

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5525

J

Unique Paper Code : 2162012401

Name of the Paper : Mycology

Name of the Course : B.Sc. (Hons.) Botany

Semester : IV – DSC

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **four** questions in all. **First** question is compulsory.
3. **All** parts of questions must be answered together.

1. (a) Define the following citing an example (**any five**). (1×5=5)

- | | |
|-----------------------|-----------------------|
| (i) Capillitium | (ii) Soredia |
| (iii) Rhizomorph | (iv) Biotrophic fungi |
| (v) Crozier formation | (vi) Dolipore septa |
| (vii) Haustoria | |

- (b) Fill in the blanks. (0.5×10=5)

- (i) Parasexuality was discovered by _____ .
- (ii) _____ is also known as the Drosophila of the fungus world.
- (iii) Amphigynous antheridial development is seen in the genus _____ .
- (iv) Perfect stage of *Penicillium* is _____ .
- (v) Spore bearing layer of fungal tissue is called _____ .
- (vi) Potato wart is caused by _____ .
- (vii) *Neurospora* is commonly known as _____ .
- (viii) _____ is an example of fungus that forms fairy rings.
- (ix) _____ is the most common fungicide for control of fungal disease in plants.
- (x) _____ is a common fungus used for myco-remediation.

- (c) Match the following. (1×5=5)

- | | |
|--------------------------|----------------------------|
| (i) Nematophagous fungus | <i>Trichoderma</i> |
| (ii) Mycoparasite | <i>Penicillium</i> |
| (iii) Edible Ascomycete | <i>Arthrotrichum</i> |
| (iv) Blue mould | <i>Rhizopus stolonifer</i> |
| (v) Fumaric acid | <i>Morchella</i> |

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2. Draw a well labeled diagram of the following (**any three**) : (5×3=15)
- (i) Sectional view of sexual reproductive structure of *Peziza*.
 - (ii) An enlarged view of sporangium of *Stemonitis*.
 - (iii) Section through basidiocarp of *Agaricus* showing enlarged view of gills.
 - (iv) V.S. of leaf showing asexual reproductive stage in *Albugo*.
 - (v) *Saccharomyces* vegetative cell - Electron micrograph.
3. Write notes on any **three** of the following. Draw proper diagrams wherever necessary. (5×3=15)
- (i) Hyphal modifications in fungi.
 - (ii) Mushroom cultivation.
 - (iii) Bioluminescence.
 - (iv) Sexual reproduction in *Rhizopus* sp.
 - (v) Mycotoxin.
4. Differentiate between the following (**any three**) : (5×3=15)
- (i) Cleistothecium and Perithecium
 - (ii) Zygosporangium and Oosporangium
 - (iii) Holocarpic and Eucarpic Fungi
 - (iv) Ectomycorrhizae and Endomycorrhizae
 - (v) Unstratified and stratified thallus in Lichens
5. (a) "Black Stem Rust Disease" caused by a fungus, completes its life cycle on two different host plants. Elaborate with the help of illustrations. Write the name of the fungus, its two different host species (Botanical name), symptoms and all the spore stages. Write the main reason for the re-occurrence of wheat rust in India? (10)
- (c) Write a short note on different species of edible mushrooms in reference to their nutrition value. (5)
6. (a) Elaborate the role of fungi in pharmaceutical industry. (5)
- (b) Explain the vegetative state of myxomycetes and its various types with examples. (5)
- (c) Oomycetes are considered as a separate group of organisms from the true fungi? Elaborate. (5)