

BOTANY
(Paper I)

Time Allowed : Three Hours

Maximum Marks : 250

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.

Attempts of questions shall be counted in sequential order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.

SECTION 'A'

1. Briefly describe the following in not more than 150 words each: **10×5=50**
- (a) Role of fungi in agriculture and medicine.
 - (b) Fructifications in Fungi.
 - (c) Reproductive organs in Chara.
 - (d) Plant quarantine.
 - (e) Energy plantations.
2. (a) With the help of suitable diagrams describe the evolution of sporophyte in Bryophytes. **20**
- (b) Give an account of pigments in Algae. **15**
- (c) Discuss about the physiology of parasitism. **15**
3. Draw well labelled diagrams of the following: **12½×4=50**
- (a) Male thallus with antheridiophore of Marchantia.
 - (b) V.L.S. of Marsilea sporocarp.
 - (c) V.S. of sporophyte of Polysiphonia.
 - (d) V.S. of apothecium of Peziza.
4. Give the causal organism, symptoms and control measures of the following: **12½×4=50**
- (a) Tikka disease of groundnut.
 - (b) Citrus Canker.
 - (c) Rust of wheat.
 - (d) Ergot of Rye.

SECTION 'B'

5. Describe the following in about 150 words each: **10×5=50**

- (a) Formation of Petrification.
- (b) Relevance of numerical taxonomy.
- (c) Position of monocots in APG classification.
- (d) Embryo development in Arabidopsis.
- (e) Importance of typification in plant nomenclature.
6. Draw well-labelled diagrams of the following: **12½×4=50**
- (a) Cone of Cycadeoidea.
- (b) T.S. of cyathium of Euphorbia.
- (c) T.S. of coralloid root of Cycas.
- (d) V.S. of leaf of Welwitschia.
7. Write an account of the floral structure of the following families. Give the botanical names of three important plant species belonging to each of the three families and specify their uses: **12½×4=50**
- (a) Orchidaceae
- (b) Magnoliaceae
- (c) Asteraceae
- (d) Rubiaceae
8. (a) Discuss the role of tissue culture in crop improvement. **15**
- (b) How are plant protoplasts isolated and fused? **15**
- (c) Describe in detail Hutchinson's system of classification and compare it with the classification system of Engler and Prantl. **20**