

M.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

FIRST SEMESTER

Botany

Paper III — GENETICS AND CYTOGENETICS

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each questions carries 3 marks.

Each answer should not exceed 1 page.

1. Multiple alleles
2. Complementation test
3. Linkage maps
4. Maternal inheritance
5. Fine structure of gene
6. Mapping genes
7. Detection of mutations
8. Inversion

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each answer carries 15 marks.

Each answer should not exceed 6 pages.

9. Write a detailed account on Mendelian principles.
Or
10. Explain the chromosomal linkage and crossing over.
11. Give an account on gene mapping methods.
Or
12. Discuss the inheritance of mitochondrial genes.

13. Describe the methods of gene transfer.

Or

14. Bring out the salient features of quantitative genetics.

15. Mention about the alterations of chromosomes.

Or

16. Enumerate the genetic recombination.

