**R.C.Patel Arts, Commerce & Science College, Shirpur**

**Department of Botany**

**Value Added Course on Mushroom Technology**

**2023-2024**

**---------------------------------------------------------------------**

**AIMS AND OBJECTIVES**

1. To enable the students to identify the edible and poisonous mushrooms.
2. To provide hands-on training for the preparation of bed for mushroom cultivation and its harvesting, pests and diseases control and post harvesting management.
3. To provide the students awareness about the marketing trends of Mushrooms.
4. To give the students exposure to the experiences of experts in the field and to functioning mushroom farms.
5. To help the students to learn a means of self-employment and income generation

**Course Outcomes**

* Students can start small scale industry of Mushroom cultivation.
* Students study the morphology and types of Mushrooms.

They are aware of the identification of edible and poisonous Mushrooms.

**Duration of the course**

* One Month

**Timing of the course**

* Two Houses a day.

**Eligibility Criteria**

* For B.Sc. Student.

**Criteria for completion**

* The student must have attended at least 80% of the lectures and completed all assignment

**Syllabus**

**MUSHROOM CULTIVATION TECHNOLOGY**

**Total period: - 30 Credits:-02**

**---------------------------------------------------------------------**

|  |  |  |
| --- | --- | --- |
| **1** | **MUSHROOM CULTIVATION: An Introduction** | |
|  | a | History of mushroom cultivation; |
|  | b | Classification and distribution of mushroom; |
|  | c | life cycle of mushroom. |
|  | d | Identification of poisonous mushrooms.  Spawn preparation - Isolation of pure culture; Nutrient media for pure culture; layout of spawn preparation room; raw material of spawn; sterilization; preparation of mother spawn and multiplication. |
| **2** |  | **Common Edible Mushrooms** |
|  | Button Mushroom (Agaricus bisporous), Oyster mushroom (Pleurotus sajorcaju), paddy straw mushroom (Volvariella volvacea), Milky Mushroom (Calocybe indica); Other economically important and medicinal mushroom- Shiitake Mushroom (Lentinula edodes), Kabul Dhingri (King Oyster) Mushroom | |
| **3** |  | **Principle of Mushroom Cultivation** |
|  |  | Structure and construction of mushroom house. Sterilization of substrates. Spawn productionculture 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 laboratoryLaminar Air flow, Autoclave |
| **4** |  | **Nutritional and health benefits of Mushroom & Value addition of Mushroom** |
|  |  | Nutritional and health benefits of mushrooms. Therapeutic aspects- antitumour effects.  Value added products / recipes, Quality assurance, Packing and packaging, Market opportunities |
| **5** |  | **Training / Workshop** |
|  |  | Sterilisation and sanitation of mushroom house, instruments and substrate; Preparation of mother culture, media preparation, inoculation, incubation and spawn production; Cultivation of Volvariella volvacea (paddy straw mushroom) and Pluerotus sajorcaju (oyster mushroom) using paddy straw/agricultural waste. |

**Reference Book**

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

2. Tewan and Pankaj Kapoor S.C. 1993. Mushroom cultivation. Mittal Publication. Delhi.

3. Marimuth et al., 1991. Oyster Mushrooms. Dept. of Plant pathology, TNAU, Coimbatore.

4. Nita Bahl. 1988. Hand book of Mushrooms, 2nd Edition, Vol I & II.

5. Shu Fing Chang, Philip G. Miles and Chang, S.T. 2004. Mushrooms Cultivation, nutritional value, medicinal effect and environmental impact. 2nd ed., CRC press.