



K22U 3406

Reg. No. :

Name :

**I Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, November 2022
(2019 Admission Onwards)
Core Course in Botany/Plant Science
1B01BOT/PLS : CYTOLOGY AND ANGIOSPERM ANATOMY**

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams *whenever* specified.

PART – A

Objective type questions. Answer **all**.

(4×1=4)

- Which among the following is a plant that shows adaptive type of secondary growth ?
a) *Bignonia* b) *Boerhaavia* c) *Dracaena* d) *Hydrilla*
- The only living cells in xylem tissue is
a) xylem vessels b) xylem tracheids
c) xylem parenchyma d) xylem fibres
- Thin long needle shaped calcium oxalate crystals found aggregated in bundles are called
a) cystolith b) raphides
c) aleurone grains d) druses
- Which among the following is an organized and well differentiated cell having cytoplasm but no nucleus ?
a) xylem parenchyma b) companion cell
c) sieve tube d) tracheid

PART – B

Short essay questions. Answer **any eight**.

(8×2=16)

- What is plasmodesmata ?
- Distinguish between protoxylem and metaxylem.

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7. What are the major anatomical features that distinguish stems from roots ?
8. Describe the structure of chloroplast.
9. What are bulliform cells ? Write notes on its functions.
10. Write short notes on abscission of leaf.
11. Describe different types of collenchyma.
12. What is the reason for high durability of heart wood ?
13. What is phagocytosis ?
14. Enumerate the functions of mitochondria.
15. Differentiate between storied and non-storied cambium.
16. Give an account of external secretory tissues in plants.

PART – C

Essay questions. Answer **any four**.

(4×3=12)

17. Give an account of conjoint vascular bundles with illustrations and examples.
18. Describe the structure and occurrence of starch grains in plants.
19. Give a detailed account of extrastelar secondary growth in angiosperms.
20. Describe different types of parenchyma.
21. Explain the ultrastructure and functions of plasma membrane.
22. How does the stem anatomy of *Dracaena* differ from other monocots ?

PART – D

Long essay questions. Answer **any one**.

(1×8=8)

23. Give a detailed account of the ultra-structure and functions of cell wall in angiosperms. Add a note on pits.
 24. Describe the anomalous secondary thickening in *Boerhaavia* stem.
 25. What are the special features of merisematic cells ? Classify meristems based on any three criteria. Give examples.
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