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Reg. No. : .....

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First Semester B.Sc. Degree Examination, June 2022

First Degree Programme under CBCSS

Botany

Core Course

BO 1141 : ANGIOSPERM ANATOMY, REPRODUCTIVE BOTANY AND PALYNOLOGY

(2020 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

PART – A

Very short answer **one** word to maximum of **two** sentences. Answer **all** questions. Each question carries **1** mark.

1. Cite an example for a plant with bicollateral vascular bundle in its stem.
2. Give the name of the loosely arranged cells in lenticels.
3. Name a climatic region mostly with diffuse porous wood.
4. Name the two major chemical components of xylem cell wall.
5. What is a pit field?
6. What is meant by laticifer?
7. What is the end product of triple fusion?
8. Which type of stomata is known as diacytic?

9. Who discovered double fertilization?

10. Who proposed Tunica-Corpus theory?

(10 × 1 = 10 Marks)

PART – B

Short answer not to exceed **one** paragraph. Answer **any eight**. Each question carries **2** marks.

11. Both phloem and xylem and phloem is comprised of different types of elements; but formed from cambium. Explain the differences in the initials of cambium to form diverse components.

12. Define dendrochronology.

13. Describe the salient features of meristematic cells.

14. Draw the diagram of lenticel.

15. Explain histogen theory.

16. Explain pollen allergy.

17. Give a short note on dehiscence of anthers.

18. Give an account on heart wood.

19. Illustrate the diagrams of concentric vascular bundles.

20. What is meant by dorsiventral leaf? Give an example.

21. Define cleistogamy. Give an example.

22. Outline the mechanism of cell wall growth.

23. What are the anatomical differences between rnonocot stomata and dicot stomata?

24. What are the end products of Double fertilisation?

25. What are the major contributions of P Maheswary?

26. What are Tyloses?

(8 × 2 = 16 Marks)

PART – C

Short essay not to exceed **120** words. Answer any **six**. Each questions carries **4** marks.

27. Briefly describe the Korper-Kappe theory.

28. Describe the structure and function of anther wall layers.

29. Differentiate the Xylem vessel from Xylem tracheid.

30. Distinguish between resins and tannins.

31. Explain the structure of *Adoxo* type of Embryosac.

32. Give a brief account on the types of starch grains.

33. Give a brief description on various types of vascular bundles in angiosperms.

34. Give an account on types of meristems, based on position.

35. List out and explain the anomalies present in D*racaena* stem.

36. What is periderm? Explain the structure.

37. Write a short note on mineral crystals seen in angiosperms.

38. Write down the morphological features of pollen wall.

(6 × 4 = 24 Marks)

PART – D

Long essay. Answer **any two**. Each questions carries **15** marks.

39. Describe the structure and function of the various types of parenchyma in angiosperrns, with the help of neat labelled diagrams.

40. Describe the structure of Dicot and Monocot embryo with appropriate diagrams and add a note on various types of endosperm.

41. Explain various types of epidermal structures with the help of diagrammatic sketches.

42. Give a detailed description on the various processes involved in megasporogenesis and megagametogenesis in angiosperms.

43. Give an account on various methods of anomalous secondary growth. Explain in detail on the anomaly present in *Bignonia* Stem.

44. Write an essay on the primary structure of Dicot stem. Add a note on the anatomical differences with Monocot stem.

(2 × 15 = 30 Marks)