

**Dept. of Botany**  
**OEC: MUSHROOM CULTIVATION**

Course: <b>Mushroom Cultivation</b>	Course code: <b>21BSCOEB0</b>
L-T-P per week: <b>3-0-0</b>	No of credits: <b>03</b>
Internal Assessments: <b>40 marks</b>	Semester end examination: <b>60 marks</b>
Total contact hours: <b>42 hrs</b>	

**COURSE OUTCOMES**

1. Students can start small scale industry of mushroom cultivation
2. Students study the morphology and types of mushrooms
3. They are aware of the identification of edible and poisonous mushrooms
4. Students will be able to produce spawn on their own

<b>Contents of Theory Course</b>		
<b>Unit</b>	<b>Topics</b>	<b>Teaching Hours</b>
<b>I</b>	<b>Introduction to mushrooms:</b> Introduction to mushrooms and their significance. History of mushroom cultivation. Classification and distribution of mushrooms, the life cycle of mushrooms, and Identification of poisonous mushrooms. Entrepreneurial skills and economics for small enterprises. Management of spent substrates and waste disposal of various mushrooms.	<b>9 hrs</b>
<b>II</b>	<b>Spawn Preparation:</b> Facilities require for spawn preparation, spawn substrate preparation, isolation of pure culture, media used in raising pure culture, culture maintenance, and storage of spawn. Nutrient media for pure culture, the layout of spawn preparation room, the raw material of spawn, sterilization, preparation of mother spawn, and multiplication.	<b>9 hrs</b>
<b>III</b>	<b>Cultivation of mushroom:</b> Principles of composting, machinery required for compost making, materials for compost preparation. The layout of the mushroom shed small-scale and large-scale production units. Types of raw material, preparation, and sterilization. Mushroom bed preparation, maintenance of mushroom shed harvesting method and preservation of mushrooms.	<b>8 hrs</b>
<b>IV</b>	<b>Cultivation of the following mushrooms and management:</b> Milky mushroom, oyster mushroom, pearl mushroom, paddy straw mushroom, and button mushroom. Cultivation of other economically and medicinally important mushrooms. Mushroom sectioning of gills of Agaricus. Insect, pest, and disease management in cultivated mushrooms	<b>8 hrs</b>
<b>V</b>	<b>Nutrient values and health benefits of mushroom:</b> Protein, carbohydrate, fat, fiber, vitamins and amino acids contents, short and long storage of mushroom, preparation of various dishes from the mushroom. Pharmacological and economical values of mushrooms. Health benefits - Antiviral, antibacterial, antifungal, antitumor, haematological, cardiovascular, and diabetes mellitus.	<b>8 hrs</b>

**REFERENCES**

1. Paul Stamets JS and Chilton JS (2004) Mushroom cultivation. A practical guide to growing mushrooms at home, Agarikon Press

2. Tewari and Pankaj Kapoor SC (1993) Mushroom Cultivation, Mittal Publication, New Delhi
3. Marimuth et al., (1991) Oyster mushrooms. Dept of Plant Pathology, TNAU, Coimbatore
4. Nita Bahl (1988) Hand Book of Mushrooms, Oxford and IBH Publishing Co.
5. Tripathy DP (2005) Mushroom cultivation. Oxford and IBH Publishing Co PVT LTD, New Delhi
6. Pathak Yadav Gour (2010) Mushroom Production and Processing Technology. Published by Agrobios (India)
7. Kannaiyan S and Ramasamy K (1980). A hand book of edible mushroom. Today and Tomorrows printers and Publishers, New Delhi