

M.Sc.(Botany) (Old / CBCS Pattern) First Semester  
**BOT04 / PSCBOTT04-Paper-IV : Cytology & Genetics**

P. Pages : 1

Time : Three Hours



**GUG/W/18/11153**

Max. Marks : 80

1. Explain the sex determination and dosage compensation in plants. 16

**OR**

Write note on:

- a) Deviations from Mendel's findings. 8
- b) Multigene families. 8

2. Describe packaging of DNA and structure of chromosome. 16

**OR**

Write note on:

- a) Polytene and lampbrush chromosomes. 8
- b) Molecular basis of chromosome pairing. 8

3. Give an account of different types of structural and numerical changes occur in chromosomes. 16

**OR**

Write notes on:

- a) Transmission of Trisomics and Monosomics. 8
- b) Robertsonian translocation. 8

4. Define Mutation Describe spontaneous and induced mutations and explain molecular basis of mutation. 16

**OR**

Write note on

- a) DNA methylation. 8
- b) Epigenetics and Lamarkiasm. 8

5. Write short note on:

- a) Multiple alleles. 4
- b) Cot curve and its significance. 4
- c) Breeding behaviour of duplications. 4
- d) Callipyge sheep. 4

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