

**Meghalaya**  
**Class XI**  
**Bio Botany**  
**Sample Paper-1**

**Time allowed: 1.5 hours**

**Maximum Marks: 35**

**General Instructions:**

- (i) Write all the answers in the Answer Script.
- (ii) Attempt all parts of a question together at one place.
- (iii) All questions are compulsory.
- (iv) This question paper consists of 4 (four) Groups – A, B, C and D.

GROUP 'A' – Consists of **6** (six) Questions (Nos. **1-6**) of 1 (one) mark each; very short answer to be answered in 1 word or 1 sentence each.

GROUP 'B' – Consists of **4** (four) Questions (Nos. **7-10**) of 2 (two) marks each; which one alternative from the same units; short answer, to be answered in 20-30 words each.

GROUP 'C' – Consists of **3** (three) Questions (Nos. **11-13**) of 3(three) marks each; with one alternative, to be answered in 30-40 words each.

GROUP 'D' – Consists of **3** (three) Questions (Nos. **14-16**) of 4 (four) marks each; with one alternative, long answer type, to be answered in 60-70 words each.

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**GROUP – A**

- 1.** What is the main function of sepals? **1**
- 2.** What does the half-leaf experiment on photosynthesis indicate? **1**
- 3.** Why is a leaf of silk cotton called palmately compound? **1**
- 4.** What does the variegated leaf experiment of photosynthesis prove? **1**
- 5.** When do you refer to a vascular bundle as a closed bundle? **1**

6. Name the reduced form of ubiquinone. 1

**GROUP - B**

7. What are mycorrhizae? How does it benefit the plant? 2

**Or**

What are gemmae? What role does it play in reproduction?

8. Describe the structure and functions of the tracheary elements. 2

9. Name two heterosporous ferns. Why are they called so? 1+1=2

10. Describe any two modified forms of tap root for storage with one example of each. 1+1=2

**GROUP - C**

11. Name the type of fertilisation which is unique to angiosperms. Describe it. 2+1=3

12. Draw a labelled diagram of chloroplast. 3

**Or**

What is a photosystem? Which is the pigment which acts as a reaction centre?

2+1=3

13. What are the factors affecting the rate of diffusion? 1+2=3

**GROUP - D**

14. Explain why? 4

(a) Exogenous application of auxin fails to enhance the growth of intact plants.

(b) Vitamins are not considered as plant growth hormones.

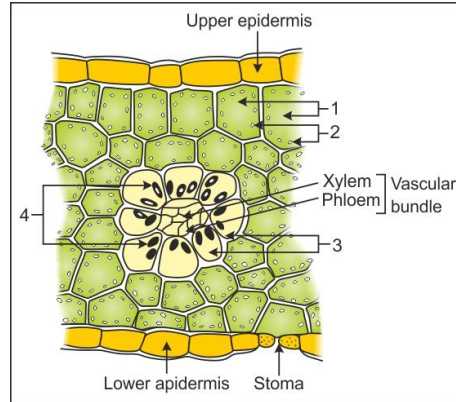
(c) It is appropriate to call a short-day plant a long-night plant.

(d) Some plants, belonging to halophytes and growing in marshy lands, face great difficulty in germination.

(e) Gibberellins do not enhance the growth of isolated plant parts.

**Or**

A portion of the cross-section of leaf is shown in the diagram. Answer the following:



- (a) Label 1 to 4.
- (b) What kind of anatomy is shown in the diagram?
- (c) Write the structure and functions of 2 and 4.

**15.** What are the steps involved in the formation of a root nodule? **1+3=4**

**16.** A portion of the transverse section of root is shown in the diagram. Label 1 to 4 and also write the function of parts 1 and 4. Briefly explain the pathways 2 and 3. **4**

