

Code No. : B02/104

Second Semester Online Examination, May-June, 2022

M. Sc. BOTANY

Paper I

GENETICS

Time : Three Hours]

[Maximum Marks : 80

Note : Part A and B of each question in each unit consist of 'very short answer type question' which are to be answered in one or two sentences. Part C 'Short answer type' and D 'Long answer type' of each question should be answered within the word limit mentioned.

UNIT-I

1. (A) What is telomere ? **2**
 (B) What is polytene chromosome ? **2**
 (C) Write note on Mitochondrial DNA.

*(word limit 200-250) 4***OR**

Write note on Ribosomal RNA genes.

- (D) What are sex chromosomes ? Describe sex determination in plants.

*(word limit 400-450) 12***P.T.O.****OR**

Describe chromosome structure and packaging of DNA.

UNIT-II

2. (A) What are haploids ? **2**
 (B) What are polyploids ? **2**
 (C) Write note on transduction in bacteria.

*(word limit 200-250) 4***OR**

Write note on origin and production of autopolyploids.

- (D) Write detail note on duplication and deficiency types of chromosomal alternation. *(word limit 400-450) 12*

OR

Describe aneuploidy ?

UNIT-III

3. (A) What is linkage group ? **2**
 (B) Write role of Rec-A enzymes. **2**
 (C) Write note on Rec-B enzymes.

*(word limit 200-250) 4***[2]**

Code No. : B02/104

OR

Write note on Rec-D enzymes.

- (D) Describe molecular mechanism of genetic recombination. *(word limit 400-450)* **12**

OR

Write detail note on types and mechanism of linkage.

UNIT-IV

4. (A) What are transposomes ? **2**
(B) What are alleles ? **2**
(C) Write note on transposable elements in prokaryotes. *(word limit 200-250)* **4**

OR

Write note on DNA damages.

- (D) Describe inherited human diseases.
(word limit 400-450) **12**

OR

Write detail note on mendelian laws.

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