S.S. JAIN SUBODH P.G. COLLEGE, JAIPUR

VALUE-ADDED COURSE

COURSE TITLE: MUSHROOM CULTIVATION

NODAL DEPARTMENT: BOTANY

COURSE CODE: 23VAC_5207T

MARKING SCHEME

Tutorial (Hours)	Time Allowed ESE (Hrs)	Course Credits	Total Marks	End Semester Exam (Max. Marks)	Assignment	Minimum Marks
30	2	2	50	35	15	20

COURSE OBJECTIVES:

1. To teach students the biological processes, life cycle, and ecological role of mushrooms, with a focus on their nutritional and commercial value.
2. To Equip students with the knowledge and hands-on techniques for cultivating different species of mushrooms, including spawn preparation, substrate selection, and maintaining optimal growth conditions.

COURSE CONTENTS:

Introduction, history Pure culture-spawn preparation- Scope of edible mushroom cultivation, Types of edible mushrooms cultivatedin India–*Volvariella volvacea*, *Pleurotus citrinopileatus*, *Agaricus bisporus*. Nutritional and medicinal value of ediblemushrooms; Poisonous mushrooms.Pure culture - preparation of medium (PDA and Oatmeal agar medium) sterilization - preparation of test tubeslants to store mother culture – culturing of *Pleurotus* mycelium on Petriplates, preparation of mother spawnin salinebottle and polypropylene bag and their multiplication.

(15 Hours)

Cultivation Technology, Storage and nutrition- Infrastructure: Substrates (locally available agrowastes Polythene bags, vessels, Inoculation hook, inoculation loop, culture rack, mushroom unit (Thatched house) water sprayer, tray, small polythene bags.

Cultivation Technology: (a) *Pleurotus citrinopileatus* (Oystermushroom) cultivation: Substrates,spawning, pre-treatment ofsubstrate, mycelial run, Pin head stage , Harvesting and yield economics of cultivation . Storage: Short-term storage (refrigeration) and Long term Storage (canning, pickels, papads, drying,storage in saltsolutions). Nutritional value of mushrooms

(15 Hours)

SUGGESTED READINGS:

Mushroom bed preparation - Low cost technology, composting technology in mushroom production.

1. Marimuthu, T. Krishnamoorthy, A.S. Sivaprakasam, K. and Jayarajan. R (1991) Oyster Mushrooms,Department of Plant Pathology, Tamil Nadu Agricultural University, Coimbatore.

3. Tewari, PankajKapoor, S.C., (1988). Mushroom cultivation, Mittal Publications, Delhi.47

4. Nita Bahl (1984-1988) Hand book of Mushrooms, II Edition, Vol. I & Vol. II.

5.Biswas, S., M. Datta and S.V. Ngachan. 2011. Mushrooms: A Manual For Cultivation. PHI learningprivate Ltd., New Delhi, India.

6. Chang, S. and P.G. Miles. 2004. Mushrooms: cultivation, nutritional value, medicinal effect, andenvironmental impact. CRC Press. USA.

COURSE OUTCOMES:

On completion of the course the learner will be able to:

1. Students will be able to describe the complete process of mushroom cultivation, from selecting species to harvesting, along with the environmental and economic benefits.
2. Graduates will demonstrate the ability to set up and manage a mushroom farm, including spawn production, substrate preparation, pest control, and optimizing yield for commercial purposes.

(Prof. K. B. Sharma)

Principal

Head of the Department