

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

**SEMESTER END EXAMINATION (ONLINE MODE), AUGUST 2020**

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

Max. marks: **30**      Date: **03/08/2020**      Duration: **2 Hours**      No. of pages: **01**

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- 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) Why did Mendel choose pea plant for his study?
- b) Explain the phenomenon of co-dominance with an example.
- c) List any four characteristics of cytoplasmic inheritance.
- d) What is complete linkage? Explain with an example.
- e) Giving two examples, explain sex-limited characters.
- f) What is heterogametes?
- g) List the merits and demerits of 'Plant Introduction'. (2 points each)
- h) What is pureline selection?

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

- i) Explain recessive epistasis with a suitable example.
- ii) Self-incompatibility in plants is a result of multiple allelism. Explain.
- iii) Discuss the role of maternal inheritance in shell coiling of snails.
- iv) With the help of a diagram, describe various types of duplications in chromosome.
- v) Classify aneuploids. Add a note on effects of monosomy.
- vi) Explain male haploidy and haplodiploidy mechanism of sex determination.

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