

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 7780 F-2 Your Roll No.....

Unique Paper Code : 2161201

Name of the Course : **Bachelor with Honours in Botany**

Name of the Paper : Mycology and Phytopathology [DC-1.3]

Semester : II

Duration : 3 Hours

Maximum Marks : 75

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all.
3. Question No. **1** is compulsory.
4. All parts of a question should be answered together.
5. Draw well-labelled diagrams wherever necessary.

1. (a) Fill in the blanks :

(i) Hypha with dolipore septum is a characteristic feature of class \_\_\_\_\_ .

(ii) Parasexual cycle was discovered in the filamentous fungus \_\_\_\_\_ .

(iii) A propagule containing fungal mycelium loosely intertwined with algal cells is \_\_\_\_\_ .

(iv) Toxins produced by fungi are known as \_\_\_\_\_ .

(v) Fungi store reserve food material in the form of \_\_\_\_\_ . (5×1=5)

(b) Give the generic names of the following :

(i) An edible epigeal Ascomycete

P.T.O.

- (ii) A heteroecious fungus
- (iii) A fungus used to flavour cheese
- (iv) Drosophila of plant kingdom
- (v) Fission yeast (5×1=5)

(c) Define the following terms (any five) :

- (i) Peridium
- (ii) Coenocentrum
- (iii) Haustorium
- (iv) Myxamoeba
- (v) Rhizomorph
- (vi) Appressorium (5×1=5)

2. Differentiate between (any five) :

- (i) Phragmobasidium and Holobasidium
- (ii) Rusts and smuts
- (iii) Ectomycorrhiza and Endomycorrhiza
- (iv) Isidium and Cephalodium
- (v) Ascus and basidium
- (vi) Sporangium and conidium (5×3=15)

3. Draw well labelled diagrams of (any three) :

- (i) V.S. apothecium of *Peziza*
- (ii) V.S. heteromerous Lichen thallus

(iii) V.S. *Berberis* leaf passing through aecial cup

(iv) Asexual reproductive structure of *Penicillium* (3×5=15)

4. Write short notes on (any three) :

(i) Secondary hornothallism

(ii) Bioluminescence

(iii) Sexual reproduction of *Albugo*

(iv) Physiological specialization in *Puccinia graminis* (3×5=15)

5. (i) Give a brief account of somatic phase of Myxomycetes. Draw a well labelled diagram of sporangium of *Stemonitis*. (5)

(ii) Comment on the role of Quarantine Regulation and soil sanitation in plant pathology. (5)

(iii) Suggest the reasons for including *Saccharomyces* in Ascomycetes. Give the sexual cycle of *Sacharomyces cerevisiae*. (5)

6. (a) Describe the symptoms, causal organism and control of Black stem rust on wheat. (6)

(b) Explain briefly the following :

(i) Clamp connections in Basidiomycetes.

(ii) Fairy rings

(iii) Parasexual cycle (3×3=9)

7. (a) Define the following terms with one example each :

(i) Mosaic

(ii) Chlorosis

- (iii) Blight
  - (iv) Hyperplasia
  - (v) Hypertrophy
  - (vi) Target board effect (6×1½=9)
- (b) Comment on economic importance of *Rhizopus*. (3)
- (c) Why is genus *Neurospora* suitable for genetic studies ? Write a short note on its sexual reproduction. (3)