

Course Details

Course Intake: 55

Course Duration: 30 hours (20 hours Theory and 10 hours Practical)

The mode of course conduct shall be through offline and online classes and the LMS Google Classroom.

Course Evaluation:

The evaluation scheme for the course shall contain two parts:

1. Internal Assessment

2. External Evaluation

25% of the total mark is for internal assessment, and 75% is for external evaluation.

Table showing components with marks of evaluation

		Component	Mark
Theory (Total mark 80)	Internal (Total mark 20)	Attendance	10 mark
		Assignment	4 mark
		Exam I (Objective type)	3 mark
		Exam II (Objective type)	3 mark
	External (Total mark 60)	Essay	1*10 mark =10 mark
		Short answer	4*5 mark = 20 mark
		Very Short Answer	10*3 mark = 30 mark
Practical (Total mark 20)	Internal (Total mark 5)	Involvement in practical sessions	5 mark
	External (Total mark 15)	Demonstration/Viva	5 mark
		Record	5 mark
		Field trip/Workshop report	5 mark

Criteria for issuing certificates:

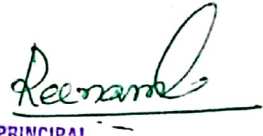
A student is required to acquire a minimum of 40% in aggregate for theory and practical and 35% separate theory and practical external evaluation.

Course coordinator : Nazeema M K
Assistant Professor
Department of Botany
MES Asmabi College, P Vemballur
Email: nazeema.mesasmabi@gmail.com
Mobile no: 8606335137

Course Instructors : Ms. Shaheeda T M
Dr Girija T P
Dr Amitha Bachan K H
Dr Jisha K C
Ms Shemi C B


NAZEEMA. M. K.
Assistant Professor
Research & P.G. Department of Botany
MES Asmabi College, P. Vemballur
Kodungallur, Thrissur-680671, Kerala-India


Head of Department
Research & PG Dept. of Botany
MES Asmabi College
P. Vemballur, Thrissur Dt.
Kerala - 680 671


PRINCIPAL,
M. E. S. ASMABI COLLEGE
P.O.P. VEMBALLUR,
KODUNGALLUR-680671



MES Asmabi College, P Vemballur
Add-on Course - Mushroom Cultivation 2023-24

Course code- AS23MC

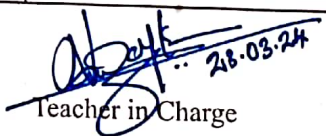
List of students enrolled


Sl no	Name	Roll Number	Class
1	AMAL FATHIMA KARUTHA MOINUDHEEN	UG23BOT01	I B Sc Botany
2	AMNA FATHIMA K M	UG23BOT02	I B Sc Botany
3	ASNA N A	UG23BOT03	I B Sc Botany
4	SHADIYA FAMNA K	UG23BOT05	I B Sc Botany
5	LIYA HAQUE KALLUPALATHINGAL	UG23BOT06	I B Sc Botany
6	NAFEESATHUL MISRIYA .V.S	UG23BOT07	I B Sc Botany
7	SHANA SALIM K T	UG23BOT08	I B Sc Botany
8	SULTHANA KHATHUN	UG23BOT09	I B Sc Botany
9	ALEENA K J	UG23BOT10	I B Sc Botany
10	ANJANA P S	UG23BOT12	I B Sc Botany
11	ANUSREE T B	UG23BOT13	I B Sc Botany
12	APARNA K S	UG23BOT14	I B Sc Botany
13	FASNA K SHAINSHAD	UG23BOT16	I B Sc Botany
14	M M SHABANA YASMIN	UG23BOT17	I B Sc Botany
15	M S SHAHLA	UG23BOT18	I B Sc Botany
16	NADHA A P	UG23BOT20	I B Sc Botany
17	NIKHITHA K Y	UG23BOT21	I B Sc Botany
18	SREESHMA C B	UG23BOT23	I B Sc Botany
19	T N NASNA	UG23BOT24	I B Sc Botany
20	AFRAH M	UG22BOT01	II B Sc Botany
21	AMEENA K B	UG22BOT02	II B Sc Botany
22	FATHIMA P B	UG22BOT03	II B Sc Botany
23	HADHIYA U A	UG22BOT04	II B Sc Botany
24	JUBNA K M	UG22BOT05	II B Sc Botany
25	FATHIMA	UG22BOT07	II B Sc Botany
26	FATHIMA AFRIN P S	UG22BOT08	II B Sc Botany
27	HASNA P A	UG22BOT09	II B Sc Botany
28	NEZRIN MN	UG22BOT10	II B Sc Botany
29	SHIFA MOL T A	UG22BOT12	II B Sc Botany
30	SREE DAKSHINA DILEEP	UG22BOT13	II B Sc Botany
31	AISWARYA T V	UG22BOT16	II B Sc Botany
32	ASHITHA C A	UG22BOT18	II B Sc Botany
33	FATHIMA NASREEN	UG22BOT19	II B Sc Botany
34	HAFISA P H	UG22BOT21	II B Sc Botany
35	MUBEENA P M	UG22BOT23	II B Sc Botany


