2018

BOTANY

BOT 101

PHYCOLOGY, MYCOLOGY & LICHEN

Full Marks: 80

Time: 3 hours.

The figures in the margin indicates full marks for the questions

1) Choose correct answer from the following Multiple Choice Questions: (*Any four*) **1x4=4**

i. What type of fuel can be possibly made from algae

a) Gasoline b) Ethanol

c) Biodiesel d) Jet fuel

e) All of the above

ii. Organisms which are indicator of SO_2 of air

a) Lichens b) Mosses

c) Mushrooms d) Puffballs

iii. One of the following is nematophagous fungi

a) *Arthrobotrys* b) *Puccinia*

c) *Kluyveromyces* d) *Trichoderma*

iv. Asexual reproduction in *Penicillium* results in the formation of

a) Phialospores b) zygospores

c) ascospores d) Basidiospore

v. Which of the following terms is **NOT** related to in sexual reproduction?

a) cleistothecium b) ascocarps

c) conidia d) ascogonium

2) Answer the following questions: (*Any four*) 2x4=8

i. What are hydrogenomes?

ii. Give examples of two algal biofertillizers.

iii. What are the different types of spores found in Lichen?

iv. Give one example of the following:

Edible fungi; Poisonous fungi; Pathogenic fungi; Hallucinogenic fungi

v. Name two important industries dependent on *Penicillium.*

3) Distinguish the following : (*Any two*) 3x2=9

i. Stichobasidium and a Chiastobasidium.

ii. Cleistothecium and Apothecium

iii. Heteromerous Lichen and Homoiomerous lichen

4) Write explanatory notes: (*Any four*) 5X4=20

i. Algae as resources for production of biofuel.

ii. Features of Cynophyta that helps it to play significant role in N_2 fixation.

iii. Macrocyclic Rust Fungus.

iv. Thallus organization in Brown Algae.

v. Medicinal aspects of Lichen.

5) Answer the following: (*Any three*) 9x3=27

i. Why chytrids are considered primitive fungi? Describe the different views for systematic position of Oomycetes. Give salient features of Zygomycetes. **(1+3+5=9)**

ii. *Prochloron* is a cyanobacteria but it lacks phycobillins and have the pigment composition same as Chlorophyceae. Elucidate its evolutionary significance. **(9)**

iii. Compare the three different phases in the Life cycle of Rhodophyceae with suitable examples. **(9)**

iv. Classify and give characteristic features of different types of mycorrhizal fungi on the basis of their interaction with the plant roots. Explain the significance of mycorrhizal fungi **(5+4=9)**

v. Describe the interactions between mycobiont and photobiont of lichen with well labeled diagram. Describe the reproductive organs found in Lichen. **(5+4=9)**

6) Answer the following: (*Any one*) 12x1=12

i. What are the criteria for modern system of classification of Fungi? Write in brief the criteria and outline of Classification of Fungi by Anisworth. **(5+7=12)**

ii. Give an account of cell structure details in Chlorophyceae. Draw a labeled diagram of a Chlorophycean cell showing ultra structural details. **(9+3=12)**

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