

**CARMEL COLLEGE OF ARTS, SCIENCE & COMMERCE FOR WOMEN
NUVEM-GOA**

SEMESTER END EXAMINATION (ONLINE MODE), JULY 2021

Semester: **VI B.Sc.** Course name & Code: **BOTANY (BOC 108: Cytogenetics & Plant Breeding)**

Max. marks: **30** Date: **09/07/2021** Duration: **2 Hours** No. of pages: **01**

Instructions: 1) All questions are compulsory, however internal choice is available.
2) Figures to the right indicate maximum marks.
3) Draw labelled diagrams wherever necessary.

Q 1. Answer any five of the following in brief: (5 x 2 marks = 10)

- a) List the significance of meiosis.
- b) Define pleiotropy and penetrance.
- c) What is genic balance mechanism of sex determination?
- d) Classify aneuploids.
- e) List the objectives of plant breeding.
- f) What is mutation breeding?
- g) Give any 4 points of difference between qualitative and quantitative traits.
- h) Define heterosis.

Q 2. Answer any four of the following: (4 x 5 marks = 20)

- i) Explain supplementary gene interaction with a suitable example.
- ii) Explain the effects of maternal inheritance in snails.
- iii) What is crossing over? Explain its types and significance.
- iv) Explain the effects of translocation on structural heterozygote during meiosis.
- v) Elaborate on various chemical mutagens and their mode of action.
- vi) List the various selection methods used in cross pollinating plants. Elaborate on any one of the methods.