Aparna
Asna
Shadiya
Liya
Nafees
Shana
Sulthana
Aleena
Anjana
Anusree
Aparna
Fasna
Shabana
M S
Nadha
Nikhitha
Sreeshma
T N
Afra
Ameena
Fathima
Hadhiya
Jubna
Fathima
Fathima
Hasna
Nezrin
Shifa
Sree
Aiswarya
Ashitha
Fathima
Hafisa
Mubeena

36	SANA NASRIN P M	UG22BOT25	II B Sc Botany
37	SHAHINA ABDUL RAHIM	UG22BOT26	II B Sc Botany
38	SITHARA PARVIN	UG22BOT27	II B Sc Botany
39	MUHAMMED ADIL	UG23BOT04	II B Sc Botany
40	AMALKRISHNA P P	UG23BOT11	II B Sc Botany
41	AQTHAR M G	UG23BOT15	II B Sc Botany
42	MOHAMMED RIZWAN C S	UG23BOT19	II B Sc Botany
43	SAFIN SAJI	UG23BOT22	II B Sc Botany
44	ABHINAND K	UG22BOT06	II B Sc Botany
45	SARATH CHANDRAN K S	UG22BOT11	II B Sc Botany
46	ABDUL NISAM V R	UG22BOT14	II B Sc Botany
47	ADITH E U	UG22BOT15	II B Sc Botany
48	AKHILDAS V M	UG22BOT17	II B Sc Botany
49	GOKUL R	UG22BOT20	II B Sc Botany
50	MISBAHUL HAQ K M	UG22BOT22	II B Sc Botany
51	RINOY R	UG22BOT24	II B Sc Botany

Sana
Abdulrahman
Sithara
Adil
Amal
Aqthar
Mohammed
Safin
Abhinand
Sarath
Abdulnisam
Adith
Akhildas
Gokul
Misbahul
Rinoy


 26-03-24
 Teacher in Charge


 Head of Department
 Research & PG Dept of Botany
 MES Asmabi College
 P. Vembailur, Thrissur Dt
 Kerala - 680 671


 Principal

PRINCIPAL,
 M. E. S. ASMABI COLLEGE
 P.O.P. VEMBALLUR,
 KODUNGALLUR-680671



Research & PG Department of Botany
M.E.S Asmabi college, P. Vemballur
Thrissur, Kerala- 680671



CERTIFICATE

Certificate
of
Completion

This is to certify that Mr/Ms AMAL FATHIMA KARUTHA MOINUDHEEN, Roll No: UG23BOT01
of I B Sc Botany has completed the add-on course on
'**Mushroom Cultivation**' conducted by Research Department of Botany, M.E.S
Asmabi College, P. Vemballur, Thrissur, Kerala- 680671 during the academic year
2023-24.

P.Vemballur
20/03/2024


Dr Girija T P
H o D


Nazeema M.K.
Coordinator


Dr. A. Biju
Principal

ADD-ON COURSE

ON

MUSHROOM CULTIVATION

Course code: AS23MC

Duration: 30 Hours

Course Outcomes:

- ❖ Enable the students to identify edible and poisonous mushrooms
- ❖ Provide hands on training for preparing beds for mushroom cultivation and spawn production
- ❖ Give the students exposure to the experiences of experts and functioning mushroom farms
- ❖ Help the students learn a means of self-employment and income generation.

Syllabus

Module 1: Introduction to mushrooms (2 hours)

Mushrooms -Taxonomic rank -History and Scope of mushroom cultivation - Edible and Poisonous Mushrooms-Vegetative characters

Module 2: Common edible mushrooms (2 Hours)

Button mushroom (*Agaricus bisporus*), Milky mushroom (*Calocybe indica*), Oyster mushroom (*Pleurotus sajorcaju*), and paddy straw mushroom (*Volvariella volvcea*).

Module 3: Principles of mushroom cultivation (8 Hours)

Structure and construction of mushroom house, Sterilization of substrates, Spawn production culture media preparation- production of pure culture, mother spawn, and multiplication of spawn. Composting technology, mushroom bed preparation. Spawning, spawn running, and harvesting. Cultivation of oyster and paddy straw mushrooms. Problems in cultivation -

diseases, pests, nematodes, weed moulds and their management strategies

Module 4: Health benefits of mushrooms (2 Hours)

Nutritional and medicinal values of mushrooms. Therapeutic aspects- antitumor effect

Module 5: Post harvest technology: (4 Hours)

Preservation of mushrooms - freezing, dry freezing, drying, canning, quality assurance, and entrepreneurship. Value added products of mushrooms.

