

M.Sc.(Botany) (CBCS Pattern) Semester - I  
**PSCBOTT04 - Paper-IV : Cytology & Genetics**

P. Pages : 1

Time : Three Hours



**GUG/S/23/11153**

Max. Marks : 80

- Notes : 1. All questions are compulsory and carry equal marks.  
2. Illustrate your answers with diagrams & suitable examples.

1. Write in detail on dosage compensation in plants and Drosophila. **16**  
**OR**  
Write on -  
a) Penetrance and expressivity. **8**  
b) Multigene families. **8**
2. Write in detail on Chromosome structure and packaging of DNA. **16**  
**OR**  
Write notes on -  
a) Molecular basis of chromosome pairing. **8**  
b) Karyotype analysis and evolution. **8**
3. Write in detail on numerical changes in chromosomes. **16**  
**OR**  
Write on -  
a) Aneuploidy in plants. **8**  
b) Complex translocation heterozygotes, **8**
4. Define Epigenetics. Write in detail about the expression paramutations in maize. **16**  
**OR**  
Write notes on -  
a) Mutagens **8**  
b) Role of mutations in crop improvement. **8**
5. Write notes on –  
a) Homogametic Sex. **4**  
b) Cot – curve. **4**  
c) Reciprocal translocation. **4**  
d) Polyploidy. **4**

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