D 102123 **(Pages : 2)** **Name.....**

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, APRIL 2024

(CBCSS)

Botany

BOT 2C 05—CYTOGENETICS, GENETICS, BIOSTATISTICS, PLANT BREEDING AND EVOLUTION

(2019 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

Part A

Answer any **four** *questions.*
Each question carries 2 *weightage.*

1. What are the different types of aneuploids ?
2. What are mobile gentic elements ? Write an example.
3. Explain polytene chromosome.
4. Write the significance of using *t*-test in experimental design.
5. What is pedigree analysis ?
6. What is molecular evolution ?
7. Name two statistical softwares used in analysis of data.

(4 × 2 = 8 weightage)

Part B

Answer any **four** *questions.*
Each question carries 3 *weightage.*

8. Write a short note on the cytogenetics of translocation heterozygote
9. Briefly explain the selection method for sexually propagated plats.
10. Write a short essay on the geological timescale and evolution.
11. Explain correlation analysis and its significance.

Turn over

12. Briefly explain genetic recombination and mapping of genes in bacteria.

13. Give a short essay on quantitative genetics.

14. With suitable example, explain extranuclear inheritance.

(4 × 3 = 12 weightage)

Part C

Answer any **two** *questions.*
Each question carries 5 *weightage.*

15. Write a critical account on the Mendelism on the basis of modern concept of genes.

16. Briefly explain various types of heteroploidy and their uses.

17. Write an account on the various methods of designing an experiment.

18. Write an essay on the biotechnological approaches to plant breeding.

(2 × 5 = 10 weightage)