

GURUDAS COLLEGE

Online Internal Examination, 2020

BOTANY- HONOURS

SEMESTER II

Paper: BOT-A-CC-2-3-TH

Plant Anatomy

Full Marks: 50

Date of Examination: 2nd December, 2020

The figures in the margin indicate full marks

Candidates are required to give their answers in their own words as far as practicable

Answer each group in a new page

Group-A (THEORY)

1. Answer the following in few words (**any 10**): 2X10
- a) Mention two functions of Plasmodesmata.
 - b) Define Mechanical Tissue with an example.
 - c) Define and draw one Actinocytic stomata.
 - d) What is the function of Aerenchyma cell?
 - e) Distinguish between Leaf trace and Leaf gap.
 - f) Give one example for each of succulent xerophytic plant and a floating plant.
 - g) What is Annual Ring?
 - h) What is phyllode?
 - i) Mention 2 anatomical modifications in a hydrophytic plant.
 - j) What is Periderm?
 - k) Draw a labelled diagram to show apical meristem differentiation into Tunica and Corpus.
 - l) Distinguish between Apoplast and Symplast.
 - m) Comment on the meristematic tissues found in leaf.
 - n) Mention the origin of pith in Siphonostele.
 - o) What is Atactostele?
2. Answer the following questions (**any 1**): 5X1
- a) Briefly discuss the types of Proto-stele with examples and diagrams.

b) Write a short note on the application of plant anatomy in systematics.

Group-B (PRACTICAL)

All questions are compulsory

Answer the following questions:

1. Comment on the anatomical features of *Tecoma* stem. 5
2. What are sclerides and raphides? Give one example for each where osteosclerides and raphides are found. 3+2
3. Comment on the identifying characteristic of Dicot root. 5

Group C (INTERNAL ASSESSMENT)

Answer the following multiple choice questions (**any 5**): 2X5

1. Secondary growth includes the formation of secondary vascular tissue and-
 - a) Periderm
 - b) Plerome
 - c) Epidermis
 - d) Cortex.
2. Guard cells of stoma are-
 - a) Irregular in shape
 - b) Convex in shape
 - c) Long and cylindrical in shape
 - d) Kidney shaped.
3. In dicot stem, the secondary growth takes place by
 - a) Primary cambium
 - b) Secondary cambium
 - c) Development of cambium in stele region
 - d) Development of cambium in stele and in the cortical region.
4. Siphonostele includes

- a) Vascular tissue.
 - b) Vascular tissue and pith
 - c) Vascular tissue, pith and pericycle
 - d) Vascular tissue, pith, pericycle and endodermis
5. Which of them is a Mechanical Tissue?
- a) Parenchyma
 - b) Collenchyma
 - c) Phloem
 - d) Xylem
6. Vascular bundles are scattered in
- a) Dicot stem
 - b) Dicot root
 - c) Bryophytes
 - d) Monocot stem
7. Sunken stomata is the identifying characteristic of
- a) *Nyphaea* petiole
 - b) *Nerium* leaf
 - c) *Bignonia* stem
 - d) *Ixora* root
8. In submerged hydrophytes functional stomata are found
- a) on lower surface of leaf
 - b) on both the surface of leaf
 - c) nowhere on the plant
 - d) on upper surface of leaf

Instructions for submission of answer scripts

1. Write the front page/top sheet as per instruction. Give page numbers to each page.
2. Scan the pages in sequence and make a single PDF file.
3. Rename file as per instruction.
4. Email the PDF file within the stipulated time to **botasem2GDC@gmail.com** and give CC email to **botahons2020@gmail.com** & **gdexamhons@gmail.com**