

[This question paper contains 4 printed pages.]

1442

Your Roll No.

B.Sc. (H) Microbiology / II Sem. A

Paper – MIHT-203

PHYCOLOGY AND MYCOLOGY

Time : 3 Hours

Maximum Marks : 75

*(Write your Roll No. on the top immediately
on receipt of this question paper.)*

*Attempt any **Five** questions in all,
selecting atleast **two** questions from each Section.*

*Attempt Sections **A & B** on separate answer-books.*

All questions carry equal marks.

SECTION A (Phycology)

1. (a) Define following terms (any **eight**)

- (i) Amylum stars
- (ii) False branching
- (iii) Hormogonia
- (iv) Raphe
- (v) Auxospore
- (vi) Bristle
- (vii) Synzoospore

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- (viii) Fucosan vesicle
- (ix) Spermocarp (1×8=8)
- (b) Give one example of algae as :
- (i) Producer of antibiotic
 - (ii) Causative agent of Red Rust of tea
 - (iii) Contaminant of Water supply
 - (iv) Biofertilizer (1×4=4)
- (c) Discuss the development of nucule in *Chara*. (3)
2. (a) Give distinctive features of Phaeophyceae. (4)
- (b) Draw a well labelled diagram of heterocyst. (3)
- (c) Name an alga which has a tubular coenocytic thallus. Discuss its asexual reproduction. (4)
- (d) What are the factors which contribute to wide distribution of blue green algae? (4)
3. (a) Differentiate between the following (any two) :-
- (i) Thallus of *Coleochaete pulvinata* and *Coleochate scutata*
 - (ii) Carposporophyte and tetrasporophyte of *Polysiphonia*
 - (iii) Pinnate and Centric diatoms (4×2=8)

- (b) Write short notes on (any two) :
- (i) Pigment distribution in algae
 - (ii) Coenobium formation in *Volvox*
 - (iii) Applications of algae as food (3×2=6)
- (c) What is the food reserve material in Xanthophyceae ? (1)

SECTION B (*Mycology*)

4. (a) Explain the following terms (any six) :-
- (i) Swarm Cells
 - (ii) Capillitium
 - (iii) Clamp connection
 - (iv) Dictyospore
 - (v) Biotroph
 - (vi) Secondary Zoospore
 - (vii) Paraphysis (1×6=6)
- (b) Classify and write the economic importance of any three of the following fungi :-
- (i) *Neocallimastix*
 - (ii) *Saccharomyces*
 - (iii) *Phytophthora*
 - (iv) *Candida* (2×3=6)

- (c) Why *Neurospora* is widely used in genetical and biochemical studies ? (3)
5. (a) Differentiate between following (any five) :-
- (i) Pseudoplasmodium and Plasmodium
 - (ii) Telomorph and Anamorph
 - (iii) Spermatization and Somatogamy
 - (iv) Holobasidium and Phragmobasidium
 - (v) Macroconidia and Microconidia
 - (vi) Holocarpic and Eucarpic Fungi (2×5=10)
- (b) Describe basidiocarp development in agaricales. (3)
- (c) Describe sporangial proliferation in *Saprolegnia*. (2)
6. (a) Write short notes on (any three) :-
- (i) Heterothallism
 - (ii) Economic importance of Lichens
 - (iii) Types of ascocarps
 - (iv) Mycotoxins (4×3=12)
- (b) Give detailed diagrammatic representation of life cycle of *Dictyostelium*. (3)