

Mushroom Culture and Technology I

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit Distribution Of The Course			Eligibility Criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Mushroom Culture and Technology I	2	0	0	2	Class XII	NIL

Learning objectives

To make students aware about

- mushroom growing techniques.
- medicinal and nutritional value of mushrooms.

Learning Outcomes

After successful completion of the course, students will be able to:

- practice the techniques for cultivation of various edible mushrooms
- setup entrepreneurial small scale units for self-employment
- apply the skills as Mushroom Grower in large scale industries.

SYLLABUS

Practical**: 60 hours

** Specimens and examples studied may vary depending on seasonal factors and availability

1. To study the principle and operation of Autoclave, Incubator, Laminar Air Flow/ BSL 2 facility. 4 hours
2. To study edible mushrooms (*Agaricus*, *Pleurotus*, *Boletus*, *Lentinula*, *Calocybe*, *Volvariella*, *Morchella*). 4 hours
3. To study poisonous mushrooms (*Amanita*, *Cortinarius*, *Psilocybe*, *Coprinopsis*). 4 hours
4. To study medicinal mushrooms (*Ganoderma*, *Ophiocordyceps*, *Chaga*, *Hericium*).

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| | 4 hours |
| 5. Preparation of various types of compost and media which can be used for cultivation of mushroom. | 4 hours |
| 6. To study the common fungal, bacterial, viral, and insect borne diseases of mushrooms (any 2 from each). | 4 hours |
| 7. To study the cultivation technique of <i>Agaricus</i> mushroom. | 4 hours |
| 8. To study the cultivation technique of <i>Pleurotus</i> mushroom. | 4 hours |
| 9. To study the cultivation technique of <i>Calocybe/ Volvariella</i> mushroom. | 4 hours |
| 10. To study the cultivation technique of <i>Ganoderma</i> mushroom. | 4 hours |
| 11. To study the nutritional value and market value of mushrooms, and post-harvest technologies like packaging and preservation. | 4 hours |
| 12. Various requirements for setting up a mushroom cultivation unit (“kuccha” or cemented house). | 4 hours |
| 13. Entrepreneurship in cultivation of mushrooms. | 4 hours |
| 14. Government policies related to the promotion of mushroom cultivation. | 4 hours |
| 15. Visit to an Institute or Center conducting mushroom cultivation (Report to be submitted). | 4 hours |

Essential Readings:

1. Bahl, N. (2015). Hand Book on Mushroom. Page no. 1-166. Oxford & IBH Publishing Company.
2. Russell, S. (2014). The Essential Guide To Cultivating Mushroom. Storey Publishing. North Adams, M.A. 01247.
3. Zied, D. C., Gimenez, A. P. (017) Edible and Medicinal Mushroom page no. 1-585. John Wiley & Sons Ltd. UK.
4. Chang, S.T., Miles, P.G. (2004) Mushrooms Cultivation, Nutritional Value, Medicinal effect and Environmental Impact, CRC Press.
5. Fletcher, J.T., Gaze, R.H. (2007). Mushroom Pest and Disease Control. CRC Press.
6. Ahlawat, O.P., Tewari, R.P. (2007). Cultivation Technology Of Paddy Straw Mushroom (*Volvariella volvacea*). Pages 1-44 National Research Center for Mushroom (Indian Council of Agricultural Research) Chambaghat, Solan (HP).
7. Rai, R.D., Arumuganathan, Y. (2008). Post Harvest Technology of Mushrooms. National Research Center for Mushroom (Indian Council of Agricultural Research) Chambaghat, Solan (HP)

8. Singh, M., Vijay, B., Kamal, S., Wakchaure, G.C. (2011) . Mushrooms Cultivation, Marketing and Consumption., Publishers Directorate of Mushroom Research (ICAR) Chambaghat, Solan.

Examination scheme and mode:

Evaluation scheme and mode will be as per the guidelines notified by the University of Delhi.