

20P230

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Name:

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2021

(CUCSS-PG)

(Regular/Supplementary/Improvement)

**CC19P BO2 C07 – CYTOGENETICS, GENETICS, BIostatISTICS,
PLANT BREEDING AND EVOLUTION**

(Botany)

(2019 Admission onwards)

Time: Three Hours

Maximum: 30 Weightage

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

1. Briefly explain genetic mapping in bacteria and bacteriophages.
2. Describe Synthetic theory of Evolution.
3. Write the cytogenetic importance of lampbrush chromosome.
4. Explain the significance of floral biology in plant breeding.
5. Give an account on LOD Score for linkage testing.
6. Briefly explain the application of statistics in biological research.
7. Write a note on various sampling methods.

(4 x 2 = 8 Weightage)

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

8. Define heritability. Differentiate between broad sense and narrow sense heritability.
9. Explain eukaryotic mitochondrial genome and its utility.
10. Give an account on Probability distributions.
11. Explain multigenic families and their evolution.
12. Evaluate the importance of cytoplasmic male sterility in plant breeding.
13. Differentiate between CRD and RBD.
14. Define Retrotransposons. Explain the structural details and significance in evolution.

(4 x 3 = 12 Weightage)

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

15. Describe mobile genetic elements in plants and its significance in development and evolution.
16. What is speciation? Explain different types of speciation with the mechanisms of speciation.
17. Elucidate the modern techniques in Plant breeding.
18. Explain testing of hypothesis and its application with special reference to chi-square test.

(2 x 5 = 10 Weightage)
