

**Meghalaya**  
**Class XI**  
**Bio Botany**  
**Sample Paper-2**

**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 are macrosporangia or female strobili? **1**
- 2.** Describe the gynoecium of ground nut. **1**
- 3.** How is a continuous ring of cambium formed in a dicot stem? **1**
- 4.** Name the protein which forms huge pores in the outer membranes of mitochondria. **1**

5. Julius von Sachs provided evidence for which facts based on his experiment on green plants? **1**

6. Name the component which transfers electrons from ubiquinol to cytochrome c. **1**

**GROUP - B**

7. How would proteins enter the respiratory pathway? **2**

**Or**

Describe the first step of TCA cycle.

8. How do gibberellins help in increasing the sugar yield? **2**

9. Consider a plant which lacks chlorophyll *a* but has chlorophyll *b*; will it carry out photosynthesis? What is the role of chlorophyll *b* and other accessory pigments? **1+1=2**

10. What is nitrogen fixation? State the two natural sources to provide energy for nitrogen fixation. **1+1=2**

**GROUP - C**

11. Explain the modes of reproduction in *Ulothrix*. **2+1=3**

12. Explain how the stem is involved in reproduction in jasmine and *Chrysanthemum*. **3**

**Or**

Draw a well-labelled diagram of the regions of the root tip.

**2+1=3**

13. Explain the method of hydroponics. **1+2=3**

**GROUP - D**

14. With the help of a diagram explain the light-harvesting complex (LHC). **4**

**Or**

Give a detailed account of the Hatch and Slack pathway with the help of a diagram.

15. Describe the events which occur during the life cycle of an angiosperm. **1+3=4**

16. Describe the different regions of the root. **4**