

BOTANY
(Paper I)

Time Allowed : Three Hours

Maximum Marks : 300

QUESTION PAPER SPECIFIC INSTRUCTIONS

(Please read each of the following instructions carefully before attempting questions)

There are EIGHT questions divided in two Sections.

Candidate has to attempt FIVE questions in all.

Question Nos. 1 and 5 are compulsory and out of the remaining, any THREE are to be attempted choosing at least ONE question from each Section.

The number of marks carried by a question/part is indicated against it.

Wherever any assumptions are made for answering a question, they must be clearly indicated.

Word limit in questions, wherever specified, should be adhered to.

SECTION 'A'

1. Answer any three of the following (in not more than 200 words each): **20×3=60**
- (a) Differentiate between bacteria and cyanobacteria.
- (b) Give an account of algae in industry.
- (c) Discuss the sequential steps involved in host pathogen interaction.
- (d) Mention the indirect uses of Bryophytes.
2. Write about the following: **20×3=60**
- (a) Differentiate between homosporous and heterosporous.
- (b) Give an account of Rhynia.
- (c) Describe in detail the types of Ascocarps (Fruit bodies) in Ascomycotina and how they help in classification.
3. Write critical notes on the following: **20×3=60**
- (a) Sporocarp of Marsilea.
- (b) Tissue culture and its importance
- (c) Evolution of Sporophyte in Bryophytes
4. Write short notes on the following: **30×2=60**
- (a) Mention the causal organism, symptoms and control measures of bacterial blight in paddy, sandal spike and leaf spot in groundnut.
- (b) Give the role of bacteria in fermentation and mention the products.

SECTION 'B'

5. Answer any three of the following (in not more than 200 words each): **20×3=60**
- (a) Give the salient features of Cordaitales.
- (b) Explain the secondary growth in Pinus stem.

- (c) Explain the Tunica Corpus theory.
- (d) Give an account of plant gums.
6. Write about the following: **30×2=60**
- (a) Give an account of pollen grain morphology and application of palynology.
- (b) Discuss the role of chemotaxonomy and numerical taxonomy in systematics of Angiosperms.
7. Write critical notes on the following: **20×3=60**
- (a) Floral structure and primitive characters of Magnoliaceae.
- (b) Floral structure and floral formula of Poaceae.
- (c) Differentiate between the pollinia of Asclepiadaceae and Orchidaceae.
8. Write short notes on the following: **20×3=60**
- (a) Give an account of beverage yielding plants.
- (b) Differentiate between xylem and phloem.
- (c) Give the salient features of Bentham and Hooker's system of classification.