

Department of Biotechnology
Session 2025-26

Title: Certificate Course on Mushroom Cultivation

Course Duration & Schedule:

- **Total Duration:** 10 Days (4-6 hours per day)
- **Mode:** Hands-on practical sessions and theoretical lectures
- **Target Audience:** B.Sc. and M.Sc. Lifesciences students

Course Objectives:

The course is designed to:

- Introduce students to the fundamentals of mushroom cultivation.
- Develop practical hands on skills in mushroom farming and post-harvest management.
- Enhance understanding of the nutritional and medicinal benefits of edible mushrooms.
- Enable students to explore entrepreneurial opportunities in mushroom cultivation.

Course Outline:

Day 1: Introduction to Mushrooms - Types: Edible, medicinal, exotic - Importance in nutrition, medicine, and economy

Day 2: Biology of Mushrooms - Structure & life cycle - Spore formation and germination

Day 3: Substrate Preparation - Selection of materials - Sterilization and pasteurization

Day 4: Spawn Production & Inoculation - Types of spawn - Methods of inoculation

Day 5–6: Cultivation Techniques - Bag, bottle, and tray methods - Environmental control: Temperature, humidity, light, aeration

Day 7: Disease & Pest Management - Common diseases and pests - Safe control measures

Day 8: Harvesting & Post-Harvest Management - Proper harvesting techniques - Storage, packaging, and shelf-life enhancement

Day 9: Nutritional & Medicinal Importance - Nutrient profile of edible mushrooms - Therapeutic properties of medicinal mushrooms

Day 10: Entrepreneurship & Commercial Production - Small-scale mushroom farming business models - Marketing and value addition

Expected Outcomes: -

By the end of this course, participants will be able to:

- Demonstrate hands-on skills in mushroom cultivation and spawn production.
- Understand the biology and lifecycle of edible and medicinal mushrooms.
- Manage diseases and pests in mushroom cultivation.
- Harvest and process mushrooms for commercial purposes.
- Plan and initiate small-scale mushroom-based entrepreneurial ventures.