



**Department of Botany
Moridhal College
Certificate Course
on
Mushroom Cultivation Technology**

INTRODUCTION

This curriculum provides both theoretical and practical knowledge and skills to cultivate mushroom. This program includes tasks/skills and related technical knowledge necessary for mushroom cultivation.

COURSE OBJECTIVES

- To facilitate self-employment.
- To know the nutrient value of mushroom.
- To study the morphology and types of Mushrooms.
- To know the spawn production technique.
- To aware the identification of edible and poisonous Mushrooms.
- To learn the prospects and scope of mushroom cultivation in small scale industry.
- To understand the Diseases. Post harvesting techniques of Mushrooms.

COURSE STRUCTURE:

Theory: 14 classes (Class duration 1 hour)

Practical: 8 Classes (Class duration 2 hour)

Module 1: Introduction to Mushroom

Class: 2Th + 1Pr

History and Scope of Mushroom Cultivation; Taxonomical rank of Mushroom; Different parts of a typical mushroom & variations in mushroom morphology; Vegetative characters of edible and poisonous mushrooms; Identification of poisonous mushrooms.

Module 2: Introduction to Some Common Edible Mushroom

Class: 2Th + 1Pr

Button Mushroom (*Agaricus bisporous*), Oyster mushroom (*Pleurotus sajorajju*), paddy straw mushroom (*Volvariella volvacea*), Milky Mushroom (*Calocybe indica*); Other economically important and medicinal mushroom- Shiitake Mushroom (*Lentinula edodes*), Kabul Dhingri (King Oyster) Mushroom.

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Module 3: Process of Mushroom Cultivation

Class: 4Th + 3Pr

Structure and construction of mushroom house. Sterilization of substrates. Spawn production culture media preparation, Preparation of mother spawn, production of planting spawn, storage/transportation of spawn, Criteria for selection of good quality spawn. Cultivation of Button mushroom and paddy straw mushroom; Introduction to microbiology laboratory Laminar Air flow, Autoclave.

Module 4: Nutritional and Health Benefit of Mushroom

Class: 2Th + 1Pr

Nutrient values of mushroom – protein, carbohydrate, fat, fibre, vitamins and amino acids contents; short and long term storage of mushroom; preparation of various dishes from mushroom. Medicinal value of mushroom – cultivation, extraction, isolation and identification of active principle from mushroom. Pharmacological and economic values of mushroom.

Module 5: Disease and Pest Management in cultivated mushrooms

Class: 2Th + 1Pr

Major diseases of cultivated mushroom; Major insect pests Mushroom flies / nematodes / mites.

Module 6: Fortification and Marketing:

Class: 2Th+ 1Pr

Fortification and Quality assurance; Packing and packaging; Market opportunities.

Suggested Book:

1. "Mushroom Cultivation: An Illustrated Guide to Growing Your Own Mushrooms at Home" by T.K. Lim
 2. Edible and Medicinal Mushrooms of India" by C. Manoharachary, P. V. Sridhar, and S. K. Singh.
 3. Mushrooms and Their Cultivation" by Shriram Sharma
 4. The Mushroom Cultivator: A Practical Guide to Growing Mushrooms at Home" by Paul Stamets and J.S. Chilton
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