CSM—16/24

PART—II/PAPER—VI

BOTANY

PAPER—I

Candidate must not write on this margin.

Time : 3 Hours

Full Marks : 250

The question paper contains **18 (Eighteen)** *questions in* **GROUP—A, (12)** *and* **GROUP—B, (06)** *together.*

GROUP—A

Candidates to attempt **10** ***(ten)*** *questions within word limit of* **250.**

Each question carries **15** *marks.*

1. Compare the floral characters of plants belonging to Brassicaceae and Solanaceae.

2. How do bryophytes resemble pteridophytes and how do they differ from each other? Mention the features of pteridophytes resembling seed plants.

3. Explain the process of microsporogenesis in plants. What are the different types of arrangements of spores in the tetrads?

4. What are the economic benefits of viruses? Discuss.

5. What types of evidence did Vavilov use in postulating the centers of origin of cultivated plants? Mention the limitations of his concept.

6. Differentiate between the cell walls of Gram +ve and Gram –ve bacteria. Name the causal organisms for the following plant diseases :

Ring rot (Wilt) of potato, Onion rot, Citrus canker, Angular leaf spot of cotton, Crown gall of dicot plants, Soft rot of carrot, Fire blight of pear and apple, Pierce's disease of grapevine, Citrus greening, Yellow ear rot (tundu) of wheat.

7. Using suitable diagram and examples, discuss the various types of stomata in plants.

8. Classify fodder crops on the basis of crop life, irrigation requirement and botanical features. Give examples.

9. Summarize the salient characteristics of the three classes of the division Bryophyta.

10. What are the demerits of Bentham and Hooker's system and Hutchinson's system of classification of angiosperms?

11. What are the major differences in the composition and applications of Murashige and Skoog (MS) medium and Gamborg's medium used for plant tissue culture?

12. Discuss the economic importance of the wood of gymnosperms.

GROUP—B

Candidates to attempt **05** ***(five)*** *questions within word limit of* **300**.

Each question carries **20** *marks.*

13. Discuss the various modes of vegetative reproduction in fungi.

14. Discuss the various ways of plant protoplast isolation and purification. How is protoplast viability checked?

15. Using suitable diagrams, explain the various stages of typical embryo development in dicot plants.

16. Based on nucleic acid/genome composition and strand characteristics, discuss the classification of viruses. Mention at least one example of each type of virus.

17. What causes anomalous secondary growth in plants? Discuss with suitable examples from dicot plants.

18. Differentiate between linear and multiple regression, giving their mathematical representative equations. How is regression different from correlation? Calculate the two regression equations for X on Y and Y on X for the following data :

X	1	4	6	8	10	3	5	7	9
Y	10	12	14	16	18	24	20	15	13

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