

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) What is bioremediation?
 - (b) Briefly discuss the phyletic position of photobionts.
 - (c) Highlight the uniqueness of the cell structure of Anthoceros.
 - (d) What is polarity and how does it affect differentiation?
2. How do the following differ from each other: **20×3=60**
- (a) Hybrid from Cybrid
 - (b) Cryptogams from Archegoniates
 - (c) Sporophyte from Gametophyte (in lower organisms)
3. Describe the following: **20×3=60**
- (a) Molecular basis of infection
 - (b) Practical application of ovule culture
 - (c) Microbes as indicators of pollution
4. Draw neat and well-labelled diagrams to show: **20×3=60**
- (a) Lytic cycle
 - (b) Diagnostic stages of any two powdery mildews
 - (c) L.S. sporocarp of Marsilea

SECTION 'B'

5. Answer any three of the following in not more than 200 words each: **20×3=60**
- (a) What are the symptoms and causes of hay fever?
 - (b) Describe the morphological nature of commercial cotton, clove and saffron.
 - (c) Describe the phyletic position of Magnoliaceae.

- (d) Citing suitable examples explain what is meant by 'form genus'.
6. With the help of suitable diagrams explain: **30×2=60**
- (a) Development of a bisporic embryo sac
- (b) Vavilovian centres of origin of crop plants
7. Discuss the following: **[60]**
- (a) Alpha and Omega taxonomy **20**
- (b) Ethnobotany and its importance **20**
- (c) Nemec phenomenon **20**
8. Describe the following: **20×3=60**
- (a) Distribution in India of the genus yielding "Taxol".
- (b) Phenomenon of apomixis and its importance
- (c) Commonalities and differences between Cycadofilicales and Cycads