C 83715 **(Pages : 2)** **Name**.....

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 Lamarekism ?

14 What are Petrifactions ?

(14 x 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 x 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 x 4 = 8 weightage)