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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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Total number of printed pages – 3

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 homospory and heterospory 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*.