

### III B.Sc.: BOTANY SYLLABUS SEMESTER- VI PAPER – VIII-

#### A2

#### Paper VIII-A2: Mushroom Culture and Technology

Total hours of teaching 60hrs @ 3hrs per week

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**Unit I: Introduction, history:** (12hrs)

Introduction - history - scope of edible mushroom cultivation, Types of edible mushrooms available in India –*Volvariellavolvacea*, *Pleurotuscitrinopileatus*, *Agaricusbisporus*.  
Nutritional and medicinal value of edible mushrooms; Poisonous mushrooms.

**UNIT II:Pure culture-spawn preparation:** (12hrs)

Pure culture - preparation of medium (PDA and Oatmeal agar medium)sterilization - preparation of test tube slants to store mother culture – culturing of *Pleurotus* mycelium on Petriplates, preparation of mother spawn in saline bottle and polypropylene bag and their multiplication.

**Unit III: Cultivation Technology:** (12hrs)

Infrastructure: Substrates (locally available) Polythene bags, vessels, Inoculation hook, inoculation loop, low cost stove, sieves, culture rack, mushroom unit (Thatched house) water sprayer, tray, small polythene bag.  
Mushroom bed preparation - paddy straw, sugarcane trash, maize straw, banana leaves. Factors affecting the mushroom bed preparation - Low cost technology, composting technology in mushroom production.

**Unit IV:Storage and nutrition :** (12hrs)

Short-term storage (Refrigeration - up to 24 hours) Long term Storage (canning, pickles, papads), drying, storage in saltsolutions. Nutrition - Proteins - amino acids, mineral elements nutrition - Carbohydrates, Crude fibre content – Vitamins.

**Unit V:FoodPreparation:** (12hrs)

Types of foods prepared from mushrooms; soup,cutlet omlette, samosa, pickles and curry .ResearchCentres - National level and Regional level. Cost benefit ratio - Marketing in India and abroad, Export Value.