Meghalaya

Class XII

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.

GROUP – A

1. Mention the reasons for the difference in ploidy of zygote and primary endosperm nucleus in an angiosperm. **1**

2. State any one significance of interspecific hybridisation in plants. **1**

3. What is the economic value of *Spirulina*? **1**

4. A food chain has only a few trophic levels. Justify. **1**

5. The climax stage is achieved quickly in secondary succession as compared to primary succession. Why? **1**

6. Name the Indian hotspots that extend into other countries. **1**

GROUP - B

7. A particular species of wild cat is endangered. In order to save them from extinction, which is a desirable approach in situ or ex situ? Justify your answer. **2**

Or

Write a note on biodiversity conservation.

8. A bilobed and dithecous anther has 100 microspore mother cells per microsporangium. How many male gametophytes can it produce? **2**

9. What is inbreeding in plants? What happens to the recessive alleles in this process? **1+1=2**

10. What is stratification in an ecosystem? Explain with an example. **1+1=2**

GROUP – C

11. What is primary productivity? How is it different from net primary productivity? **1+2=3**

12. What is meant by monosporic development of female gametophyte? **3**

Or

Differentiate between microsporogenesis and megasporogenesis. What type of cell division occurs during these events? Name the structures formed at the end of these two events.

1+1+1=3

13. How are somaclones cultured from explants in *in vitro* conditions? Why are somaclones so called? **2+1=3**

GROUP – D

14. Draw a labelled diagram of the sectional view of a mature pollen grain in angiosperms. Explain the functions of its different parts. **4**

Or

How are seeds advantageous to flowering plants?

15. How has the breeding programme helped in improving public nutritional health? State two examples in support of your answer. **2+2=4**

16. Describe how do oxygen and chemical composition of detritus control decomposition. **4**