

B.Sc. Semester - 4 (NEP-2020) Examination**March/April-2025****BOT: Anatomy of Angiosperms (Major-8)****Time: 2.00 Hours****Mark: 50****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Q-1 (A) Answer in detail (Any One). (08)**
1) **Explain:** The structure and functions of tracheary elements found in xylem with diagram.
2) What are vascular bundles? Describe their types with diagrams.
- Q-1 (B) Answer in brief (Any One). (04)**
1) Difference between dicot and monocot leaves.
2) **Explain:** Structure of collenchyma and its three forms base on cell wall thickenings and arrangements.
- Q-2 (A) Answer in detail (Any One). (09)**
1) What is Ergastic substance? Discuss starch grains as a reserve material in Potato and Wheat.
2) What are stomata? Explain locations, structure and types of stomata classified by Metcalfe and Chalk.
- Q-2 (B) Answer in brief (Any One). (04)**
1) What is lenticifers? Explain types and structure of lenticifers.
2) **Explain:** Structure and functions of cystolith with diagram.
- Q-3 (A) Answer in detail (Any One). (08)**
1) Define apical meristem and explain any two shoot apex organization theory studied by you.
2) Write a brief account of root apices organizations.
- Q-3 (B) Answer in brief (Any One). (04)**
1) Define meristem and explain important features of meristem.
2) What is trichomes? Discuss non-glandular trichomes with examples.
- Q-4 (A) Answer in detail (Any One). (09)**
1) Explain how does secondary growth take place in a sunflower root with the help of suitable diagrams.
2) What is anomalous secondary growth? Explain anomalous secondary growth in *Salvadora* stem.
- Q-4 (B) Answer in brief (Any One). (04)**
1) Explain structure and functions of fascicular and interfascicular cambium in dicot stem.
2) Draw *Tinospora* aerial root T.S. and discuss the key points of anomalous secondary growth.
