

Time Allowed : 3 Hours

Full Marks : 200

If the questions attempted are in excess of the prescribed number, only the questions attempted first up to the prescribed number shall be valued and the remaining ones ignored.

Answers may be given in English or in Bengali or in Nepali but all answers must be in one and the same language.

GROUP - A

Answer any four of the following questions :-

1. Write brief notes on any four of the following :-

- (a) Apomixis
- (b) Phytoalexin
- (c) Numerical taxonomy
- (d) Life cycle patterns in fungi
- (e) Aeropalynology
- (f) Phycocolloid.

10 x 4

2. Distinguish between any four of the following :-

- (a) Lytic cycle and Lysogenic cycle.
- (b) Microsporogenesis and Megasporogenesis.
- (c) Staminal characters of Orchidaceae & Poaceae.
- (d) Mycotoxin and algal toxin.
- (e) Gram-ve and gram+ve bacteria.
- (f) Homothallism and heterothallism in fungi.

10 x 4

3. Explain any four of the following :-

- (a) Tunica corpus theory for shoot apex organization.
- (b) Heterospary and Seed habit.
- (c) Plant disease management.
- (d) Geological distribution of fossil pteridophytes.
- (e) Chemical composition of cell wall.
- (f) Parasexuality.

10 x 4

4. Comment on any four of the following :-

- (a) Phylogenetic importance of Progymnosperms.
- (b) Anatomical adaptation of xerophytes.
- (c) Age and area hypothesis.
- (d) Dichotomous keys.
- (e) Importance of fossil study.
- (f) Economic importance of pteridophytes.

10 X 4

5. Discuss any four of the following :-

- (a) Different types of placentations in angiosperms.
- (b) Nomenclature and reconstruction of plant fossils.
- (c) Degeneration of sex in fungi.
- (d) Bacterial genome.
- (e) Auxospore formation in diatoms.
- (f) Ecological importance of lichen.
- (g) Genetic recombination in Bacteria.

10 x 4

P. T. O.



-: 2 :-

GROUP - BAnswer any two questions.

- (a) Describe the symptoms and disease cycle in 'Brown spot disease of rice'. How can the disease be controlled ? 10
- (b) Give a brief account of plant viruses with special reference to TMV. 10
- (a) Explain the principles of deposition of mechanical tissues in plant systems with examples. 10
- (b) Define telome. In the light of telome concept, explain the evolution of major groups of pteridophytes. Mention the demerits of telome theory. 10
- (a) Define Herbarium. How it helps in the study of systematic Botany ? Mention the name of an Indian Herbarium. What precautions should be taken in handling of Herbarium specimens by the user ? Write briefly regarding the maintenance of general Herbarium. 2+3+1+2+2
- (b) What is plant succession ? What are seral and climax stages in the process of succession ? With the help of suitable sketches describe the different stages of succession in a large pond. 2+3+5

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