

35024

M.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

THIRD SEMESTER

Biochemistry

Paper IV — 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 question carries 3 marks.

Each answer should not exceed 1 page.

1. Gyrases.
2. Cosmids.
3. Chromosome walking.
4. c-DNA.
5. Phenotypic markers.
6. Genetic map.
7. Maxim and Gilbert.
8. Human genome project.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. What are restriction enzymes? Discuss their role in r-DNA technology.

Or

10. Write short notes on :
 - (a) Topoisomerases
 - (b) Plasmids.

11. What is cDNA? Describe the construction of cDNA and genomic library.

Or

12. Write the principle, procedure and applications of PCR.

13. Give an account of RFLP and restriction mapping.

Or

14. Elucidate the concept of linkage and crossing over in molecular genetics.

15. Explain DNA sequencing by Sanger's dideoxy method.

Or

16. Give an account of the role of Genetic engineering in Agriculture, Medicine and Industry. Add a note on its social and moral implications.

