

M.Sc. BOTANY
Fourth Semester
MYCOLOGY & PLANT PATHOLOGY
(MSB – 402 F)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any four from Question no. 2 to 8
Question no. 1 is compulsory.

1. Discuss the history of mycology giving emphasis on recent developments and future directions. (10)
2. Describe the main characteristics used by different mycologists for classification of fungi. Discuss the algal origin of fungi. Mention the reasons given by mycologists for and against this hypothesis. (4+3+3=10)
3. Describe the similarities and differences exhibited by members of Ascomycetes and Basidiomycetes. Discuss the different events of para-sexual cycle. (6+4=10)
4. What are secondary metabolites? Name some important secondary metabolites produced by fungi. Discuss the nutritional specialization in parasitic fungi. (2+3+5=10)
5. What are biogeochemical cycles? Illustrate the role of fungi in biogeochemical cycles with reference to phosphorus and carbon cycles. (2+8=10)
6. Write explanatory notes on the following: (5+5=10)
 - a. Entemogenous fungi
 - b. Plant-fungal interactions

7. Define biological control. Giving suitable examples highlight the role of fungi in biological control of plant diseases. Discuss the mechanisms by which fungi control the diseases. (2+4+4=10)
8. How will you differentiate an edible mushroom from non-edible ones? Describe the method of cultivation of button mushroom. (3+7=10)

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Duration: 20 minutes

Marks – 20

(PART A - Objective Type)

I. Choose the correct answer:

1×20=20

- Which of the following spore is on a club shaped structure and results from the fusion of two nuclei from different strains of the same fungi?
 - Ascospores
 - Basidiospores
 - Blastospores
 - Conidiospores
- Which one of the following is not an edible fungus?
 - Morchella deliciosa*
 - Pleurotus ostreatus*
 - Amanita muscaria*
 - Calocybe indica*
- Dolipore septum is a feature of :
 - Oomycetes
 - Ascomycetes
 - Basidiomycetes
 - Deuteromycetes
- Fungi which grow on dung are called?
 - Fungicolous
 - Muscicolous
 - Coprophilous
 - Keratinophilous
- Parasexuality was first discovered in:
 - Neurospora crasa*
 - Neurospora tetrasperma*
 - Penicillium chrysogenum*
 - Aspergillus nidulans*
- Which one of the following is asexual fruiting body?
 - Perithecium
 - Pycnidium
 - Apothecium
 - Cleistothecium
- An organism that takes nutrients from living host without killing it is:
 - Facultative parasite
 - Mutualists
 - Symbionts
 - Biotrophs
- Amylase is produced from:
 - Aspergillus* spp.
 - Penicillium* spp.
 - Candida* spp.
 - All of these
- Fungi which grow on insects are called as:
 - Entomogenous fungi
 - Lichonophilous
 - Hypogenous
 - Necrotrophic
- 'Petulin' a mycotoxin is produced by:
 - Aspergillus parasiticus*
 - Penicillium expansum*
 - Fusarium* spp.
 - Trichoderma viridi*
- Arbuscular mycorrhiza represents which of the following types of mycorrhizal association?
 - Ectomycorrhiza
 - Orchidaceous mycorrhiza
 - Endomycorrhiza
 - Ectendomycorrhiza
- Diplanetism is exhibited by:
 - Phytophthora*
 - Saprolegnia*
 - Mucor*
 - Albugo*
- Which one of the following represents the actual sequence of events in mushroom cultivation?
 - Spawn preparation-spawn running-casing-harvesting.
 - Spawn preparation- casing -spawn running –harvesting.
 - Spawn running -spawn preparation -casing-harvesting.
 - Spawn preparation-spawn running-harvesting.
- Macrocytic rust is the name given to some fungi:
 - which produces bigger spores.
 - where all the five spore stages are produced.
 - which completes its life-cycle on a single host.
 - which selects many hosts to complete its life-cycle.



University of Science and Technology, Meghalaya

Date Stamp: _____

15.The obligate parasitic fungi absorb their nourishment from the host cells through:

- a) The surface
- b) Haustoria
- c) Appressoria
- d) Rhizoids

16.The fungus which is so important for its use in genetic studies is:

- a) *Aspergillus*
- b) *Rhizopus*
- c) *Penicillium*
- d) *Neurospora*

17.In the Ascomycetes karyogamy occurs within the:

- a) Ascogonium
- b) Antheridium
- c) Ascus
- d) Ascogenous hypha

18.The phenomenon of heterothallism was first discovered in Mucorales by:

- a) Charles Bessey
- b) Gaumann,
- c) Blakeslee
- d) Alexopoulos

19.Yeast is an important source of:

- a) Vitamin C
- b) Riboflavin
- c) Sugar
- d) Protein

20.Who is the father of Indian mycology and plant pathology?

- a) K.C. Mehta
- b) B.P. Pal
- c) E.J. Butler
- d) B.B. Mundkur

SESSION: 2016-17 COURSE _____ PAPER Code: _____ NAME OF THE PAPER: _____ SEMESTER _____		Date Stamp: _____																																																							
<p style="text-align: center;">Instructions to Candidates</p> 1. This answer booklet has 4 pages. Please check before writing whether it is complete or in good condition. 2. Do not write your name anywhere in the answer booklet. 3. Write legibly on both sides of the paper 4. You may use some space for any rough notes or calculation on the answer booklet if you need. These rough notes, calculations must be scored out before submitting the answer booklet. 5. Do not bring any book or loose paper in the examination hall. 6. Do not tear any page from the answer booklet. 7. Do not write anything on the question paper or blotting paper or any pieces of paper while you are in the examination hall. 8. Any act of indiscipline or misbehavior in the examination hall will result in your expulsion. 9. No examinee is allowed to leave the examination hall until 30 minutes lapse after the commencement of the examination. 10. Additional answer sheet will be supplied after the main answer booklet is completed.		Session: 2016-17 Course _____ Roll No. _____ Enrollment No. _____ Semester _____ Name of the Paper _____ Paper Code _____																																																							
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