

**REPORT OF THE CERTIFICATE
COURSE TITLED**

***ADD-ON COURSE: MUSHROOM
CULTIVATION***

**CONDUCTED BY HOOGHLY WOMEN'S
COLLEGE**

***REPORT OF THE CERTIFICATE COURSE TITLED ADD-ON COURSE:
MUSHROOM CULTIVATION***

CONDUCTED BY HOOGHLY WOMEN'S COLLEGE

Objectives of the course: Mushroom cultivation course aims to provide detailed training on mushroom cultivation, packaging and marketing. It also enables learners to provide a business plan on mushroom cultivation to become self-reliant and independent.

Mode of Teaching: Offline

Total duration of the course: 6 months

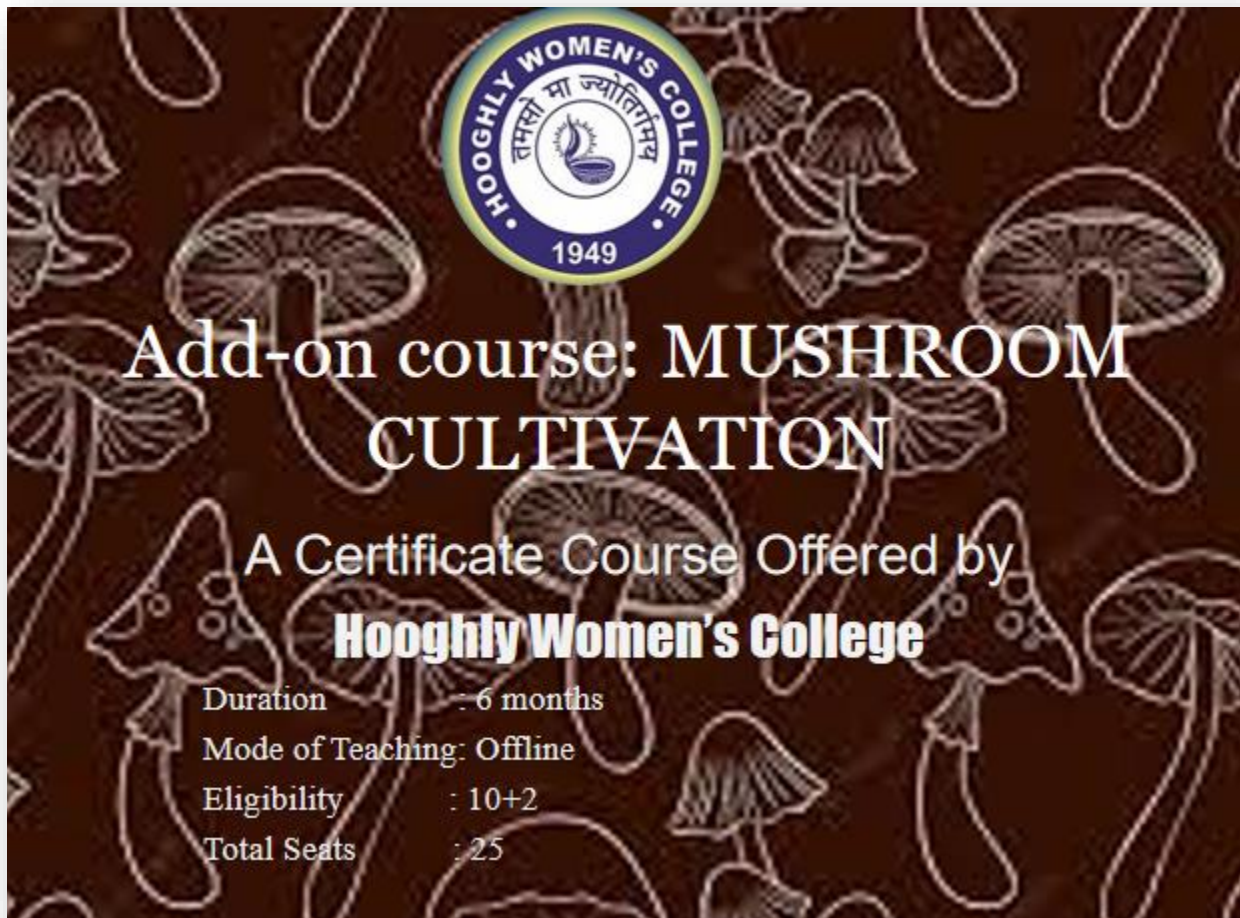
Fee: ₹ 1000

Contact Person: Debashis Santra

Course Coordinator: Prof. Satyajit Biswas

Course Structure: Theory and Practical classes

FLYER OF THE COURSE



Add-on course: MUSHROOM CULTIVATION


A Certificate Course Offered by
Hooghly Women's College

Duration	: 6 months
Mode of Teaching:	Offline
Eligibility	: 10+2
Total Seats	: 25

The course was inaugurated on 1st April 2023. Twenty two students registered for the course

NOTICE

Hooghly Women's College is organizing a certificate course titled 'Mushroom cultivation' for students to enhance their career opportunities. The course will commence from 1st April, 2023. Students are requested to register for the course on or before 20th March, 2023. The course fee will be Rs 1000 for six months.


