

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

Group-A

Answer any four of the following:

1. Write brief notes on any four of the following:
(a) NPC classification by Erdtman 10×4=40
(b) Role of pathotoxins in plant disease
(c) Ecological importance of lichens
(d) Rules of reconstruction of plant fossils
(e) Post fertilization changes in angiosperms
(f) One step growth curve
2. Distinguish between any four of the following: 10×4=40
(a) Lytic cycle and lysogenic cycle of virus
(b) Anatomical adaptation of hydrophyte and xerophyte
(c) Age and area Hypothesis and Epibiotic theory of Endemism
(d) Cell wall structure of Gram positive and Gram negative bacteria
(e) *In situ* and *ex-situ* conservation
(f) Indented and bracketed key 10×4=40
3. Explain any four of the following:
(a) Degeneration of sex in fungi
(b) Process of conjugation in bacteria
(c) Sculpturing of diatom cell wall
(d) Diagnostic features of Orchidaceae and Solanaceae
(e) Phylogenetic significance of Progymnasperms
(f) Role of phytoalexin in plant defence

Please Turn Over

ABC(O)/BO-I/20

(2)

10×4=40

4. Comment on *any four* of the following:

- (a) Heterothallism in fungi
- (b) Physicochemical characters of TMV
- (c) Aeropalynology
- (d) Types of stomata in dicotyledons
- (e) Industrial production of cheese
- (f) Role of bryophytes in Pollution monitoring

10×4=40

5. Discuss *any four* of the following:

- (a) Different types of placentation in angiosperms
- (b) Origin of seed habit
- (c) Abnormal secondary growth in *Bignonia*
- (d) Phytochemical data for solving taxonomic problem
- (e) Disease triangle
- (f) Principles of mass culture of microalgae

Group-B

Answer *any two* questions:

- 6. (a) Discuss the symptoms and disease cycle in 'Brown spot disease of rice'. How can the disease be controlled? 6+4=10
- (b) Discuss in brief the different modes of preservation of fossils according to Schopf. 10
- 7. (a) Define mechanical tissues. Discuss the principles governing the distribution of mechanical tissue in plants. 10
- (b) Discuss the fungal sources and uses of cellulose, tryptophan, riboflavin and Griseofulvin. 2½×4=10
- 8. (a) Name the male and female fructifications of *Williamsonia seawardiana*. Describe the male and female fructification in brief. 2+8=10
- (b) Give a brief account of phytogeographical regions of India. Name five endemic plants of Eastern Himalaya. 5+5=10

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