

C 83715

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Name.....02

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2015

(CUCSS)

Botany

**BO 02 CT 06—CYTOGENETICS, GENETICS, BIostatISTICS,
PLANT BREEDING, AND EVOLUTION**

Time : Three Hours

Maximum : 36 Weightage

I. Answer the questions briefly :

- 1 Explain the cytology of trisomics.
- 2 Write a note on B chromosomes.
- 3 What are Tn elements ?
- 4 What is the importance of mitochondrial DNA in cells ?
- 5 What is meant by transgressive variation ?
- 6 Comment on SPAR.
- 7 What is quartile deviation ?
- 8 Write notes on degree of freedom.
- 9 Write an account of Bt cotton.
- 10 What is meant by inbreeding depression ?
- 11 Explain the role of polyploidy breeding in the evolution of wheat.
- 12 Comment on normal distribution.
- 13 What is meant by Lamarckism ?
- 14 What are Petrifications ?

(14 × 1 = 14 weightage)

II. Answer any *seven* questions in not more than 100 words :

- 15 Describe the structure of polytene chromosomes with diagrams.
- 16 Write notes on flow cytometry.
- 17 Explain the factors affecting genetic equilibrium in a population.
- 18 Write an account of tetrad analysis.
- 19 Compare mean deviation and standard deviation.

Turn over

- 20 Explain the various methods of collection of data.
- 21 Write down the procedure for plant introduction.
- 22 Write notes on cryopreservation of germplasm.
- 23 Explain molecular biology and evolution.
- 24 How did the first building blocks for the synthesis of nucleic acids and proteins form ?
(7 × 2 = 14 weightage)

III. Answer any *two* questions in 300 words each :

- 25 Explain the role of euploidy and aneuploidy in evolution.
- 26 Describe chromosome anomalies and human disorders.
- 27 Explain the biotechnological methods in plant breeding.
- 28 Give an account of various experimental designs and mention their significance.
(2 × 4 = 8 weightage)