

IAS Mains Botany 1992

Paper-I

Section A

1. Answer any three of the following in not more than 200 words each:
 - a. How do eukaryote cells differ from prokaryote cells?
 - b. Write about different types of pollutants.
 - c. How has apomixes helped in evolution?
 - d. Write about commensalisms with examples. How does differ from ammensalism?
 - e. What are mycoherbicides? Explain with examples.
2. Give a concise account including control measures, of any four of the following:
 - a. Red rot of sugarcane
 - b. Green ear disease of Bajra
 - c. Yello ear rot of wheat
 - d. Bacterial blight of rice
 - e. Yellow mosaic virus
3. Answer the following questions
 - a. Give a short account of the moss protonema
 - b. List three most important characters from which Pteridophytes differ from the Bryophytes.
 - c. Why is Marselia sporocarp not considered a seed?
 - d. Why were Bryophytes not successful on land as the vascular plants?
4. Answer the following questions
 - a. How will you differentiate a long shoot from a dwarf shoot in pinus?
 - b. What characters are common to cycads and Fern?
 - c. Compare the mature embryo of Pinus with that of Cycas.
 - d. Tripharic life cycles in Algae. Discuss.

Section B

5. Answer any three of the following in not more than 200 words each:
 - a. How does serology help in taxonomy of plants?
 - b. Explain the significance of palynological characters in systematics.
 - c. What characters are used for identification of wood
 - d. Outline the scope, usefulness and limitations of Chemotaxonomy and Numerical

6. Answer the following questions

a. Write briefly about the following:

- i. Allergens
- ii. Nodel anatomy and taxonomy
- iii. Endothelium
- iv. Vivipary

b. Distinguish between:

- i. Solanaceae and Ranunculaceae
- ii. Euphorbiaceae and Asclepiadaceae
- iii. Gramineae and Musaceae

7. Answer the following questions

a. Write on causes of pollen incompatibility and suggest methods to overcome the same

b. Name the centres of origin and the regions of present day cultivation of any two of the following:

- i. Black pepper
- ii. Cloves
- iii. Sorghum

c. Name the source and economic importance of any two

- i. Lac
- ii. Teak
- iii. Opium
- iv. Katha

8. Give a brief illustrated account of the following:

- a. Protoplasm culture
- b. Bordered pit
- c. Tyloses
- d. Wood seasoning
- e. Transfusion tissue