GU- FYUGP, 2024-25
Subject: **Botany (Skill Enhancement Course)**
Semester: **Third**
Course Name: **Mushroom Cultivation Technology**
-by Department of Botany, Mangaldai College

Theory: (Total Marks-50, Credit- 2); Practical :(Total Marks- 25, Credit-1)

Distribution of marks:

End Semester Exam- Total marks: 30
Sessional Examination- Total marks: 20
Practical Examination- Total Marks: 25

THEORY (Total Marks-50, Credit- 2):

Unit	Unit content	No. of Classes	Marks
Unit 1	**Introduction to Mushroom Cultivation:** History, scope, and opportunities of mushroom cultivation. Problems faced in mushroom cultivation and their management strategies. Characterization of edible and poisonous Mushrooms. Nutritional and medicinal value of mushrooms.	6	10
Unit 2	**Principle of Mushroom Cultivation:** Structure and construction of mushroom house; Spawn production; Sterilization of substrates. Composting techniques, Mushroom bed preparation, Harvesting.	9	15
Unit 3	**Cultivation of Common Edible Mushrooms:** Cultivation process of Oyster mushroom(*Pleurotus ostreatus*), Paddy straw mushroom (*Volvariella volvacea*), Button mushroom (*Agaricus bisporus*)	9	15
Unit 4	**Post-Harvest Technology:** Preservation of mushrooms- freezing, drying, and packaging of harvested mushrooms, Quality assurance, Market opportunities. Value added products of mushrooms.	6	10

PRACTICAL (Total Marks- 25, Credit-1):

Cultivation of Oyster mushroom: 1. Sterilization of mushroom house and substrate for Oyster mushroom cultivation. 2. Bagging of spawn. 3. Packaging of harvested mushroom products. 4. Phytochemical assay (phenol, flavonoid, alkaloids and tannins) of mushroom.	**No. of Classes**	**Marks**
	30	25

Learning Objectives:

- To make students understand the basics and develop interest in mushroom cultivation techniques
- To enable students differentiate between edible and poisonous mushrooms.
- To provide hands on training on cultivation of Oyster mushroom and phytochemical analysis.
- To acquaint students with various post-harvest technology and value-added products associated with mushroom cultivation.
- To help the students for self-employment through mushroom cultivation.

Learning Outcome:

On successful completion of the course, students will be able to:

- Identify edible and poisonous mushrooms.
- Gain the knowledge on cultivation of edible mushrooms and their nutritional value as well as various post-harvest technologies associated to mushroom cultivation.
- Self-employment and income generation.

Suggested Readings

1. Purkayastha RP, Chandra A (1985) **Manual of Indian edible Mushrooms**. Today and Tomorrows Printers and Publishers, New Delhi.
2. Pathak VN, Yadav N (1998) **Mushroom Production and Processing Technology**. Agrobios, Jodhpur.
3. Tripathi DP (2005) **Mushroom Cultivation**. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Pandey RK, GhoshSK (1996) **A Hand Book on Mushroom Cultivation**. Emkey Publications.
5. PathakVN, YadavN, GaurM (2000) **Mushroom Production and Processing Technology**. VedamsEbooksPvt. Ltd., New Delhi.