

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted from the academic year 2019 – 2020 & thereafter)
SUBJECT CODE: 19BT/AC/GB24
B.Sc. DEGREE EXAMINATION, APRIL 2022
BRANCH V(A) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
SECOND SEMESTER

COURSE : ALLIED CORE
PAPER : GENERAL BOTANY - II
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION –A

ANSWER ALL QUESTIONS:

I Choose the correct answer: **(5 x 1 = 5)**

1. Inverted omega shaped vascular bundle is seen in _____ part of *Cycas* .
(a) Root (b) Leaflet (c) Rachis (d) Coralloid root
2. The outermost layer of stele in a dicot stem is
(a) Endodermis (b) Stele (c) Pericycle (d) Pith
3. The gaseous plant hormone is
(a) IBA (b) ABA (c) Ethylene (d) NAA
4. Actively mobile element in plant is
(a) Ca (b) Fe (c) N (d) B
5. The most abundant protein in the chloroplast is
(a) RUBISCO (b) Cytochrome b6f (c) Plastoquinol (d) Plastocyanin

II. Fill in the blanks: **(5 x 1 = 5)**

6. Example for naturally occurring cytokinin is _____.
7. Japanese art of fresh flower arrangement is called _____.
8. Vernalization is mediated through a hormone called _____.
9. Protoxylem located in the center surrounded by the metaxylem is called _____.
10. The first stable product of Calvin cycle is _____.

III State whether the following sentences are True or False **(4x 1 = 4)**

11. Gymnosperms do not have naked ovules.
12. Dark reaction takes place in the thylakoid region of chloroplast.
13. Protoxylem lacuna is seen in monocot stem.
14. The cones of *Lycopodium* are heterosporous.

IV Match the following: **(4 x 1 = 4)**

- | | | |
|------------------|---|-------------------|
| 15. Plectostele | - | Root |
| 16. Storage | - | <i>Lycopodium</i> |
| 17. Epiblema | - | Monocot stem |
| 18. Atactostele. | - | Parenchyma |

V. Answer any SIX of the following.

(6 x 3 = 18)

Each answer not to exceed 50 words:

19. Actinostele
20. Dark reaction
21. Vernalisation
22. Shapes in fresh flower arrangement
23. Casparian Band
24. Coralloid root
25. Photolysis of water
26. Protonema
27. Bud opening

SECTION – B

ANSWER ANY FOUR OF THE FOLLOWING IN NOT MORE THAN 200 WORDS.
DRAW DIAGRAMS WHEREVER NECESSARY.

(4 x 6 = 24)

28. Explain the characteristic features of Bryophytes.
29. Differentiate Isobilateral and Dorsiventral leaf.
30. Minerals are essential for plant growth - Justify.
31. Tabulate the plant growth regulators and practical applications.
32. Explain different types of Bonsai.
33. Discuss the stomatal types.

SECTION – C

ANSWER ANY TWO OF THE FOLLOWING IN NOT MORE THAN 1000 WORDS.
DRAW DIAGRAMS WHEREVER NECESSARY.

(2 x 20 = 40)

34. Outline the life cycle of *Cycas*.
35. Compare the anatomy of dicot stem and dicot root.
36. Illustrate the process of light reaction in photosynthesis.
37. Demonstrate the vegetative propagation methods through grafting and layering.
