

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

P. Pages : 1

Time : Three Hours



GUG/W/24/11153

Max. Marks : 80

Note : All questions are compulsory and carry equal marks. Draw neat labelled diagrams wherever necessary.

1. Describe sex determination and dosage compensation in plants. 16

OR

Write on:

- a) Mendelian Inheritance and Deviations. 8
- b) Penetrance and Expressivity. 8

2. Describe at molecular level, chromosome structure and its packaging in Eukaryotes. 16

OR

Write on:

- a) Karyotype analysis and evaluation. 8
- b) C-Value paradox, cot curve & its significance. 8

3. Discuss structural and numerical changes occurring in chromosomes. 16

OR

Write on:

- a) Robertsonian translocation. 8
- b) Breeding behaviour of duplications. 8

4. Define Mutation and Mutagens. Describe spontaneous and induced mutations in details. 16

OR

Write note on:

- a) Site directed mutagenesis. 8
- b) Epigenome and epigenomics. 8

5. Write short note on:

- a) Isoalleles. 4
- b) Polytene chromosome. 4
- c) Transmission of Trisomics. 4
- d) Callipyge sheep. 4
