

CSM – 14/18
Botany
Paper – I

Time : 3 hours

Full Marks : 300

The figures in the right-hand margin indicate marks.

Candidates should attempt Q. No. 1 from Section – A and Q. No. 5 from Section – B which are compulsory and three of the remaining questions, selecting at least one from each Section.

SECTION – A

1. Answer any **three** of the following in not more than **200** words each : **20×3 = 60**
- (a) Discuss critically the molecular basis of infection and disease resistance in plants.
 - (b) Describe the evolution of stele in Pteridophytes.
 - (c) Give an account of the evolution of sex in Algae.

- (d) Give an outline idea of the system of classification as proposed by Cronquist (1981).
2. Write notes on the following : $20 \times 3 = 60$
- (a) Structures of peristome teeth and their role in spore dispersal
 - (b) Apospory and Apogamy as found in the members of the Pteridophytes
 - (c) Salient features of the family Leguminosae
3. Give answer of the following : $20 \times 3 = 60$
- (a) Geographical distribution of *Cycas* species in India
 - (b) Rust diseases caused by fungi
 - (c) Comment on the physiology of parasiticism
4. Write notes on the following : $20 \times 3 = 60$
- (a) Salient features of the family Arecaceae (Palmae)
 - (b) Applications of microbes in industry
 - (c) Female cone in *Gnetum* sp.

SECTION – B

5. Answer any three of the following : $20 \times 3 = 60$
- (a) Describe the patterns of embryo development.
 - (b) Comment on the Chi-square test and Coefficient of Correlation.
 - (c) Write the importance of ethnobotany in Indian context.
 - (d) Write the various applications of Palynology.
6. Answer the following :
- (a) Describe the different types of endosperms. 30
 - (b) Describe the structure of different types of stomata with example. 30
7. Discuss the following :
- (a) Role of Botanic Gardens 30
 - (b) Protoplast Culture 30

8. Answer the following :

- (a) Describe the mechanical tissues in respect of structures, distribution and function. 30
- (b) Describe the different Vavilovian Centres of origin of cultivated plants. 30

