

DIVERSITY OF MICROBES AND CRYPTOGAMS - I

(Re-appear April - 2012)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *one* question each from Section A, B, C and D carrying 15 marks each, and the entire Section E consisting of *ten* short answer type questions carrying 1½ marks in all.

SECTION : A

1. (a) Give an illustrated account fo the life-cycle of causal organism of Loose smut of wheat. 8
(b) Explain the process of Conjugation in bacteria. 7
2. (a) Describe the structure and development of the stages of *Puccinia graminis tritici* on its primary host. 8
(b) Explain the method of asexual reproduction in *Penicillium*. 7

Section : B

3. (a) Discuss the structure and development of antheridium in *Oedogonum*. 8
(b) Explain the method of asexual reproduction in *Volvox*. 7
4. (a) Explain in detail the post-fertilization changes (upto the formation of cystocarp) in *Batrachospermum*. 10
(b) Describe the method of asexual reproduction in *Ectocarpus*. 5

Section : C

5. (a) What is Heteromorphic alternation of generations ? Explain it in case of Bryophytes. 10
(b) Explain the method of asexual reproduction in *Marchantia*. 5
6. (a) Describe the structure of the capsule of *Funaria*. 10
(b) Draw a well-labelled diagram of Lognitudinal section (L.S.) of mature undehisced saprophyte of *Anthoceros*. 5

Section : D

7. (a) Define the term Sporocarp. Explain its internal structure in *Marsilea* with the help of sections cut in different planes. 10
(b) What is a stele ? Explain different types of steles found in the stem of *Lycopodium*. 5
8. (a) What is Heterospory ? Discuss its role in the evolution of seed habit in *Selaginella*. 10
(b) Describe the structure of the stem of *Equisetum*. 5

Section : E

9. Write short notes on the following :

- (a) Heterotrichous.
- (c) Fungi imperfecti.
- (e) VAM.
- (g) Hormogonia.
- (i) Protonema.

- (b) Reoviruses.
- (d) Pigments of Phaeophyceae.
- (f) Eusporangiate.
- (h) Conceptacle.
- (j) Bacteriophages.

10×1.5=15