

2022

Time - 3 hours

Full Marks - 60

Answer all groups as per instructions.

Figures in the right hand margin indicate marks.

Draw labelled diagrams wherever necessary.

GROUP - A

1. Fill in the blanks. (all) [1 × 8
- (a) The first land plants are _____.
- (b) _____ group of plants are dominant flora of Paleozoic era.
- (c) _____ is commonly known as Maiden-hair tree.
- (d) _____ group/genus of fossils shows more resemblance with angiosperms.
- (e) In Equisetum, internal to the ring of vascular bundles, lies a small cavity called _____.
- (f) A thread like chain of cells that form earliest stage (haploid) of the life cycle of mosses and is the juvenile gametophyte. It is called _____.
- (g) The three chambered spore bearing structure found in the axils of foliar leaves of Psilotum is called _____.

- (h) The two dimensional imprints of plant parts generally found in fine-grained sediments are called _____.

GROUP - B

2. Answer any eight of the following within two or three sentences each. [1½ × 8]

- (a) Define Apospory.
- (b) Mention two fossil characters of Rhynia.
- (c) What is the peculiarity of ligule in Selaginella ?
- (d) Write two angiospermic characters of Gnetum.
- (e) What is ectophloic siphonostele ?
- (f) Mention two differentiating characters between gymnospermic and angiospermic endosperm.
- (g) Point out habitat pattern of Pteridophytes.
- (h) What is form-genus ?
- (i) What is ovuliferous scale ?
- (j) Mention two features of Bryophytes of aquatic habit.

GROUP - C

3. Write notes on any eight of the following within 75 words each. [2 × 8]
- (a) Transition to land habit

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- (b) Sporogonium of Riccia
- (c) Dictyostele
- (d) Rhizophore of Selaginella
- (e) Transfusion tissue
- (f) Structure and organisation of strobilus of Equisetum
- (g) Mycorrhizal roots
- (h) Gemma cups
- (i) Polyembryony
- (j) Ovule of Gnetum

GROUP - D

Answer any four questions within 500 words each.

4. Give an illustrated account of ranges of thallus organisation in Bryophytes citing the genera studied by you. [6]
5. Discuss stelar evolution in Pteridophytes with illustrations. [6]
6. Describe the female gametophyte of Pinus with suitable sketches. [6]
7. Give an illustrated account of morphology, anatomy and affinities of Rhynia. [6]

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[4]

8. What is heterospory ? How it leads to seed habit ? Discuss with special reference to Selaginella. [6]
9. Give a comparative account of male and female receptacles in Marchantia. [6]
10. Describe the salient features of Geological Time Scale. [6]