

BOTANY
(Paper II)

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. Write notes on any three of the following in about 200 words each: **20×3=60**
- (a) Meiosis
 - (b) Sex-linked inheritance
 - (c) Mass selection
 - (d) χ^2 -test (Chi-square test)
2. Describe in detail the structure and functions of mitochondria. **60**
3. Discuss the synthesis of nucleic acids and proteins. **60**
4. (a) Describe the back-cross method of breeding in crop varieties. **30**
- (b) Describe in detail the various uses of back-cross method of breeding and its limitations. **30**

SECTION 'B'

5. Write notes on any three of the following in about 200 words each: **20×3=60**
- (a) Photoperiodism
 - (b) Seed dormancy
 - (c) Social forestry
 - (d) Pollution control
6. Describe the principle categories of enzymes involved in respiratory reactions. **60**
7. (a) What do you understand by mineral nutrition of crop plants? **20**
- (b) Describe the role of nitrogen, phosphorus and potash on plant growth. **40**
8. (a) What do you understand by conservation of biodiversity? **20**
- (b) How is biodiversity conserved? **40**