

C.S.E. BOT ANY (MAIN) BOT ANY - 2005

PAPER - I

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 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: 20x3=60
 - (a) Range of thallus organization in Marchantiales.
 - (b) Evolution of seed habit in Pteridophytes.
 - (c) Characteristic features of Pythium.
3. Answer the following: 20x3=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 : 20x3=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 x 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: 20x3=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.

PAPER - II - 2005

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) Polytene Chromosome
 - (b) Signal Transduction
 - (c) Transgenic plants
 - (d) Standard deviation.
2. Describe in detail the ultrastructure of Golgi Complex and its function in membrane trafficking. 60
3. (a) Describe properties of Genetic Code.
(b) Describe the role of RNA in origin and evolution. 60
4. Define hybrid vigour. Describe anyone method of hybridization for crop improvement. 60

SECTION B

5. Write notes on any THREE of the following in about 200 words each: 20x3 = 60
 - (a) Non-cyclic photophosphorylation
 - (b) Nitrogenases
 - (c) Fruit-ripening
 - (d) Afforestation
6. Define auxins. Describe their physiological response in plants. 60
7. Define biogeochemical cycles. Describe N-cycle. 60
8. (a) What do you know about Social Forestry?
(b) How would you measure the level of Air-Pollution? 60