Course Coordinator 10th/23

SB
10/03/23
Principal

Principa.
Hooghly Women's College.

SYLLABUS

A six month certificate course on Mushroom cultivation and value added products

PAPER I: MUSHROOM CULTIVATION AND ECONOMIC IMPORTANCE

Unit: I

Mushroom morphology

Different parts of a typical mushroom & variations in mushroom morphology. Key to differentiate edible from poisonous mushrooms.

Unit: II

Mushroom Classification

Based on occurrence- Epigenous & Hypogenous, Natural Habitats- Humicolous, Lignicolous & Coprophilous, Color of spores- white, yellow pink, purple brown & black, Morphology- fruiting layers exposed to air, fruiting layers not exposed to air, plants with predominantly pitted cap, cap saddled shape & saucer shape, Structure and texture of fruit bodies-gilled fungal & pore fungal, Fruit bodies and spores- Ainsworth et al (1973) classification. Recent Classification-.8th edition of Ainsworth & Bisby's 'Dictionary of Fungi'.

Unit: III

Biology of Mushrooms

Types of edible mushroom and their identifications. Button, Straw & Oyster- General morphology, distinguishing characteristics, spore germination and life cycle.

Unit: IV

Nutrient Profile of Mushroom

Protein, amino acids, calorific values, carbohydrates, fats, vitamins & minerals.

Unit: V

Health benefits of Mushroom

Antiviral value, antibacterial effect, antifungal effect, anti-tumor effect, hematological value cardiovascular & renal effect, in therapeutic diets, adolescence, for aged persons & diabetes mellitus.

Unit: VI

Disease control and pest management

Study of different diseases of different mushrooms, Major insect pests- Mushroom flies/ nematodes/mites.

Identification and management of pests by chemical and non-chemical methods.

Unit: VII

Value addition of mushroom

Value added recipes preparation, value added products such as mushrooms pickle, jam, sauce, candy, preserve, chips etc. Fresh and dried mushroom powder value added products like bakery products, papad, nuggets etc.

PAPER II: CULTIVATION TECHNIQUES

Unit: I

Cultivation System & Farm design

Fundamentals of cultivation system- small village unit & larger commercial unit. Principles of mushroom farm layout- location of building plot, design of farm. bulk chamber, composting platform. Equipment & pasteurization room & growing rooms.

Unit: II

Compost & Composting: Facilities

Principles of composting, machinery required for compost making, materials for compost preparation. Methods of Composting- Long method of composting (LMC) & Short method of composting (SMC).

Unit: III

Spawn & Spawning

Facilities required for spawn preparation, Preparation of spawn substrate, preparation of pure culture, media used in raising pure culture, culture maintenance, and storage of spawn.

Unit: IV

Casing materials & Case running

Importance of casing mixture, Quality parameters of casing soil, different types of casing mixtures, commonly used materials.

Unit: V

Cultivation of Button, Oyster, Milky mushroom and Straw Mushrooms

Collection of raw materials, compost & composting, spawn & spawning, casing & case run, cropping & crop management, picking & packing.

Unit: VI

Cultivation of other economically important and medicinal mushroom

Cultivation of Shiitake Mushroom, Kabul Dhingri (King oyster) Mushroom, Reishi (Ganoderma) Mushroom, Kira ghas (Cordyceps) Mushroom etc.

Unit: VII

Harvesting packaging & grading and storage of Mushroom

Harvesting of mushroom

Grading of mushroom

Flow Sheet for the harvesting and packaging of White button mushroom, washing, Precooling and Packing

Storage

- Short term storage, Long term storage, Preservation in Steeping Solution, Post-Harvest Handling of different mushroom. Drying of Mushroom

PRACTICAL - Mushroom cultivation and value added products

1. Principals and functioning of instruments used in mushroom cultivation.
2. Different sterilization technique and sanitation methods.
3. Hands on sterilization techniques and preparation of mother culture media.
4. Inoculation, incubation and spawn production.
5. Preparation of different recipe for value added products.
6. Hands on training for different cultivation process of mushroom. Harvesting packaging & grading and storage of mushroom.
7. Visit to relevant Labs/Field.

Reference Books:

- Mushroom Production and Processing Technology, Pathak Yadav Gour {2010}. Published by Agrobios, India.
- A Hand Book of Edible Mushrooms, S.Kannaiyan & K.Ramasamy {1980}. Today & Tomorrow Printers and Publishers, New Delhi.
- Handbook on Mushrooms (Vol1 and Vol 2), Nita Bahl, Oxford and IBH Publishing Company.
- Mushroom Cultivation, Tripathi D.P. {2005}, Oxford and IBH Publishing Company.
- Marimuthu, T. Krishnamoorthy, A.S. Sivaprakasam, K. and Jayarajan. R (1991) Oyster Mushrooms, Department of Plant Pathology, Tamil Nadu Agricultural University, Coimbatore.
- Swaminathan, M. (1990) Food and Nutrition. Bappco, The Bangalore Printing and Publishing Co. Ltd., No. 88, Mysore Road, Bangalore 560018.
- Tewari, Pankaj Kapoor, S.C., (1988). Mushroom cultivation, Mittal Publications, Delhi.

