

**24P229**

(Pages: 2)

Name : .....

Reg. No : .....

**SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2025**

(CBCSS-PG)

(Regular/Supplementary/Improvement)

**CC19P BOT2 C05 - CYTOGENETICS, GENETICS, BIOSTATISTICS, PLANT BREEDING AND EVOLUTION**

(Botany)

(2019 Admission onwards)

Time: 3 Hours

Maximum: 30 Weightage

**Part-A**

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

1. What are aneuploids?
2. "The giant salivary gland chromosomes of fruitfly larvae were the material of which every geneticist had been dreaming. The way lead to the lair (lying place) of the gene. Explain.
3. Explain Genetic drift.
4. Explain various methods of census and sampling.
5. Explain coefficient of regression.
6. Make a note on cryopreservation of germplasm.
7. Give an account on allopatric and sympatric speciation.

**(4 × 2 = 8 Weightage)**

**Part-B**

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

8. Allopolyploidy is perhaps the only one way to produce a new species in a single step. Explain.
9. Write notes on FISH and GISH.
10. Describe Transposable elements in Eukaryotes.
11. Give an account on Polygenic inheritance with an example.
12. Explain cumulative frequency distribution.
13. Make a note on plant selection.
14. Explain objectives and achievements of Quality breeding.

**(4 × 3 = 12 Weightage)**

### **Part-C**

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

15. Explain Genetic recombination and mapping of genes in bacteria.
16. Explain testing of hypothesis and its application with special reference to chi- square test.
17. Explain mutation breeding? Write a note on the methodology and achievements of mutation breeding.
18. Discuss the theories and experimental evidences of origin of life.

**(2 × 5 = 10 Weightage)**

\*\*\*\*\*