CSM – 14/20

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 any ***three*** *of the remaining questions, selecting at least* ***one*** *from each Section.*

SECTION – A

1. Answer any **three** of the following : 20×3 = 60

   (a) Discuss critically the evolution of plant body types in algae.

   (b) Describe with suitable example the different methods of sexual reproduction in fungi.

   (c) Give an account of Bentham and Hooker's system of classification of Angiosperms.

(d) Give an illustrated account of gene transfer mechanisms in bacteria.

2. Answer the following : 20×3 = 60

(a) Describe the salient features of plasmids and comment on their role in bacteria.

(b) Describe with diagram the diagnostic features of the family Orchidaceae.

(c) Give an account of the various methods of spore dispersal in Bryophytes.

3. Answer of the following : 20×3 = 60

(a) Describe the plant diseases caused by Mycoplasmas.

(b) Describe the life cycle of the pathogen causing "black stem rust" of wheat.

(c) Discuss the characteristic features of the family Asteraceae and comment on their economic importance.

4. Write explanatory notes on the following : 20×3 = 60

(a) Chemical nature and toxicity of mycotoxins

(b) Role of microbes in agriculture

(c) Economic importance of Gymnospherms

SECTION – B

5. Answer any **three** of the following : 20×3 = 60

(a) Give a comparative account of anatomy of C3 and C4 plants.

(b) Describe the different types of pollination with regard to the agents used.

(c) Give an account of the requirements for plant tissue culture.

(d) Discuss the importance of herbarium in plant diversity and taxonomic studies.

6. Answer the following : 20×3 = 60

(a) Write an account of the constituents of the vascular tissue system in plants.

(b) Give an account of the beverage yielding plants of India.

(c) Critically comment on correlation and regression.

7. Answer the following : 20×3 = 60

(a) Describe the different ways by which anomalous secondary structures are formed in stems of Angiosperms.

(b) Give an account of the cultivation and uses of two timber yielding plants of India.

(c) Describe the development of female gametophyte in Angiosperms.

8. Write explanatory notes on the following : 20×3 = 60

(a) Cybrids — applications and limitations

(b) Advantages of energy plantation

(c) Phenomenon of polyembryony