploidy
7. Metastasis
8. Cyclin



PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Explain the fine structure of gene with suitable diagram.

Or

10. Describe the Benzers concepts with reference to rII locus in T4 bacteriophage.

11. Discuss in details the variations and significance of transduction and transfection.

Or

12. Briefly discuss about the different genetic models of Recombinations along with their significance.

13. Explain the different types of plasmids and describe how they are isolated.

Or

14. What are transposons and explain their structure and function?

15. Describe the modulation of cyclins and CDKs in phase alterations in cell cycle.

Or

16. Explain the role of p53 in tumor suppression with an insight into the possible mechanism.

