

[This question paper contains 4 printed pages.]

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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)

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(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)

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- (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)