

M.Sc. MICROBIOLOGY
SECOND SEMESTER
PHYCOLOGY & MYCOLOGY
MMB – 203

(Use Separate Answer Scripts for Objective & Descriptive)

Duration : 3 hrs.

Full Marks : 70

(PART-A: Objective)

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1X20=20

1. Which fungi division includes 'Club fungi'
 - a. Zygomycota
 - b. Deuteromycota
 - c. Basidiomycota
 - d. Ascomycota
2. Culture media used for fungus is ...
 - a. Czapek Dox Agar
 - b. Tellurite medium
 - c. Rose Bengal media
 - d. Both A and C
3. 'Mycorrhizae' are useful for plants mainly due to their following attribute
 - a. Providing resistance against abiotic stresses
 - b. Fixing atmospheric nitrogen
 - c. Enhanced absorption of nutrients from soil
 - d. Killing insects and pathogens
4. Dikaryophase and septate mycelium are characteristic features of which of the following class?
 - a. Ascomycetes and Basidiomycetes
 - b. Ascomycetes
 - c. Zygomycetes and Ascomycetes
 - d. Basidiomycetes
5. What is the name of the process where a single cell holds multiple nuclei?
 - a. Mycelia
 - b. Plasmogamy
 - c. Karyogamy
 - d. Germination
6. What is the most reliable laboratory method for the isolation of *Trichophyton rubrum*?
 - a. Blood culture
 - b. Serological methods
 - c. Microscopic examination of skin scrapings
 - d. Urease test
7. Aflatoxin is produced by
 - a. *Aspergillus flavus*
 - b. *Aspergillus parasiticus*
 - c. *Aspergillus niger*
 - d. Both (a) & (b)
8. Ochratoxin A and Citrinin affects
 - a. Lungs
 - b. Reproductive organs
 - c. Cutaneous
 - d. Kidney
9. Antiandrogenic effects caused by
 - a. Fluconazole
 - b. Ketoconazole
 - c. Miconazole
 - d. Tioconazole

10. Itraconazole can act as
- | | |
|-----------------|----------------------|
| a. Fungicidal | b. Fungistatic |
| c. Both A and C | d. None of the above |
11. Choose the correct format
- | |
|---|
| a. Inoculation-penetration-infection-incubation-invasion-reproduction-dissemination-overwintering |
| b. Penetration-inoculation-incubation- invasion-reproduction-dissemination-overwintering |
| c. Invasion- Inoculation-penetration-infection-incubation- reproduction-dissemination-overwintering |
| d. Overwintering- invasion- Inoculation-penetration-infection-incubation-reproduction-dissemination |
12. Symptoms appear other than the infection locus
- | | |
|-------------------|----------------------|
| a. Systemic | b. Non-systemic |
| c. Both a) and b) | d. None of the above |
13. Irish famine is related to
- | | |
|--------------------------|--------------------------|
| a. Wilt of arhar | b. Late blight of potato |
| c. Red rust of sugarcane | d. Downy mildew |
14. Fusarium causes
- | | |
|--------------------------|--------------------------|
| a. Red rust of sugarcane | b. Downy mildew |
| c. Wilt of arhar | d. Late blight of potato |
15. Red rot of sugarcane is related to
- | | |
|---------|----------|
| a. Stem | b. root |
| c. leaf | d. arrow |
16. Most of the Lichens consist of _____
- | | |
|--|-------------------------------------|
| a. blue-green algae and basidiomycetes | b. blue-green algae and ascomycetes |
| c. red algae and ascomycetes | d. brown algae and phycomycetes |
17. In the studies on the atmospheric pollution, lichens are important as they
- | | |
|---|--------------------------------------|
| a. can readily multiply in polluted atmosphere | b. efficiently purify the atmosphere |
| c. can also be grown in greatly polluted atmosphere | d. are very sensitive to pollutants |
18. Reserve food of Phaeophyceae are
- | | |
|-----------------|----------------|
| a. Starch | b. Fucoxanthin |
| c. Oil droplets | d. Laminarin |
19. Auxospore formation is found in
- | | |
|----------------------|-----------------|
| a. Cyanophyceae | b. Brown algae |
| c. Bacillariophyceae | d. Rhodophyceae |
20. Pigments are distributed in _____ of cyanophyceae
- | | |
|-----------------|----------------|
| a. Cytoplasm | b. Nucleus |
| c. Centrioplasm | d. chromoplasm |

PART-B : Descriptive

Marks : 50

Time : 2 hrs. 40 min.

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

1. Write *any two* distinctive short-notes on: 5+5=10
 - a. Ascomycota,
 - b. Basidiomycota,
 - c. Oomycetes,
 - d. Zygomycotina

2. Write a detailed note on mycorrhiza with special emphasis on its role in agriculture. 10

3. Write *any two* distinctive short-notes on: 5+5=10
 - a. Para-sexuality,
 - b. Antifungal Drugs,
 - c. Lichens

4. What is superficial and systemic mycoses? Give a detailed account on dermatophytes. 2+8=10

5. Draw a neat labelled diagram of a diatom cell. Discuss the vegetative reproduction in diatoms with neat diagram. 3+7=10

6. Explain the induced structural (post inflectional) defence mechanism with neat diagrams. 10

7. What are mycotoxins? Elaborate about source organism and health impacts. 2+8=10

8. Describe briefly the general characteristic, occurrence and mode of reproduction of Rhodophyceae. Write a note on economic importance of red algae. 8+2=10

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