

# IAS Mains Botany 2005

## Paper-I

Time Allowed: Three Hours Maximum Marks: 300

### Section-A

1. Answer any three of the following (in not more than 200 words each):  $20 \times 3 = 60$ 
  - 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:  $20 \times 3 = 60$ 
  - a. Range of thallus organization in Marchantiales.
  - b. Evolution of seed habit in Pteridophytes.
  - c. Characteristic features of Pythium.
3. Answer the following:  $20 \times 3 = 60$  Androecia (no description).
4. Write Notes on:  $20 \times 3 = 60$ 
  - 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.
  - d. Write a critical note on somatic hybrid and cybrid.

### Section-B

5. Answer any three of the following (in not more than 200 words each):  $20 \times 3 = 60$ 
  - a. Give the salient features of Cycadales.
  - b. Explain secondary growth in dicotyledonous stem.
  - c. Explain pollination in Cycas.
6. How will you distinguish between the following pairs of families on the basis of important floral characters? comimportant
  - a. Malvaceae and Brassicaceae
  - b. Leguminosae and Solanaceae
7. Give an account of the pollen grain formation in dicots and monocots. 60
8. Write in short on the following:
  - a. Draw well labeled diagram of V. T. s. Thallus of Anthoceros passing through

- b. Monoecious coenobium of Volvox.
- c. Description of, conidia formation in Aspergillus.
- d. Give a short account of any two plant fibres.