

## BOTANY PAPER—A

(Plant Diversity—I)

**Time Allowed : Three Hours**

**Maximum Marks : 36**

**Note :** (1) Attempt five questions in all. Q. No 1 is compulsory. (2) Attempt four more questions, selecting one from each Unit. (3) Draw diagrams where necessary.

1. (A) Fill in the blanks :

- (i) A colony with a definite shape, size and arrangement of cells is known as .....
- (ii) The Chloroplast of *Cladophora* is.....
- (iii) Chlamydomonas stage multiplies indefinitely by.....

- (iv) In Rhizopus sexual reproduction takes place by.....  
 (v) In Albugo the zoospores are..... (Shape and flagellation)  
 (vi) The cell wall in bacteria is composed of.....  $6 \times 1 = 6$

(B) Multiple Choice Questions :

- (i) Which of the following is a prokaryotic algae?  
 (a) Volvox (b) Cladophora  
 (c) Oscillatoria (d) Vaucheria
- (ii) The principal pigment of Phaeophyceae is :  
 (a) Phycoerythrin (b) Phycocyanin  
 (c) Siphonoxanthin (d) Fucoxanthin
- (iii) Oogamous sexual reproduction is seen in :  
 (a) *Vaucheria* (b) *Oscillatoria*  
 (c) *Cladophora* (d) *Batrachospermum*
- (iv) All fungi are :  
 (a) *Symbionts* (b) *Parasites*  
 (c) *Saprophytes* (d) *Heterotrophs*
- (v) Loose smut of wheat is caused by :  
 (a) Albugo (b) Ustilago  
 (c) Puccinia (d) Colletotrichum
- (vi) In Agaricus fruiting body is made up of :  
 (a) Primary mycelium (b) Secondary mycelium  
 (c) Tertiary mycelium (d) Haploid mycelium

$6 \times 1 = 6$

UNIT-I

2. (a) Describe briefly the sexual reproduction in *Vaucheria* with the help of suitable diagrams.  
 (b) Describe asexual reproduction in *Volvox*. 3,3
3. Write notes on any three of the following :  
 (a) Movements in *Oscillatoria*  
 (b) Nutrition in bacteria  
 (c) Systematic position of Xanthophyceae.  
 (d) Thallus Structure in *Cladophora*. 3x2=6

UNIT-II

4. (a) Describe briefly the post-fertilisation changes in *Batrachospermum*  
 (b) Discuss the role of algae in Agriculture. 4,2
5. Give the diagrammatic representation of the life-history of *Dictyota*. 6

### UNIT-III

6. Give the name of causal organism and symptoms of white rust of Crucifers. Give the asexual reproduction of the Pathogen. 1,2,3
7. Attempt any two of the following :
- (a) Sexual reproduction in *Rhizopus*.
  - (b) Haplo-diplobiontic life cycle in Yeasts
  - (c) Thallus structure in Yeasts. 2×3=6

### UNIT-IV

8. (a) What is a Heteroecious rust? Describe the life history of *Puccinia graminis-tritici* on wheat. 1,3
- (b) Write a note on Red rot of Sugarcane.
9. Attempt any two of the following :
- (a) External morphology of Lichen Thallus
  - (b) Loose smut of wheat.
  - (c) Basidio carp of AGARICUS. 3×2=6