C.S.E. (MAIN) BOTANY

PAPER - I - 2004

Time Allowed: Three Hours ***Maximum Marks: 300***

Candidates should attempt Questions 1 and 5 which are compulsory and any three of the remaining questions selecting at least one question from each Section. Provide diagrams in the answer books, wherever necessary.

SECTION A

1. Answer any three of the following (in not more than 200 words each) : 20x3=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: 20x3=60
   (a) Differentiate between homospory and heterospory.
   (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 x 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 x 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): 20x3=60
   (a) Give the salient features of Cordaitales.
   (b) Explain the secondary growth fn *Pinus* stem.
   (c) Explain the Tunica Corpus theory.
   (d) Give an account of plant gums.
6. Write about the following: 30 x 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: 20x 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 x 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.

PAPER - II - 2004

Time Allowed: Three Hours *Maximum Marks: 300*

Candidates should attempt Questions 1 and 5 which are compulsory and any three of the remaining questions selecting at least one question from each Section. Provide diagrams in the answer books, wherever necessary.

SECTION A

1. Write notes on any three of the following in about 200 words each: 20x3=60
   (a) Meiosis
   (b) Sex-linked inheritance
   (c) Mass selection
   (d) X^2-test (Chi-squre 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 x 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