

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 written either in English or in Bengali or in Nepali but all answers must be in one and the same language

GROUP-A

Answer any four from the following

1. Answer briefly : (Any four)
  - (a) Process of conjugation in bacteria. 10
  - (b) Cell wall of eubacteria (gm+ve & gm-ve) and archeobacteria. 3+3+4
  - (c) Generation time & Growth curve in bacteria. 5+5
  - (d) Ultrastructure of flagella of prokaryotic and eukaryotic algae. 5+5
  - (e) Range of thallus structure in chlorophycean algae. 10
  - (f) Cell wall structure of diatom. 10
  
2. Write brief notes on : (Any four)
  - (a) Bipolar and tetrapolar heterothallism in fungi. 5+5
  - (b) Role of mycorrhiza in chemical communication of forest vegetation. 10
  - (c) Different types of Lichen and vegetative propagule of Lichen. 5+5
  - (d) Principles of mass cultivation in algae. 10
  - (e) Phycotoxins and some natural events of fish poisoning. 10
  - (f) Parasexuality. 10
  
3. Explain any four of the following :
  - (a) Physicochemical characteristics of TMV. 10
  - (b) Antithetic theory. 10
  - (c) NPC classification of Erdtman. 10
  - (d) Disease cycle of Brown Spot of rice. 10
  - (e) Fungal sources for antibiotics and vitamins. 10
  - (f) Salient features of Lyginopteris. 10
  
4. Write brief notes on : (Any four)
  - (a) Describe Geologic time scale diagrammatically and mention distribution of plant kingdom along ages. 5+5
  - (b) Origin of seed habit. 10
  - (c) Ex-situ conservation. 10
  - (d) Disease triangle. 10
  - (e) Role of bryophytes in pollution monitoring. 10
  - (f) Tunica corpus theory. 10

5. Compare between : (Any four)
- |   |     |
|---|-----|
| (a) Polyembryony & pseudopolyembryony.          | 5+5 |
| (b) Autogenic and Allogenic succession.         | 10  |
| (c) Inverted vascular bundle & medullary bundle | 5+5 |
| (d) Fusiform initial and ray initial.           | 5+5 |
| (e) Collenchyma and sclerenchyma                | 5+5 |
| (f) Ecotone and edge effect.                    | 5+5 |

GROUP-B

Answer any two from the following

6. Comment on :
- |  |       |
|--|-------|
| (a) Mention diagnostic features of Orchidaceae and Solanaceae. | 6+4   |
| (b) Define :-  |       |
| (i) Plasmodesmata.   |       |
| (ii) Commensalism.   |       |
| (iii) Psammocere.  |       |
| (iv) Allelopathy.  | 2/2x4 |
7. Describe very briefly :
- |  |       |
|--|-------|
| (a) (i) Fruit of Poaceae.                    |       |
| (ii) Stamens of Cruciferae.                  |       |
| (iii) Anisocytic stoma.                      | 3+3+4 |
| (b) (i) Adaptive features of halophytes.     |       |
| (ii) Distinguish between viroids and prions. | 5+5   |
8. Explain in brief :
- |   |    |
|---|----|
| (a) Age and Area hypothesis.            | 10 |
| (b) Role of phytochemistry in taxonomy. | 10 |