

(041420202)

M.Sc. DEGREE EXAMINATION, APRIL 2018

SECOND SEMESTER

Branch - Botany

Paper II — GENETICS

Time : 3 Hours

Max. Marks : 70

PART - A

Answer any FOUR questions.

Each question carries 5 marks.

(Marks : 4×5 marks = 20 marks)

1. Law of Segregation.
2. Synaptonemal complex.
3. Conjugation.
4. Simple transposons.
5. Deficiency of Deletion.
6. Trisomics Meiotic behaviour.
7. Allopatric speciation.
8. Cross pollination.

PART - B

Answer ONE question from each Unit.

Each question carries 12.5 marks.

(Marks : 4×12.5 marks = 50 marks)

UNIT I

9. Define the term Genetics. Explain in detail Mendel's Laws of Inheritance of Characters.

Or

10. What is Linkage? Discuss coupling and repulsion hypothesis and its significance.

UNIT II

11. Describe the mechanism of Conjugation. Add a note on Gene mapping in Bacteria.

Or

12. Write an essay on Transposable Genetic elements and their significance of gene transfer mechanism.

[P.T.O]

UNIT III

13. Describe the origin, types, meiotic behaviour and genetic significance of Inversions.

Or

14. What is polyploidy? Describe their production, Meiotic behaviour and application in plant improvement.

UNIT IV

15. Define the term Evolution and explain in brief various theories of origin of life.

Or

16. What is Heterosis? Describe its role and effects in crop improvement.
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