

[This question paper contains 2 printed pages.]

(22)

Your Roll No. 2023.

Sr. No. of Question Paper : 4539  
Unique Paper Code : 32161201  
Name of the Paper : Mycology and Phytopathology  
Name of the Course : B.Sc. (Hons.) BOTANY  
Semester : II

E



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. **All questions** carry equal marks.
4. **Question No. 1** is compulsory.
5. All parts of a question must be answered together.
6. Draw well labelled diagrams wherever necessary.

1. (a) Fill in the blanks (any **five**):

**5 x 1 = 5**

- (i) Pseudomycelium is formed by .....
- (ii) A fungus used for flavouring cheese is .....
- (iii) Loose Smut of wheat disease is caused by .....
- (iv) ..... is an edible mushroom.
- (v) A propagule containing fungal mycelium loosely interwoven with algal cells is.....
- (vi) In Basidiomycota, the septal pore complex is known as .....
- (vii) An example of mycotoxin producing fungus is.....

(b) Define the following (any **five**):

**5 x 1 = 5**

- (i) Sclerotia
- (ii) Hypertrophy
- (iii) Fairy rings
- (iv) Haustoria

- (v) Anamorph
- (vi) Appressorium
- (vii) Capillitium

(c) Match the following:

5 x 1 = 5

**Column A**

- (i) Red bread mold
- (ii) Zygosporangium
- (iii) Phanerochaete
- (iv) Muriform conidia
- (v) Bioluminescent fungus

**Column B**

- Physarum*
- Alternaria*
- Mycena lux-coeli*
- Neurospora*
- Rhizopus*

2. Write short notes on any **three** of the following:

3 x 5 = 15

- (i) Sexual reproduction in *Rhizopus*
- (ii) Mushroom cultivation
- (iii) Germination of sporangia in *Phytophthora*
- (iv) Economic importance of Lichens
- (v) Uses of fungi in the fermentation of food and enzyme production

3. Differentiate between any **five** of the following:

5 x 3 = 15

- (i) Biotrophs and Necrotrophs
- (ii) Cleistothecium and Perithecium
- (iii) Early Blight and Late Blight of Potato
- (iv) Loose Smut and Covered Smut
- (v) Ectomycorrhiza and Endomycorrhiza
- (vi) Foliose and Fruticose Lichens
- (vii) Oospore and Zygosporangium

4. Draw a well labelled diagram of any **three** of the following:

3x5=15

- (i) E. M. of *Saccharomyces* cell
- (ii) V. S. of *Agaricus* gill
- (iii) T. S. leaf showing an asexual stage in *Albugo*
- (iv) V. S. of *Peziza* apothecium

5. (a) Briefly explain asexual mode of reproduction in *Penicillium*.

5

(b) Explain different types of fruiting bodies present in Myxomycetes.

5

(c) Explain why *Neurospora* is considered as *Drosophila* of the plant kingdom.

5

6. (a) Discuss the development of ascus in Ascomycota.

5

(b) Explain the various stages of *Puccinia graminis tritici* on the secondary host.

5

(c) Discuss the role of fungi in the biological control of nematodes and insects.

5

7. (a) Write the causal organism, symptoms and control measures of Citrus canker disease. 5

(b) Describe the geographic distribution of plant diseases with example. 5

(c) Discuss the importance of plant quarantine in relation to fungal contamination. 5

(23)

Your Roll No. 2023

Sr. No. of Question Paper : 4659

E

Unique Paper Code : 32161202

Name of the Paper : Archegoniatae

Name of the Course : Botany

Semester : II



Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top of Question Paper immediately.
2. This question paper has 7 questions.
3. Question No. 1 is compulsory.
4. Attempt 5 questions in all.
5. All questions carry equal marks.
6. Answer all parts of a question together.
7. Illustrate your answers with suitable diagram wherever necessary.

Q1. (a) Define the following terms (Any ten)

(10x1=10)

- i. Coenosorus
- ii. Transfusion tissues
- iii. Stomium
- iv. Pseudoelaters
- v. Carinal canal
- vi. Sulphur shower
- vii. Haplostele
- viii. Synangium
- ix. Protonema
- x. Manoxylic wood
- xi. Sporophyte
- xii. Leaf traces

(b) Fill in the blanks: (Any five)

(5x1=5)

- i. ....type of pollination is observed in gymnosperms.
- ii. The basal part of ligule is called.....

- iii. Presence of elaterophores is the characteristic feature of .....
- iv. *Riccia* belongs to class ..... of Bryophyta.
- v. .... is the pteridophyte commonly known as "Horse Tail"
- vi. Gymnosperms lack ..... in xylary elements.
- vii. In bryophytes rosette habit is characteristic of .....

Q2. Draw well labeled diagrams of the following (**Any three**) (3x5=15)

- a. V.S. *Marchantia* thallus
- b. T.S. *Equisetum* stem – internode
- c. T.S. *Cycas* coralloid root
- d. L.S. Male cone of *Pinus*

Q3. Write short notes on the following (**Any three**) (3x5=15)

- a. Adaptations to land habit in bryophytes
- b. Dehiscence of sporangium in *Pteris*
- c. Gametophyte of *Porella*
- d. Polyembryony in *Pinus*
- e. Sporophyte of *Anthoceros*

Q4. Differentiate between the following (**Any three**) (3x5=15)

- a. Sporophyte of *Marchantia* and *Funaria*
- b. Spore bearing structure of *Psilotum* and *Equisetum*
- c. Bryophytes and Pteridophytes
- d. Apogamy and Apospory

Q5. a. Describe in detail about the stelar evolution (5)

b. Mention the ecological and economical significance of *Sphagnum* (5)

c. Discuss about the early vascular land plants *Cooksonia* and *Rhynia* (5)

Q6. a. Discuss heterospory and seed habit in pteridophytes. (7)

b. Describe spore bearing structure of *Selaginella* with suitable diagram. (8)

Q7. a. Discuss the concept of double fertilization in some gymnosperms. Mention the similarities of *Gnetum* with angiosperms and gymnosperms. (10)

b. Elucidate the economical importance of gymnosperms. (5)