

**C 4760**

(Pages : 2)

Name.....

Reg. No.....

**SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2016**

(CUCSS)

Botany

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

Time : Three Hours

Maximum : 36 Weightage

I. Answer the questions briefly :

- 1 What is meant by segmental **allopolyploidy** ?
- 2 Explain Down's syndrome.
- 3 What are IS elements ?
- 4 What is meant by **QTL** mapping ?
- 5 Explain random genetic drift .
- 6 Comment on **MINITAB**.
- 7 Explain LSD.
- 8 What is meant by Type I and Type II error in tests of hypothesis ?
- 9 Write an account of Golden rice.
- 10 What is meant by quarantine ?
- 11 What is the importance of male sterility in plants ?
- 12 What is meant by Poisson distribution ?
- 13 What are Impression ?
- 14 What is meant by **Neo-Darwinism** ?

(14 x 1 = 14 weightage)

**Part B**

II. Answer any *seven* questions. Each answer not exceeding 100 words. Each question carries 2 weightage :

- 15 Write notes on chromosome micro-dissection and micro-cloning.
- 16 Explain the structure of **Lampbrush** chromosomes with diagrams.
- 17 Comment on **Retrotransposons** and its molecular characteristics.

**Turn over**

- 18 Explain cytoplasmic male sterility.
- 19 Write a note on **Transgenic** plants.
- 20 Comment on the genetic basis of **heterosis** and inbreeding depression,
- 21 Explain correlation and regression.
- 22 Write an account of collection of data.
- 23 Write notes on evidences from physiology and Biochemistry in evolution.
- 24 Explain the origin of split genes and the splicing mechanism.

(7 x 2 = 14 weightage)

### **Part C**

- III.** Answer any *two* questions. Each answer not exceeding 300 words. Each question carries 4 weightage :

- 25 Write an essay on chromosomal aberrations. Add a note on their significance.
- 26 Explain genetic recombination and mapping of genes in Bacteria.
- 27 Describe the importance of **mutagens** and **mutagenesis** in plant breeding.
- 28 Write an essay on measures of dispersion.

(2 x 4 = 8 weightage)