COURSE REQUIREMENTS

1. Students from any discipline are eligible for this course.
2. Requirements for the course-
 - a. Near about 200 sq. ft. room with shade or false ceiling (can be made through shade net 95%).
 - b. Raw material as a paddy straw, wood husk / saw dust etc.
 - c. Spawn of different mushrooms.

- d. Polypropylene Filter Patch Bag (pp bags) with rubber band.
 - e. Plastic drum (50 lt.)
 - f. Racks (preferably iron / aluminum make)
 - g. Hand sprayer
 - h. Mixer grinder and utensils
 - i. Gas and oven
3. Sterilization technique
- a. Chemicals like formaldehyde, calcium hydroxide etc.
 - b. Physical method - steam (steam jacket)
4. Programme included both Theory & Practical classes)
5. The syllabus will include both theory, practical and hands on training programmed.
6. Class conducted by the trainers and institutional teachers.
7. Certificate issued only to candidates who will regularly allow the course work and fulfill all the academic requirements.



THEORY AND PRACTICAL CLASSES



HOOGHLY WOMEN'S COLLEGE

Attendance Sheet OF SKILL ENHANCEMENT CERTIFICATE COURSE 2023

SUBJECT : MUSHROOM CULTIVATION : Session : 2022 - 2023

Sl	Roll	Name	07.01.23	14.01.23	21.01.23	28.01.23	04.02.23	11.02.23	18.02.23	25.02.23	01.03.23	08.03.23	15.03.23	22.03.23	29.03.23	05.04.23	12.04.23	19.04.23	26.04.23	03.05.23	10.05.23	17.05.23	Signature
1	200340600019	Ishani Das	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	I. Das
2	210340600026	Meghna Mukherjee	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Meghna Mukherjee
3	200340600020	Kamalika Manna	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Kamalika Manna
4	202001042060	Ankana Sammadar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Ankana Sammadar
5	202001042068	Deepika Hazra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	D. Hazra
6	202201045277	Muskan Singh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Muskan Singh
7	202201045294	Shani Sabnam	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Shani Sabnam
8	202240600021	Monideepa Bandyopahyay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Monideepa Bandyopahyay
9	210340600001	Ananya Bandyopadhyay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Ananya Bandyopadhyay
10	210340600003	Aishwarya Murmu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Aishwarya Murmu
11	210340600005	Amrita Dey	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Amrita Dey
12	210340600006	Anushka Banerjee	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Anushka Banerjee
13	210340600009	Ankita Das	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Ankita Das
14	210340600012	Debolina Kundu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Debolina Kundu
15	210340600017	Jayasri Paul	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Jayasri Paul
16	210340600018	Farhin Dewan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Farhin Dewan
17	210340600019	Farhin Sultana	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Farhin Sultana
18	210340600035	Riktha Karmakar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Riktha Karmakar
19	210340600045	Shreya Saha	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Shreya Saha
20	210340600059	Tithi Mlik	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Tithi Mlik
21	210340600065	Vasudha Singh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Vasudha Singh
22	210640600009	Rikita Paul	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Rikita Paul
Signature of Trainer :																							

- Soma Banerjee

Principal
Hooghly Women's College


 Assistant Controller
 Hooghly Women's College

COURSE OUTCOME

All the students successfully completed the course. Certificates were distributed to the students.



The certificate is framed with a decorative border. At the top center, it reads "Hooghly Women's College" in bold, followed by the address "1, Vivekananda Road, Pipulpati, Hooghly-712103" and "(Affiliated to The University of Burdwan)". Two circular logos of the college are placed on either side of the title. The main title "Training Certificate" is underlined. The text of the certificate is written in a cursive font, certifying that FARHIN DEWAN, a student of Hooghly Women's College, has completed a training course on "Mushroom Cultivation for 35 hrs." organized by the college. At the bottom, there are three signatures: the Course Coordinator, the Trainer of the Course (D. Saha), and the Principal. The certificate ID is HWC/MC.01/9, and it was issued on 19.01.24 in Hooghly.

Hooghly Women's College
1, Vivekananda Road, Pipulpati, Hooghly-712103
(Affiliated to The University of Burdwan)

Training Certificate

This is to certify that,**FARHIN DEWAN**, Student.....
Of.....**Hooghly Women's College**.....has participated and successfully
completed the training on.....**Mushroom Cultivation for 35 hrs.**.....
organized by Hooghly Women's College, Hooghly, West Bengal.



.....
Course Coordinator
Hooghly Women's College
Certificate ID: HWC/MC.01/9.....

D. Saha
Trainer of the Course
Hooghly Women's College

SB
Principal
Hooghly Women's College
Issued on : 19.01.24
Place : Hooghly

