



SHARDA
UNIVERSITY
Beyond Boundaries



**SHARDA SCHOOL OF
BASIC SCIENCES
& RESEARCH**



— COURSE —

**Mushroom
Cultivation
(NV35112)**

**VALUE ADDED
COURSE BROCHURE-30 HRS
2024-25**

ABOUT THE UNIVERSITY

Sharda University is a leading Educational institution based out of Greater Noida, Delhi NCR. A venture of the renowned Sharda Group of Institutions (SGI), The University has established itself as a high quality education provider with prime focus on holistic learning and imbining competitive abilities in students.

The University is approved by UGC and prides itself in being the only multi-discipline campus in the NCR, spread over 63 acres and equipped with world class facilities.

Sharda University promises to become one of the India's leading universities with an acknowledged reputation for excellence in research and teaching. With its outstanding faculty, world class teaching standards, and innovative academic programs, Sharda intends to set a new benchmark in the Indian education system.

Sharda School of Basic Sciences and Research (SSBSR) boasts of providing an interdisciplinary approach, exposure to different disciplines in science including Chemistry, Bio-Chemistry, Physics, Mathematics, Life Sciences, and Environmental Sciences.

ABOUT SCHOOL

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The Sharda School of Basic Sciences and Research is unique from other institutions of higher learning as it is committed to imparting knowledge in pure and applied sciences, which not only forms the foundation for further academic pursuits in science and technology but also acts as the foundation for students to pursue a career in multifacet directions.

The academic programs are designed to meet the requirement of the latest technological developments and envisages to become a state-of-the-art department that cater the students at Graduate, Post- Graduate and Research level along with providing high- quality education and cutting-edge interdisciplinary research in sciences. SSBSR has well-equipped laboratories for Physics, MATLAB, Microbiology, Molecular Biology, Cell Culture, Virology, Bio-Chemistry, Physical, Organic and Inorganic chemistry for Graduate and Post-Graduate Programs. In addition, there are Central Instrumentation Facility (CIF) and other advance research labs to promote research culture.

ABOUT COURSE

This course will enhance careers in Mushroom cultivation. Mushroom is considered a superfood because of its nutritious value, which will be good malnutrition and other health-related issues. Mushrooms are a low-calorie food that are high in fibre, protein, vitamins, and minerals available for human consumption. It will be beneficial to students who are interested to become entrepreneurs. This course can provide employability in food, agriculture and pharmaceutical companies.

COURSE SCHEDULE

Week	Content	Durations (Hrs.)
1.	General history, edible mushrooms and poisonous mushrooms	2
2.	Common Indian mushrooms; Nutritional values, medicinal values and advantages	2
3.	Systematic position, morphology, distribution, and structure of various species of mushrooms.	2
4.	Paddy straw mushrooms- substrate, spawn making	2
5.	Methods: Bed method, polythene bag, field cultivation	2
6.	Oyster mushroom cultivation- substrate, spawning, pre treatment of substrate	2
7.	Diseases- common pests, disease prevention and control measures	2
8.	Processing- Blanching, steeping, sun drying, canning, pickling, freeze drying.	2
9.	Storage- short term and long term storage	2
10.	Production level, economic return, foreign exchange from mushroom	2
11.	Cultivating countries and international trade.	2
12.	Mushroom based products.	2
13.	Cropping, Harvesting, Packaging- Spawning	2
14.	Substrate preparation, Pasteurization, Incubation.	2
15.	Colonisation, Pinning, Harvesting.	2
Total		30hrs.

RESOURCE PERSONS

Dr. Ranjana Pande

Dr. Ranjana Pande is currently an Assistant Professor in the department of Life Sciences, Sharda University Greater Noida U.P. She holds a Ph.D. in Food Science and Processing from Indian Institute of Technology, Kharagpur, West Bengal. Before joining Sharda University, she worked as an Assistant Professor in Ganpat University, Mehsana in the Department of Food Technology. Dr. Pande contributed to three book chapters, six research papers and twelve national and international conferences. She is full member for Association of Food Scientists and Technologies (India), honorary member of 3E Innovation foundation New Delhi and Associate editor in Food science and Technology Letters. Dr. Pande also served as Professional Scientific Advisory Committee Member in Phytoelixir Pvt.Ltd. (Recognition No. DIPP99296 under the Ministry of Commerce and Industry, Govt) is an Innovation based Biotech Startup, Nashik. Till now she guided many M.Sc. and B.Sc. students for their dissertation work. Apart from the teaching and research work she also hold an academic responsibility Board of Studies Member and NAAC 1 criterion from Food Science and Technology Programme.

