

Semester Lecture Plan (Theory)

Name of the college: Government College of Arts, Science and Commerce, Sanquelim		
Name of Faculty: Dr. Smita Srivastava	Subject: Botany (Minor)	
Paper code: BOT-321	Program/Course: T.Y.B.Sc.	Division: A
Academic Year: 2026-2027	Semester: III	Total Lectures: 30
Course Objectives: This course aims to: 1. Train students in basic mushroom cultivation techniques. 2. Impart knowledge of pest and disease management and post-harvest technology. 3. Upskill students for mushroom entrepreneurship and research.		
Expected Course Outcome: On completion of the course, students will be able to • CO1: Identify important cultivated edible mushroom species available in India. • CO2: Develop basic skills in spawn production, substrate preparation and mushroom cultivation. • CO3: Recognize and manage mushroom diseases and pests. • CO4. Create employment opportunities through mushroom cultivation and motivate them for research.		
Student Learning Outcome: By the end of the course the students will gain 1. Understand the biology, classification, and importance of edible mushrooms. 2. Explain the principles and methods of mushroom cultivation. 3. Describe the environmental requirements for mushroom growth. 4. Identify common mushroom pests, diseases, and their management. 5. Understand post-harvest handling, preservation, and marketing of mushrooms. 6. Develop awareness of employment and business opportunities in mushroom cultivation.		

Month	Lectures		No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
	From:	To:					
July	08/07/2026	11/07/2026	1	Module 2: Pest and Disease Management Button mushroom: Dry bubble, Wet bubble, Green mould, Brown blotch.		Power point, Presentation, Chalk Board	Atkinson, GF (1961). Hand book of Mushrooms. 2nd edition. Hafner Publishers, New York. 2. Bahl, N (2000). Handbook of Mushrooms. 4th edition. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi. Marimuthu, T., Krishnamoorthy, A.S., Sivaprakasam, K., & Jayarajan, R. (1991). <i>Oyster Mushrooms</i> . Tamil Nadu Agricultural University.
	13/07/2026	18/07/2026	2	Oyster mushroom: Soft rot, Brown rot, Yellow blotch Milky mushroom: Wet bubble, Dry bubble, Blotch.			
	20/07/2026	25/07/2026	2	Pests: Springtails and mites. Disease Management Methods 1. Purity of spawn and mother culture. 2. Strain vigour and genetic characteristics. 3. Strain improvement			
	27/07/2026	31/07/2026	2	4. Fumigation. 5. Improved compost sterilization procedures. 6. Quality assurance practices.			
August	03/08/2026	08/08/2026	2	Module 3: Post-harvest technology, storage, economics and future of mushroom cultivation in Goa		Power point, Presentation, Chalk Board	NIIR Board (2006). <i>Handbook of Mushroom Cultivation, Processing and Packaging</i>
	10/08/2026	15/08/2026	2	Post-harvest technology. Future of mushroom cultivation: Advantages of using local species, strains for mushroom cultivation (<i>Calocybe indica</i> and <i>Schizophyllum commune</i>).			

	17/08/2026	22/08/2026	2	Future of mushroom cultivation: Popular exotic mushrooms (<i>Volvariella volvacea</i> , <i>Lentinula edodes</i>). Strain improvement in <i>Agaricus bisporus</i> . Spent mushroom substrate as organic manure.			
	24/08/2026	29/08/2026	2	ISA-2 (Written test) Mushrooms cultivated for their medicinal importance (<i>Ganoderma</i> , <i>Cordyceps</i>).			
September	01/09/2026	05/09/2026	2	Mushrooms cultivated for their medicinal importance (<i>Ganoderma</i> , <i>Cordyceps</i>). Mushroom Research Centre ICAR-DMR Directorate of Mushroom Research, Solan and summary of its work.		PowerPoint, Presentation, Chalk Board	Chang, ST and Miles, PG (2004). Mushrooms: Cultivation, Nutritional Value, Medicinal Effect and Environmental Impact. CRC Press Inc., USA.
	07/09/2026	12/09/2026	2	Mushroom Research Centre ICAR-DMR Directorate of Mushroom Research, Solan and summary of its work. Economics in mushroom cultivation: Study of model of a unit for cost for site, spawn production			
	14/09/2026	19/09/2026		Ganesh Chaturthi Break			
	21/09/2026	26/09/2026	2	Economics in mushroom cultivation: Study of a model for cost for site, spawn production			
	28/09/2026	30/09/2026	1	ISA-3 (viva)			
October	01/10/2026	03/10/2026	1	Compost unit, machinery for a small-scale farm. Cost-benefit ratio. Economics in mushroom cultivation: Marketing in India and abroad.		Power point, Presentation, Chalk Board	NIIR Board (2006). <i>Handbook of Mushroom Cultivation, Processing and Packaging.</i>

	05/10/2026	10/10/2026	2	Economics in mushroom cultivation: Marketing in India and abroad.			National Institute of Industrial Research, New Delhi. Tripathi, D.P. (2005). <i>Mushroom Cultivation.</i> Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
	12/10/2026	14/10/2026	1	Alternate business models (ready to grow beds) DIY Kits			

Assessment Rubrics

Component	Max Marks
ISA 1	NA
ISA 2	7.5
ISA 3	7.5
Practical	NA
Project	NA
Semester End Exam	60