

#### **4. VACA-04: Mushroom cultivation and post-harvest management**

**Total Hours: 30**

##### **Course Objectives:**

1. To enable the trainees to identify edible and poisonous mushrooms.
2. To provide hands-on training to prepare beds for mushroom cultivation, pest and disease control, and harvesting and post-harvesting management.
3. To provide awareness about the market trend of mushrooms.
4. To give exposure to the experiences of experts in the field and to functioning in the mushroom farm.
5. To learn a means of self-employment and income generation.

##### **Course outcomes:**

1. To acquaint with the nutrient value of mushrooms.
2. To understand the morphology and types of mushrooms.
3. To develop the skill of spawn production technology.
4. To be aware of the identification of edible and poisonous mushrooms.
5. To learn the prospects and scope of mushroom cultivation in small-scale industry.

##### **SYLLABUS**

###### **Unit I**

Introduction – History of mushroom cultivation; Classification and distribution of mushroom; life cycle of mushroom. Identification of poisonous mushrooms.

###### **Unit II**

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

###### **Unit III**

Cultivation of mushrooms, the layout of the mushroom shed - small-scale and large-scale production unit. Types of raw material – preparation and sterilization; Mushroom bed preparation – maintenance of mushroom shed; harvesting method and preservation of mushrooms.

###### **Unit IV**

Nutrient values of mushroom – protein, carbohydrate, fat, fiber, 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 mushrooms.

###### **Unit V**

Cultivation of the following types of mushrooms – milky mushroom; oyster mushroom, button mushroom, and any medically valuable mushroom.

##### **Reference Books:**

1. Paul Stamets, J.S. and Chilton, J.S. 2004. Mushroom cultivation A practical guide to growing mushrooms at home, Agarikon Press.
2. Nita Bahl. 1988. Handbook of Mushrooms, 2nd Edition, Vol I & II.
3. Shu Fing Chang, Philip G. Miles and Chang, S.T. 2004. Mushroom cultivation, nutritional value, medicinal effect, and environmental impact. 2nd ed., CRC press.