

**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 conjugation and transduction in Bacteria.
  - (b) Give an account of algae in food industry.
  - (c) Write in short about mycotoxins.
  - (d) Write about Bryophytes as indicators of mineral enrichment.
2. Write about the following: **20×3=60**
- (a) Range of thallus organization in Marchantiales.
  - (b) Evolution of seed habit in Pteridophytes.
  - (c) Characteristic features of Pythium.
3. Answer the following: **20×3=60**
- (a) Write a critical note on male gametophyte of Selaginella.
  - (b) Write a critical note on somatic hybrid and cybrid.
  - (c) Draw well labeled diagram of V.T.s. thallus of Anthoceros passing through Androecia (no description).
4. Write Notes on: **20×3=60**
- (a) Monoecious coenobium of Volvox.
  - (b) Description of, conidia formation in Aspergillus.
  - (c) Protoplast culture.

**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 Cycadales.
  - (b) Explain secondary growth in dicotyledonous stem.

- (c) Explain pollination in *Cycas*.
- (d) Give a short account of any two plant fibres.
6. How will you distinguish between the following pairs of families on the basis of important floral characters?
- (a) Malvaceae and Brassicaceae 30
- (b) Leguminosae and Solanaceae 30
7. Give an account of the pollen grain formation in dicots and monocots. 60
8. Write in short on the following:
- 20×3=60**
- (a) Give in short an account of five pulse yielding crops.
- (b) Differentiate between manoxylic and pycnoxylic wood, giving examples.
- (c) Give the classification of angiosperms as proposed by Hutchinson. Discuss its merits and demerits.