

2023

BOTANY — HONOURS

Paper : CC-3

(Plant Anatomy)

Full Marks : 50

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer **any five** questions : 2×5
- Write the function of 'accessory transfusion tissue' and mention its occurrence.
 - Write two points on specific anatomical characters of leaves of xerophytes.
 - What is collateral open vascular bundle? Give a neat labelled diagram.
 - Differentiate between intussusception and apposition types of cell wall deposition.
 - Define 'quiescent centre'.
 - Distinguish between 'spring wood' and 'autumn wood'.
 - Define 'branch trace' and 'branch gap'.
 - What is 'bulliform' cell? Cite its occurrence.
2. Answer **any two** questions : 5×2
- Briefly describe 'Tunica-Corpus' theory of shoot apex organization with suitable diagram.
 - Mention the adaptive anatomical features of hydrophytes.
 - In the light of 'expansion theory' state how siphonostele originated from protostele.
 - Explain the anomalies found in stem of *Dracaena* plant with suitable diagram.
3. Answer **any three** questions :
- Give an overview of the ultra structure and chemical composition of plant cell wall. 6+4
 - Describe applications of plant anatomy in plant systematics and pharmacognostic study. 5+5
 - Compare with labelled sketches, the secondary growth in thickness in stem of *Tecoma* with that of stem of *Bignonia*. 10
 - Write short notes on : 5+5
 - Extra stelar secondary growth in dicot stem.
 - Principles of governing the distribution of various mechanical tissues in plants.
 - Distinguish between the anatomical features of isobilateral and dorsiventral leaves. Write a brief note on apoplast and symplast. 5+5

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