

25123

M.Sc. DEGREE EXAMINATION, APRIL 2018.

Genetics & Genomics

SECOND SEMESTER

Paper III – GENETIC ENGINEERING

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

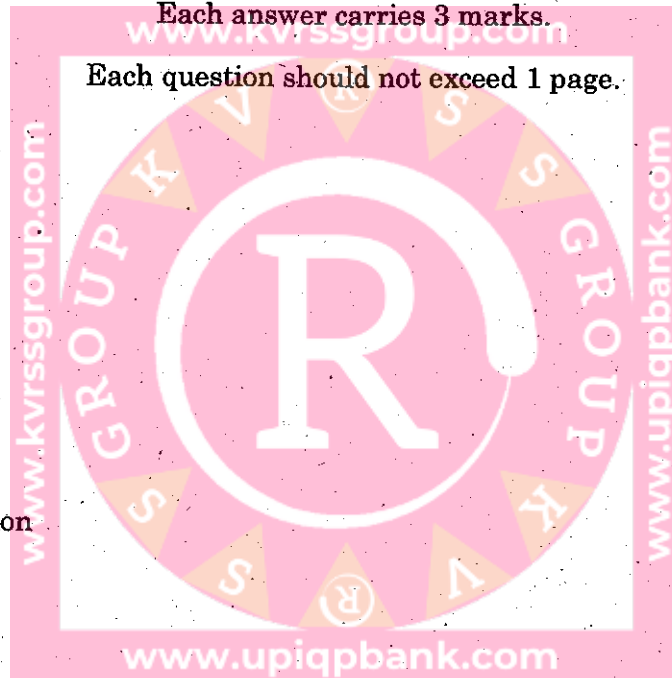
PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each answer carries 3 marks.

Each question should not exceed 1 page.

1. Polylinker
2. Ligase
3. Probe
4. Multiplex PCR
5. Mutagen
6. Edman degradation
7. His Tag
8. T7 promoter



PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each answer carries 15 marks.

Each question should not exceed 6 pages.

9. Write a short notes on Restriction endonucleases. Explain the role of type II in Genetic Engineering.

Or

10. Describe the role of vectors in genetic engineering and explain the significance of phagemids.

11. What are the principles of PCR and describe its limitations?

Or

12. What are competent cells? Explain the procedure of their production.

13. Explain the methodology and limitations of Maxam Gilbert's method of sequencing.

Or

14. Write an account of Oligonucleotide directed mutagenesis and explain its applications.

15. What are reporter genes? Explain with example its role in transformation.

Or

16. Describe the industrial applications of genetic engineering.

