

QP Code : 77065

(2½ Hours)

[Total Marks : 75

- N.B. :** (1) All questions are compulsory.
(2) Draw neat labelled diagrams wherever necessary.
(3) All questions carry equal marks.

1. Attempt **any two** of the following : 15
- (a) Give an account of *Pentoxylon* stem studied by you.
 - (b) Describe the internal structure of *Lepidodendron* stem studied by you.
 - (c) Give an account of the reproductive structures of *Lyginopteris*.
 - (d) Discuss the contribution of Birbal Sahni in the field of Paleobotany.
2. Attempt **any two** of the following questions: 15
- (a) Give the classification, distinguishing characters, and floral formula of the family Cucurbitaceae.
 - (b) Give the morphological peculiarities and systematic position of the family Commelinaceae.
 - (c) Discuss the merits and demerits of Bentham and Hooker's system of classification.
 - (d) Discuss the importance of anatomy in relation to taxonomy.
3. Attempt **any two** of the following questions : 15
- (a) What is anomalous secondary growth? Describe it in the stem of *Bignonia*.
 - (b) Describe the anomalous secondary growth in the stem of *Achyranthes*.
 - (c) What is root-stem transition ? Describe any two types of root-stem transitions studied by you.
 - (d) What is stomata ? Describe anisocytic, diacytic, and paracytic stomata.

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4. Attempt **any two** of the following questions : 15
- (a) Describe various types of exine stratifications in pollen grains studied by you.
 - (b) Describe the role of palynology in relation to Honey Industry.
 - (c) What is Pollen viability ? Discuss various causes for the loss of Pollen viability.
 - (d) Describe in brief the NPC system of clasification in pollen grains of Angiosperms.
5. Write short notes on **any three** of the following : 15
- (a) Female reproductive structure of *Pentoxylon*
 - (b) Spikelet of Graminae
 - (c) Economic importance of Solanaceae
 - (d) Anomocytic stomata
 - (e) Methods of short-term pollen storage
 - (f) Anomalous secondary growth in stem of *Aristolochia*
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