BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – B.Sc.(FND)-Hons-2023
Course Name – Mushroom Cultivation
Course Code - BFD20002
(Semester II)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Which part of the mushroom is responsible for absorbing nutrients from its surroundings?

a) Cap
b) Stem
c) Mycelium
d) Spores

(ii) State the scope of mushroom cultivation.

a) Limited to tropical regions
b) Only applicable in urban settings
c) Varies from medicinal to culinary purposes
d) Restricted to certain animal habitats

(iii) Examine the historical significance of mushroom cultivation in different cultures.

a) By identifying its role in religious ceremonies
b) By measuring its economic impact
c) By analyzing its impact on biodiversity
d) By discussing its influence on modern architecture

(iv) Which of the following is a poisonous mushroom?

a) Button mushroom
b) Chanterelle
c) Death cap
d) Oyster mushroom

(v) What is the term for the fibrous bundles that make up the stalk of a mushroom?

a) Gills
b) Cap
c) Stipe
d) Mycelium

(vi) Choose the following conditions is ideal for cultivating oyster mushrooms.

a) Low light, high humidity, cool temperatures
b) Bright light, moderate humidity, warm temperatures

c) Direct sunlight, dry conditions, hot temperatures

d) Complete darkness, very wet substrate, fluctuating temperatures

(vii) Define the inoculation in mushroom cultivation refers to:

a) Introducing light to the developing mushrooms

b) Adding nutrients to the colonized substrate

c) Introducing spawn (fungal culture) to the prepared substrate

d) Harvesting the mature mushrooms from the bed

(viii) Explain the reason for research into cultivating wild mushrooms important.

a) To reduce competition for commercially cultivated mushrooms

b) To increase the variety of wild mushrooms available for consumption

c) To eliminate the need for controlled cultivation environments

d) To understand the natural growing conditions of different species

(ix) Select the following statements is TRUE about substrate selection for mushroom cultivation.

a) Any organic material can be used as a substrate.

b) The chosen substrate should have high nutritional value for humans.

c) A suitable substrate should be able to retain moisture and support fungal growth.

d) The ideal substrate should be completely free of any microorganisms.

(x) Choose the following symptoms is NOT typically associated with "bubble disease" in mushroom casing layers.

a) Yellowish or brownish discoloration

b) Formation of blister-like bubbles on the surface

c) Delayed or stunted growth of mushrooms

d) Presence of visible mold colonies

(xi) Choose nematodes can harm mushroom crops by:

a) Feeding on the developing mycelium, hindering growth.

b) Introducing harmful bacteria and viruses into the substrate.

c) Competing with mushrooms for light and oxygen resources.

d) Blocking water flow and creating waterlogged conditions in the beds.

(xii) Determine the monitoring process of a mushroom crop for potential diseases and pests should include:

a) Inspecting the mushrooms only after harvest for any visible signs of damage.

b) Relying solely on visual inspections without any microscopic analysis.

c) Regularly checking the growing beds for unusual odors or discoloration.

d) Focusing only on the mature mushrooms and ignoring the developing mycelium.

(xiii) A mushroom grower notices a decline in yield and observes small, white, round objects on the surface of the casing layer. Write the objects could be the eggs of which pest in their mushroom beds.

a) Springtails (Collembola)

b) Fungus gnats (Sciaridae)

c) Shore flies (Scatella)

d) Spider mites (Tetranychidae)

(xiv) Relate the presence of beta-glucans in mushrooms to their potential health benefits.

a) Beta-glucans contribute to the umami flavor of mushrooms.

b) They may help boost the immune system.

c) They are a source of essential amino acids.

d) They aid in digestion.

(xv) Choose preservation technique involves removing moisture from mushrooms through controlled heat and airflow

a) Freezing

b) Dry freezing

c) Drying

d) Canning

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Describe thermal death points. (3)
3. Write three key vegetative characters of mushrooms (3)
4. Describe the protein content of different mushroom. (3)
5. Sketch a cropping precautions in your mushroom. (3)
6. Explain the role of chemical in preservation of mushroom. (3)

OR

Explain role of picking and sterilization steps canning of mushroom. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Explain the nutraceutical metabolites of mushrooms. (5)
8. Write down the biological classification of any two edible mushroom. (5)
9. Classify the different type of culture media and use of it in spawn culture. (5)
10. Discuss different type of spawn. (5)
11. Write a short note on Die-back. (5)
12. Express the methods of disease spread in mushroom. (5)

OR

Express the biological control used to control pest in mushroom cultivation. (5)

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