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**3 (SEM-2/CBCS) BOT HC1**

**2025**

**BOTANY**

(Honours Core)

Paper : BOT-HC-2016

**(Mycology and Phytopathology)**

Full Marks : 60

Time : Three hours

***The figures in the margin indicate  
full marks for the questions.***

1. Choose the correct answer of the following :

1×7=7

(a) Ascomycetes are also known as—

- (i) Mushroom
- (ii) Fairy ring mushroom
- (iii) Club fungi
- (iv) Sac fungi

(b) In Agaricus the interwoven mycelia twist compactly to form a thick rope, called—

- (i) Rhizomorphs
- (ii) Sclerotium
- (iii) Cleistothecium
- (iv) Apothecium

(c) The mycelium is aseptate with irregular distribution of nuclei, called—

- (i) Coenocytic
- (ii) Plectenchyma
- (iii) Prosenchyma
- (iv) Stroma

(d) Fungi, which are used to attack and kill insects are called as—

- (i) Microfungi
- (ii) Insectisides
- (iii) Mycoinsectisides
- (iv) Mycofungisides

(e) A phenomenon of eating upon nematodes by fungi is known as—

- (i) Mycophagy
- (ii) Nematophagy
- (iii) Perennation
- (iv) Pathogenesis

(f) Fungi producing compatible male and female gametes on the same mycelium is known as—

- (i) Heterothallic
- (ii) Paraphyses
- (iii) Homothallic
- (iv) Conidia

(g) Taxomyces andreanae is used for the treatment of—

- (i) Skin cancer
- (ii) Lung cancer
- (iii) Liver cancer
- (iv) Breast and Ovarian cancer



2. Answer the following questions in brief:

2×4=8

- (a) How does binary fission take place in yeast cell? Describe with suitable diagram.
- (b) Write the symptoms of '*Black stem rust of wheat*' disease.
- (c) Describe briefly the asexual reproduction of *Synchytrium*.
- (d) What do you mean by primary inoculum and secondary inoculum?

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

5×3=15

- (a) Importance of plant quarantine
- (b) Fruit body of *Agaricus*
- (c) Parasexuality in fungi
- (d) General symptoms of plant diseases
- (e) Mycorrhizal fungi as biocontrol agent

4. Answer **any three** of the following questions:

10×3=30

- (a) Give a detailed account of classification of algae proposed by Ainsworth (1973).

(b) What do you mean by blue or green mould? Write a detailed account on one blue or green mould you have studied.

1+9=10

(c) Why are lichens called the indicators of pollution? Describe different types of reproduction of lichen.

2+8=10

(d) What is necrosis? Write about different types of necrotic symptoms. Write two methods of plant disease control.

1+5+4=10

(e) What do you mean by applied mycology? Discuss the role of fungi in Bio-technology.

2+8=10

(f) What do you mean by perennation and pathogenesis? What are the different agents for dissemination or dispersal of plant pathogen? Describe how plant pathogens disseminate.

4+2+4=10

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3 (Sem-2/CBCS) BOT HC 2

2025

**BOTANY**

(Honours Core)

Paper : BOT-HC-2026

**(Archegoniate)**

Full Marks : 60

Time : Three hours

***The figures in the margin indicate  
full marks for the questions.***

1. Answer the following questions :  $1 \times 7 = 7$
- (i) What is the dominant phase in the life cycle of Bryophytes ?
  - (ii) What is the function of rhizoids in Bryophytes ?
  - (iii) What is the function of sori in ferns ?
  - (iv) What is Prothallus ?
  - (v) Which type of fertilization occurs in Gymnosperms ?



- (vi) Which Bryophyte is used as a packing material?
- (vii) Which gymnosperm is known as 'living fossil'?

2. Answer the following questions very shortly :

2×4=8

- (i) Differentiate between homosporous and heterosporous in Pteridophytes.
- (ii) What is polyembryony, and in which gymnosperm is it found?
- (iii) How do Bryophytes contribute to ecological balance?
- (iv) What are gemmae, and how do they help in reproduction?

3. Answer **any three** of the following questions :

5×3=15

- (i) How are Gymnosperms adapted to survive in cold and dry conditions?
- (ii) Explain the importance of Pteridophytes in ecological succession.
- (iii) Describe the structure of a moss sporophyte.

- (iv) Describe the structure of a Gymnosperm seed.

- (v) What are elaters? Mention their functions.

4. Answer **any three** of the following questions :

10×3=30

- (i) Briefly discuss about the development of megaspore and female gametophyte of *Cycas*.
- (ii) Write a note on the fossil *Cooksonia*.
- (iii) Write a comparative account of Pteridophytes and Bryophytes.
- (iv) With a neat diagram, describe the external and internal structures of the gametophyte of *Marchantia*.
- (v) Discuss about the alternation of generations found in Pteridophytes.
- (vi) Write a brief note on the morphological nature of the ovuliferous scale of *Pinus*.
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