

BACHELOR OF SCIENCE (CBCS-2018 COURSE)
T. Y. B. Sc. Sem-V : WINTER- 2022
SUBJECT : BOTANY : GENETICS & BIOSTATISTICS

Day : Wednesday

Time : 02:00 PM-05:00 PM

Date : 14-12-2022

W-18425-2022

Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the **RIGHT** indicate **FULL** marks.
 - 3) Draw neat labelled diagram **WHEREVER** necessary.
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- Q.1** Attempt **ANY TWO** of the following (12)
- a) Describe transition and transversion mutations.
 - b) Explain in brief multiple factor hypothesis.
 - c) Give definition and concept of cytoplasmic inheritance.
- Q.2** Attempt **ANY TWO** of the following (12)
- a) Describe alleles in plants self incompatibility.
 - b) Describe coupling and repulsion phases.
 - c) Give difference between Back Cross and Test Cross.
- Q.3** Attempt **ANY TWO** of the following (12)
- a) Describe mean, deviation and standard deviation.
 - b) Give types and effects of duplications.
 - c) Explain spontaneous mutations with suitable examples.
- Q.4** Attempt **ANY THREE** of the following (12)
- a) Give significance of descriptive statistics in genetics.
 - b) Explain detection of linkage.
 - c) Describe coefficient of variation.
 - d) Give types of mutations.
- Q.5** Attempt **ANY FOUR** of the following (12)
- a) Explain frame-shift mutations.
 - b) Give coupling phases.
 - c) What is male sterility in plants?
 - d) Give multiple factor hypothesis.
 - e) Explain epistatic factors in gene interactions.
 - f) Describe significance of statistics in genetics.
