

**DEPARTMENT OF BOTANY
ACHARYA B. N. SEAL COLLEGE
COOCH BEHAR**

**DETAILED SYLLABUS FOR
SUMMER APPRENTICESHIP COURSE ON
HANDS-ON TRAINING ON MUSHROOM CULTIVATION**

Duration: 32+ Hours

Unit 1: Introduction to mushrooms (2 hours)

Mushrooms -Introduction, History and Scope of mushroom cultivation, Edible and Poisonous Mushrooms, Vegetative characters

Unit 2: Types of edible mushrooms (2 Hours)

Button mushroom (*Agaricus bisporus*), Milky mushroom (*Calocybe indica*), Oyster mushroom (*Pleurotus sajorcaju*) and paddy straw mushroom (*Volvariella volvcea*).

Unit 3: Technology of mushroom cultivation (8 Hours)

Structure and construction of mushroom house. Sterilization of substrates. Spawn production - culture media preparation- production of pure culture, mother spawn, and multiplication of spawn. Composting technology, mushroom bed preparation. Spawning, spawn running, harvesting. Cultivation of oyster and paddy straw mushroom. Problems in cultivation - diseases, pests and nematodes, weed moulds and their management strategies.

Unit 4: Health benefits of mushrooms (2 Hours)

Nutritional and medicinal values of mushrooms.

Unit 5: Storage of Mushrooms (2 Hours)

Short-term storage (Refrigeration up to 24 hours), long term storage (canning, pickles, papads), drying, storage in salt solutions.

Unit 6: Food Preparation (2 Hours)

Types of foods prepared from mushroom

Unit 7: Training/ Workshop/ Field visit (16 Hours)

Sterilization and sanitation of mushroom house, instruments and substrates
Preparation of mother culture, media preparation, inoculation, incubation and spawn production
Cultivation of oyster mushroom using paddy straw/agricultural wastes

Suggested Readings

1. Marimuthu, T. et al. (1991). Oster Mushroom. Department of Plant Pathology. Tamil Nadu Agricultural University, Coimbatore.
2. Nita Bhal. (2000). Handbook on Mushrooms. 2nd ed. Vol. I and II. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
3. Pandey R.K, S. K Ghosh, 1996. A Hand Book on Mushroom Cultivation. Emkey Publications.
4. Pathak, V. N. and Yadav, N. (1998). Mushroom Production and Processing Technology. Agrobios, Jodhpur.
5. Tewari Pankaj Kapoor, S. C. (1988). Mushroom Cultivation. Mittal Publication, New Delhi.
6. Tripathi, D.P. (2005) Mushroom Cultivation, Oxford & IBH Publishing Co. PVT.LTD, New Delhi.
7. V.N. Pathak, Nagendra Yadav and Maneesha Gaur, Mushroom Production and Processing Technology/ Vedams Ebooks Pvt Ltd., New Delhi (2000)

DEPARTMENT OF BOTANY, ABN SEAL COLLEGE, COOCH BEHAR
SUMMER APPRENTICESHIP COURSE ON HANDS-ON TRAINING ON MUSHROOM
CULTIVATION

Course Outcome:

By successfully completing the course, students will be able to:

- Identify edible types of mushroom
- Gain the knowledge of cultivation of different types of edible mushrooms and spawn production
- Manage the diseases and pests of mushrooms
- Pursue careers in mushroom cultivation and find employment in existing mushroom farms
- Start their own mushroom cultivation business.
- Gain interest in research in related to mushroom cultivation
- Share their knowledge by becoming instructors or trainers in mushroom cultivation courses