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May 2026

B.SC. (LIFE SCIENCE) IV SEMESTER

Mushroom Culture Technology (SEC–04)

Time : 3 Hours] [Maximum Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any **four** questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART–A

1. (a) How does morphology help in identification of mushrooms? (1.5)

   (b) Why is *Agaricus bisporus* widely cultivated globally? (1.5)

   (c) What are poisonous mushrooms? (1.5)

   (d) What are common pests in mushroom cultivation? (1.5)

   (e) What is bed preparation in mushroom cultivation? (1.5)

   (f) Why is spawn quality critical for mushroom yield? (1.5)

(g) Name some methods of mushroom preservation. (1.5)

(h) What is gamma radiation preservation? (1.5)

(i) What are common food products made from mushrooms? (1.5)

(j) What factors affect mushroom marketing? (1.5)

PART–B

2. (a) Explain how morphological features (pileus, stipe, gills) are adapted for reproduction and survival in mushrooms. (8)

(b) Differentiate between edible and poisonous mushrooms. Explain the risks associated with misidentification. (7)

3. (a) Analyze the complete cultivation process of button mushroom, highlighting critical control points affecting yield. (7)

(b) Analyze the factors affecting mushroom bed preparation and their role in successful cultivation. (8)

4. (a) Compare different preservation methods (drying, freezing, canning, gamma radiation) in terms of efficiency and quality retention. (10)

(b) Discuss the potential of mushroom-based entrepreneurship in rural development. (5)

5. (a) Analyze how research institutions like Directorate of Mushroom Research contribute to mushroom industry development. (6)

(b) Discuss the role of value-added mushroom products in enhancing income and reducing post-harvest losses. (9)

6. Discuss the major challenges in mushroom cultivation, including contamination, pests, and environmental factors, and suggest integrated management strategies. (15)

7. (a) Evaluate the importance of spawn production and pure culture techniques in successful mushroom cultivation and their impact on yield and quality. (8)

(b) Explain the scope of mushroom-based value-added food products in the food industry. (7)
