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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

: 3 Hours   Max. Marks : 40

Instruction : Draw diagrams **whenever** specified.

PART – A

jective 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

ort essay questions. Answer **any eight**.   (8×2=16)

What is plasmodesmata ?

Distinguish between protoxylem and metaxylem.

What are the major anatomical features that distinguish stems from roots ?

Describe the structure of chloroplast.

What are bulliform cells ? Write notes on its functions.

Write short notes on abscission of leaf.

Describe different types of collenchyma.

What is the reason for high durability of heart wood ?

What is phagocytosis ?

Enumerate the functions of mitochondria.

Differentiate between storied and non-storied cambium.

Give an account of external secretory tissues in plants.

PART – C

ay questions. Answer **any four**.   (4×3=12)

Give an account of conjoint vascular bundles with illustrations and examples.

Describe the structure and occurrence of starch grains in plants.

Give a detailed account of extrastelar secondary growth in angiosperms.

Describe different types of parenchyma.

Explain the ultrastructure and functions of plasma membrane.

How does the stem anatomy of *Dracaena* differ from other monocots ?

PART – D

j essay questions. Answer **any one**.   (1×8=8)

Give a detailed account of the ultra-structure and functions of cell wall in angiosperms. Add a note on pits.

Describe the anomalous secondary thickening in *Boerhaavia* stem.

What are the special features of merisematic cells ? Classify meristems based on any three criteria. Give examples.