FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF MICROBIOLOGY
COURSE CURRICULUM

PART – A: Introduction			
Program: Bachelor in Life Science (Certificate/Diploma/Degree)		**Semester - II/ IV/V/VI**	**Session: 2024-25**
1	**Course Code**	**MBSEC-01**	
2	**Course Title**	**Mushroom Cultivation**	
3	**Course Type**	**Skill Enhancement Course (SEC)**	
4	**Prerequisite (If Any)**	**As per Program**	
5	**Course Learning Outcomes (CLO)**	**At the end of this course, the students will be able to –** ➢ explain nutritional and medicinal values of mushroom ➢ relate the types of mushrooms and their spawn preparation ➢ examine the methods of cultivation and economic aspects ➢ attain expertise using different Agro-residues for cultivation of mushrooms ➢ observe post-harvest management of mushrooms	
6	**Credit Value**	**02 Credits (1C + 1C)**	***Credit = 15 Hrs. Theoretical Learning and = 30 Hrs. Laboratory or field learning/ Training***
7	**Total Marks**	**Max. Marks: 50**	**Minimum Passing marks: 20**

PART – B: Content of the Course

Total No. of Teaching-Learning Periods:
Theory – 15 Periods (15 Hrs.) and Lab. or Field Learning / Training 30 Periods (30 Hours)

Module	Topics (Course Contents)	No. of Period
Theory Contents	**Introduction and Life cycle:** Classification and identification of edible and nonedible mushrooms. Nutritional and medicinal value of mushroom, Scope of mushroom cultivation. Taxonomic position and Life cycle of mushroom. Types of mushrooms; Button mushroom (Agaricus biporus), Milky mushroom (*Calocybe indica*), Oyster mushroom (*Pleurotus sajor kaju*) and paddy straw mushroom (*Volvariella volvacea*). (Observation). **Principles and Requisites:** Sterilization and disinfection of substrates, growth medium, isolation, spawn production and maintenance. (Observation) **Techniques of Cultivation:** Structure and construction of low-cost mushroom huts, layout of Traditional and Green house method. Maintenance of proper condition in mushroom huts, Composting, bed and polythene bag preparation, Spawning-casing-cropping. (Observation).	**15**
Lab./Field Training Contents	1.Preparation of laboratory Glassware (Chemical washing, cleaning and drying). 2.Basic information about autoclave, hot air oven, laminar air flow 3.Sterilization and sanitation of mushroom house, instruments etc. 4.Identification of edible and poisonous mushrooms. 5.Preparation of Mother Culture. Spawn- media preparation, Inoculation, and incubation. 6.Preparation of different types of bed for cultivation. 7.Cultivation of Mushroom using compost/ paddy straw/agricultural wastes. 10.Harvesting and post-harvest management of crops. (Observation & Practice)	**30**
Key Words	**Mushroom, Spawning, Compost, Harvesting**	

Name and Signature of Convener and Members of CBoS

10/6/24 20/6/24 10.6.24 10.6.24 10.6.24

Part – C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

1. Nita Bhal. (2000). Hand book on Mushrooms. 2nded. Vol. I and II. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Tewari, S. C., Pankaj Kapoor, (1988). Mushroom Cultivation. Mittal Publication, New Delhi.
3. Biotechnology, V. Kumaresan.

Reference Books:

1. Stamets, Paul, and J.S. Chilton. 1983. The Mushroom Cultivator. Agarikon Press, Olympia, WA. 415 p.

Online Resources – e-Resources/ e-Books and e- learning portals

- **https://nios.ac.in/media/documents/vocational/mushroom_production_(revised)(618)/Lesson-01.pdf**
- **https://agriportal.cg.nic.in/horticulture/PDF/Download/Mushroom%20Project_Part%201.pdf**
- **http://nhb.gov.in/pdf/Cultivation.pdf**

PART: D ASSESSMENT AND EVALUATION

Suggested Continuous Evaluation Methods:
Maximum Marks: 50 Marks
Continuous Internal Assessment (CIA): 15 Marks
End Semester Exam (ESE): 35 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	**Internal Test/ Quiz – (2): 10 & 10** **Assignment/ Seminar + Attendance: 05** **Total Marks: 15**	Better Marks out of the two Test/ Quiz + obtained marks in Assignment shall be considered against **15** Marks

End Semester Exam (ESE):	**Laboratory/ Field Skill Performance: On spot Assessment** **A. Performed the Task based on lab. work – 20 Marks** **B. Spotting based on tools & technology (written) - 10 Marks** **C. Viva-voce (based on principle/ technology) – 05 Marks**	**Managed by Coordinator as per skilling**

Name and Signature of Convener and Members of CBoS

10.6.24 10.6.24 10.6.24 Dr. Nelson Xess

10/6/24 10.6.24 Dr. Sweetlana Nag. J

10/6/24