34

C 23311 (Pages : 2) Name.....

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, APRIL 2022

(CBCSS)

Botany

BOT 2C 05—CYTOGENETICS, GENETICS, BIOSTATISTICS PLANT BREEDING AND EVOLUTION

(2019 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend* **all** *questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Part A

I. Answer any *four* questions. Each question carries 2 weightage :

1 Distinguish autopolyploidy and allopolyploidy with examples.

2 Define Hardy Weinberg principle. List out the factors that alter this equilibrium.

3 What is SPSS ? How can it be used for data analysis ?

4 Differentiate between type 1 and type 2 errors in research.

5 Describe the modern synthetic theory of evolution.

6 What is trisomy ? Discuss the different types of trisomy.

7 Discuss Cmp site transposon.

(4 × 2 = 8 weightage)

Turn over

Part B

II. Answer any *four* questions. Each question carries 3 weightage :

8 Describe the various methods of collection of data for research.

9 Discuss plant introduction as a method of plant breeding. List out major achievements.

10 What is geological time scale ? Describe the various eras and their significance in evolu

11 Distinguish between CRD and RBD.

12 Discuss transgenic plants and related ethical issues.

13 Explain, in detail, the various theories of evolution.

14 Give an account on the methods adopted for conservation of genetic resources.

(4 × 3 = 12 weigh

Part C

III. Answer any *two* questions. Each question carries 5 weightage :

15 Discuss the methodology of mutation breeding. Emphasize on its merits and achievem

16 Describe the theories and experimental evidences for the origin of life.

17 Give an account on the structure and significance of the special chromosomes that yo studied.

18 Explain extra nuclear inheritance with reference to mitochondria and chloroplast.

(2 × 5 = 10 wei