

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 1828

C

Roll No.....

Unique Paper Code : 253201

Name of the Paper : Phycology and Mycology

Name of the Course : B.Sc. (H) Microbiology Part I

Semester : II

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **five** questions in all, selecting at least two questions from each section.
3. **All** questions carry equal marks.

SECTION A

1. (a) Define the following (**any seven**) :

(i) Frustule

(ii) Gongrosira stage

(iii) Plakea stage

(iv) Raphe

(v) Meiozoospore

(vi) Bulbils

(vii) Aplanospore

(1×7=7)

P.T.O.

- (b) Draw well-labelled diagrams of **any two** of the following :
- (i) Akinete
 - (ii) *Ectocarpus* thallus
 - (iii) Sex organs in *Vaucheria* (3×2=6)
- (c) What are algal blooms ? (2)
2. Write short notes on **any five** of the following :
- (a) Heterocyst
 - (b) Nucule formation in *Chara*
 - (c) Diplo-haplontic life cycle
 - (d) Reserve food material in various algal classes
 - (e) Role of algae in agriculture
 - (f) Thallus organization in *Coleochaete* (3×5=15)
3. (a) Differentiate between the following (**any five**) :
- (i) Unilocular and Plurilocular sporangia
 - (ii) Carposporangium and Tetrasporangium
 - (iii) Epitheca and Hypotheca
 - (iv) Synzoospore and Zoospore
 - (v) Spermocarp and Cystocarp
 - (vi) Anisogamy and Oogamy (2×5=10)
- (b) Explain the significance of :
- (i) Phialopore in *Volvox*
 - (ii) Auxospores in diatoms (2×2=4)
- (c) Name an alga used in space travel. (1)

SECTION B

4. Differentiate between the following (**any five**) :
- (a) Perithecium and Pycnidium
 - (b) Cellular and Acellular slime molds
 - (c) Zoospore and Zygosporangium
 - (d) Crustose and Fruticose lichens
 - (e) Haustoria and Appressorium
 - (f) Rhizomorph and Rhizoids (3×5=15)
5. (a) With the help of suitable diagrams discuss the various types of basidiocarp development. (5)
- (b) Give an example of the fungus (complete biological name) producing/involved in : (**any six**)
- (i) Litmus solution
 - (ii) Human pathogenesis
 - (iii) Cheese ripening
 - (iv) Vitamin A
 - (v) Antibacterial antibiotic
 - (vi) Plant growth hormone
 - (vii) Poisonous mushroom (1×6=6)
- (c) Write the classification and economic importance of any **two** of the following fungi.
- (i) *Phytophthora*
 - (ii) *Neocallimastix*
 - (iii) *Saccharomyces* (2×2=4)

6. (a) Define the following with a suitable example :

(i) Heterothallic

(ii) Diplanetism

(iii) Dolipore septum

(iv) Capillitium

(v) Arthrospore

(vi) Coprophilous fungus

(vii) Soredium

(1.5×6=9)

(b) Why is *Neurospora* used as a model organism for genetic studies ? (2)

(c) With the help of suitable diagrams explain sexual reproduction in *Physarum*.
(4)