

CARMEL COLLEGE OF ARTS, SCIENCE & COMMERCE FOR WOMEN
NUVEM - GOA
SEMESTER END EXAMINATION, NOVEMBER 2022

Semester: **III B.Sc.** Course: **BOTANY DSC - BOC103 (Plant Anatomy and Embryology)**

Total Marks: **80** Date: **22/ 11 /2022** Duration: **2 Hours** Total No. of Pages: **02**

Instructions: 1. All questions are compulsory; however internal choice is available.
2. Figures to the right indicate full marks.
3. Draw appropriate diagrams wherever necessary.

Q. I. Answer any six of the following:

(2 marks x 6 = 12)

1. Comment on the Korper-Kappe theory.
2. How would you differentiate anatomically a dicot stem from a monocot stem?
3. What are tracheids? State their function.
4. Give two points of difference between compression wood and tension wood.
5. What is double fertilization?
6. State any two functions of endosperm.
7. Comment on the role of endothecium in the anther wall.
8. Draw a labelled diagram of a mature embryo sac.

Q. II. Answer any five of the following:

(4 marks x 5 = 20)

- a. Describe the different elements of xylem.
- b. Comment on the leaf anatomy of monocots.
- c. What is agamospermy? Add a note on its types.
- d. Write briefly on ornithophily.
- e. Write a note on induced polyembryony.
- f. Draw labelled diagrams of different types of microspore tetrads.
- g. Give two points of difference between tenuinucellate and crassinucellate ovules.

Q. III. A. With the help of a labelled diagram, describe the anomalous secondary growth in *Bignonia* stem. (6)

OR

A. Write a note on axial and radial systems of secondary xylem. (6)

B. 'Wood has high economic importance'. Justify. (6)

Q. IV. A. Explain the characteristic anatomical features of xerophytes. (6)

OR

A. Explain the characteristic anatomical features of halophytes. (6)

B. Describe the stomatal types in dicotyledons and monocotyledons. (6)

Q. V. A. Give any two evidences and proofs in support of the statement 'Flower is a modified reproductive shoot'. (6)

OR

A. Draw neat labelled diagrams of the different types of ovules and comment on each type. (6)

B. Draw appropriate diagrams to explain the formation of a bisporic 8-nucleate embryo sac in angiosperms. (6)

Q. VI. A. Explain the development of monocot embryo with the help of a diagram. (6)

OR

A. Describe cellular type of endosperm formation with suitable examples. (6)

B. Explain autochory as a mode of fruit and seed dispersal with suitable examples. (6)

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