Dr. Anamika Mehta

Dr. Anamika Mehta is currently working as an Assistant Professor in Department of Life Sciences, Sharda University, Greater Noida (U.P.). She completed her B.Sc. vocational in Food Science and Quality Control from C.C.S. University Meerut and M.Sc. Microbial and Food Technology from Punjabi University Patiala, Punjab. After completion of her M.Sc., she started working as research fellow under Major Research Project funded by University Grants Commission New Delhi. She earned her Ph.D. degree in Biotechnology from Punjabi University Patiala, Punjab in 2017. During Ph.D. her main focus was bioremediation of textile wastewater and development of biofilm of bacterial consortium in an up-flow column bioreactor to degrade carcinogenic textile dyes present in industrial wastewater for its safe disposal. To her credit, she has 2 granted patents (year 2020 & 2021) as an inventor. She has presented her research work in various national and international conferences. Published 6 research papers in peer reviewed Journals and 2 book chapters with Springer Nature. She has 3-years of teaching and 7+ years of research experience.

School: SSBSR
 Programme: PG.
 Branch:

Batch : 2024-2026
 Current Academic Year: 2024-2025
 Semester :

1. Course Code	Nv35112	
2. Course Title	Mushroom cultivation	
3. Credits		
4. Contact Hours (L-T-P)	30 Hours	
Course Type	Value added course	
5. Course Objective	1. To introduce fundamental concepts and methods of Mushroom cultivation. 2. To train the students in comprehensive Mushroom cultivation and post-production 3. To make the students become an entrepreneur.	
6. Course Outcomes	On successful completion of the course, students will be able to: CO1: To understand the basic concepts of historical background, taxonomic and biochemical composition CO2: To provide the knowledge of cultivation and production of Mushroom. CO3: To describe the usefulness of Mushroom products and their maintenance. CO4: To provide the knowledge of mushroom production, economic trade and foreign exchange. CO5: To deep insight of challenges and future outlook CO6: To develop an idea about the feasibility of spirulina cultivation, production, storage and packaging.	
7. Course Description	This course will enhance careers in Mushroom cultivation. Mushroom is considered a superfood because of its nutritious value, which will be good malnutrition and other health-related issues. Mushrooms are a low-calorie food that are high in fibre, protein, vitamins, and minerals available for human consumption. It will be beneficial to students who are interested to become entrepreneurs. This course can provide employability in food, agriculture and pharmaceutical companies.	
8. Outline syllabus		CO Mapping
Unit 1	Introduction	
A	General history, edible mushrooms and poisonous mushrooms	CO1,CO6
B	Common Indian mushrooms; Nutritional values, medicinal values and advantages	CO1,CO6
C	Systematic position, morphology, distribution, and structure of various species of mushrooms.	CO1,CO6
Unit 2	Cultivation and Production	
A	Paddy straw mushrooms- substrate, spawn making	CO2,CO6
B	Methods: Bed method, polythene bag, field cultivation	CO2,CO6
C	Oyster mushroom cultivation- substrate, spawning, pre treatment of substrate.	CO2,CO6
Unit 3	Maintenance of mushroom	
A	Diseases- common pests, disease prevention and control measures	CO3,CO6
B	Processing- Blanching, steeping, sun drying, canning, pickling, freeze drying.	CO3,CO6
C	Storage- short term and long term storage	CO3,CO6
Unit 4	Production, economic return and international trade	
A	Production level, economic return, foreign exchange from mushroom	CO4,CO6
B	Cultivating countries and international trade.	CO4,CO6
C	Mushroom based products	CO4,CO6
Unit 5	Practical approaches for mushroom cultivation	
A	Cropping, Harvesting, Packaging- Spawning	CO5,CO6
B	Substrate prepration, Pasteurization, Incubation.	CO5,CO6
C	Colonisation, Pinning, Harvesting.	CO5,CO6
Mode of Examination	Quiz/Viva	