MIZORAM PUBLIC SERVICE COMMISSION

GENERAL COMPETITIVE EXAMINATIONS FOR RECRUITMENT TO THE POST OF
JR. GRADE OF MIZORAM FOREST SERVICE (ASST. CONSERVATOR OF FORESTS)
UNDER ENVIRONMENT, FOREST & CLIMATE CHANGE DEPARTMENT, GOVERNMENT OF MIZORAM, 2023

BOTANY

Time Allowed : 3 hours   Full Marks : 100

The figures in the margin indicate full marks for the questions.

Answer any 5 (five) questions
taking not more than 3 (three) questions from each section.

SECTION - A

1. Elucidate the important plant diseases caused by viruses. Add a note on mode of infection and dissemination of plant viruses. **(12+8=20)**

2. Write notes on <u>any two</u> of the following: **(2×10=20)**
   (a) Distribution of living gymnosperms in India   (b) Types of stele in Pteridophyte
   (c) Salient features of Gnetales   (d) Structure and functions of endosperm
   (e) Economic importance of algae

3. Explain the concept of totipotency. Briefly describe Somatic hybrids and Cybrids. **(10+10=20)**

4. Write short note on <u>any two</u> of the following: **(2×10=20)**
   (a) Energy plantation   (b) Anamolous secondary growth
   (c) Stomata and their type   (d) Botanical gardens
   (e) Fungal toxins

5. Discuss the different modes of reproduction in Fungi. Explain the economic importance of fungi in medicine and industry. **(10+10=20)**

SECTION - B

6. What are chromosomes? Enumerate the structural aberrations of chromosome with their significances. **(8+12=20)**

7. Write short notes on <u>any two</u> of the following: **(2×10=20)**
   (a) Cross over   (b) Molecular basis of mutation
   (c) Genetic code   (d) Cell cycle
   (e) Sex determination

8. What is meant by the term biogeochemical cycle? Describe any two gaseous biogeochemical cycles. **(8+12=20)**

9. What is Nitrogen metabolism? Illustrate the mechanism of biological Nitrogen fixation. **(8+12=20)**

10. Write short note on <u>any two</u> of the following: **(2×10=20)**
    (a) Photoperiodism   (b) Senescence
    (c) Seed dormancy   (d) Mineral deficiencies
    (e) Coefficient of variation

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