REV-01
MMB/01/05

2025/06

SET A

M.Sc. MICROBIOLOGY
SECOND SEMESTER (IMPROVEMENT)
PHYCOLOGY & MYCOLOGY
MMB-202

[USE OMR FOR OBJECTIVE PART]

Duration: 3 hrs .**Full Marks: 70**

(Objective)

Time: 30 min. **Marks: 20**

Choose the correct answer from the following: *1X20=20*

1. The reserve food material in red algae is
   a. Starch b. Laminarin
   c. Floridean starch d. Glycogen

2. Brown algae belong to which class?
   a. Rhodophyceae b. Chlorophyceae
   c. Phaeophyceae d. Cyanophyceae

3. The motile reproductive structures in algae are usually:
   a. Zoospores b. Akinetes
   c. Cysts d. Conidia

4. The term "kelp" refers to large species of:
   a. Green algae b. Brown algae
   c. Red algae d. Blue-green algae

5. Pyrenoids, which are involved in starch formation and storage, are commonly found in:
   a. Chloroplasts of green algae b. Cytoplasm of red algae
   c. Nucleus of brown algae d. Mitochondria of cyanobacteria

6. Asexual reproduction in algae can occur through all except:
   a. Binary fission b. Zoospores
   c. Fragmentation d. Fertilization

7. Which type of algae is commonly used to make agar-agar?
   a. Chlorophyceae b. Phaeophyceae
   c. Rhodophyceae d. Cyanophyceae

8. The main photosynthetic pigment in cyanobacteria (blue-green algae) is:
   a. Chlorophyll-b b. Fucoxanthin
   c. Phycocyanin d. Xanthophyll

9. Fungi are
   a. Autotrophic organisms
   b. Prokaryotic organisms
   c. Unicellular autotrophs
   d. Eukaryotic heterotrophs

10. The filamentous structures forming the body of a fungus are called:
   a. Hyphae
   b. Rhizoids
   c. Flagella
   d. Stomata

11. Which of the following fungi is used in the production of alcohol and bread?
   a. Penicillium
   b. Agaricus
   c. Saccharomyces
   d. Rhizopus

12. Mycorrhiza is a symbiotic association between:
   a. Algae and fungi
   b. Fungi and roots of higher plants
   c. Bacteria and roots
   d. Algae and roots

13. Rusts and smuts are caused by fungi belonging to:
   a. Ascomycota
   b. Zygomycota
   c. Basidiomycota
   d. Deuteromycota

14. Which fungal group does not produce sexual spores?
   a. Basidiomycota
   b. Ascomycota
   c. Zygomycota
   d. Deuteromycota

15. The spores produced inside a sac-like structure in fungi are called:
   a. Zygospores
   b. Basidiospores
   c. Conidia
   d. Ascospores

16. The fungal component of a lichen is called:
   a. Phycobiont
   b. Mycobiont
   c. Photobiont
   d. Cyanobiont

17. Lichens are highly sensitive to:
   a. Water pollution
   b. Air pollution
   c. Soil pollution
   d. Noise pollution

18. Lichens reproduce vegetatively by:
   a. Conidia
   b. Soredia and isidia
   c. Fragmentation
   d. Both B and C

19. Which type of lichen has a leaf-like appearance?
   a. Crustose
   b. Foliose
   c. Fruticose
   d. Squamulose

20. "Red rot" of sugarcane is caused by:

a. Colletotrichum falcatum
b. Puccinia
c. Xanthomonas
d. Cercospora

-- --- --

Descriptive

Time : 2 hrs. 30 min. Marks:50

[Answer question no.1 & any four (4) from the rest]

1. Discuss the major general characteristics of an algae. Write a note on Fritsch's classification of algae. 5+5=10

2. Explain briefly the characteristics, occurrence, vegetative structure and reproduction in Phaeophyceae with a neat labeled diagram. 10

3. Describe briefly the plant body of a diatom thallus with a neat labeled diagram. Write a note on its asexual reproduction with a neat labeled diagram. 4+6=10

4. **Write short note on** 5+5=10
   - i) Economic importance of Algae
   - ii) Ascomycetes life cycle(schematic diagram)

5. Define lichen. Describe specialised structures found in Lichen thallus with neat labelled diagrams. 3+7=10

6. Write a note on mycorrhiza. Discuss isolation and mass production of mycorrhizal biofertiliser. 4+6=10

7. Draw the basic thallus structure of a basidiomycotina. Write a note on its general characteristics. Discuss the life cycle of basidiomycotina with a schematic diagram. 2+3+5=10

8. Describe briefly the Late blight of Potato with suitable diagrams. 10

= = *** = =