Module 6: Training/ Workshop/ Field visit (12 Hours)

Sterilization and sanitation of mushroom house, instruments and substrates, Preparation of mother culture, media preparation, inoculation, incubation and spawn production Cultivation of oyster mushroom using paddy straw/agricultural wastes

References

1. Marimuthu, T. et al. (1991). Oster Mushroom. Department of Plant Pathology. Tamil Nadu Agricultural University, Coimbatore.
2. Nita Bhal. (2000). Handbook on Mushrooms. 2nd ed. Vol. I and II. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
3. Pandey R.K, S. K Ghosh, 1996. A Hand Book on Mushroom Cultivation. Emkey Publications.
4. Pathak, V. N. and Yadav, N. (1998). Mushroom Production and Processing Technology. Agrobios, Jodhpur.
5. Tewari Pankaj Kapoor, S. C. (1988). Mushroom Cultivation. Mittal Publication, New Delhi.
6. Tripathi, D.P. (2005) Mushroom Cultivation, Oxford & IBH Publishing Co. PVT.LTD, New Delhi.
7. V.N. Pathak, Nagendra Yadav and Maneesha Gaur, Mushroom Production and Processing Technology/ Vedams Ebooks Pvt Ltd., New Delhi (2000)

M.E.S ASMABI COLLEGE, P. VEMBALLUR
RESEARCH DEPARTMENT OF BOTANY
ADD-ON COURSE EXAMINATION, MARCH 2024
AS23MC - MUSHROOM CULTIVATION

Time: 2 Hrs.

Total marks: 60

Section A

(Answer all questions; each question carries 2 marks. 10x3=30 Marks)

1. What are the different types of edible and poisonous mushrooms?
2. Explain the process of preparing a mushroom bed.
3. What is the importance of sterilization in mushroom cultivation?
4. Describe the steps involved in the production of pure culture for mushroom spawn.
5. How does composting technology benefit mushroom cultivation?
6. Discuss the nutritional and medicinal values of mushrooms.
7. Outline the procedure for preparing a mother culture in mushroom cultivation.
8. Explain the process of spawning and spawn running.
9. List the common diseases and pests in mushroom cultivation and their management strategies.
10. Discuss the therapeutic aspects and antitumor effects of mushrooms.

Section B

(Answer any FOUR questions; each question carries 5 marks. 4x5=20 Marks)

11. Discuss the characteristics and cultivation methods of Milky mushroom (*Calocybe indica*).
12. Provide an overview of the economic importance and cultivation process of paddy straw mushroom (*Volvariella volvacea*).
13. Explain the various methods of preserving mushrooms, including freezing, dry freezing, drying, and canning.
14. Describe the value-added products that can be derived from mushrooms.
15. Discuss the cultivation techniques and commercial potential of Oyster mushroom (*Pleurotus sajorcaju*).
16. Explain the significance of quality assurance in mushroom preservation and its role in entrepreneurship.


Section C


(Answer any ONE question; each question carries 10 marks. 1x10=10 Marks)

17. Write an essay on the history and scope of mushroom cultivation, highlighting its significance in the agricultural industry.
18. Describe the various stages involved in mushroom cultivation, from substrate preparation to harvesting, and briefly explain each stage.


NAZEEMA. M. K.
Assistant Professor
Research & P.G. Department of Botany
MES Asmabi College, P. Vemballur
Kodungallur, Thrissur-680671, Kerala-India




Head of Department
Research & PG Dept. of Botany
MES Asmabi College
P. Vemballur, Thrissur Dt.
Kerala - 680 671



PRINCIPAL,
M. E. S. ASMABI COLLEGE
P.O.P. VEMBALLUR,
KODUNGALLUR-680671

Details of the students enrolled


Sl No	Roll Number	Name	Class	Eligible for certification or not
1	UG23BOT01	AMAL FATHIMA KARUTHA MOINUDHEEN	I B Sc Botany	Qualified
2	UG23BOT02	AMNA FATHIMA K M	I B Sc Botany	Qualified
3	UG23BOT03	ASNA N A	I B Sc Botany	Qualified
4	UG23BOT05	SHADIYA FAMNA K	I B Sc Botany	Qualified
5	UG23BOT06	LIYA HAQUE KALLUPALATHINGAL	I B Sc Botany	Qualified
6	UG23BOT07	NAFEESATHUL MISRIYA .V.S	I B Sc Botany	Qualified
7	UG23BOT08	SHANA SALIM K T	I B Sc Botany	Qualified
8	UG23BOT09	SULTHANA KHATHUN	I B Sc Botany	Qualified
9	UG23BOT10	ALEENA K J	I B Sc Botany	Qualified
10	UG23BOT12	ANJANA P S	I B Sc Botany	Qualified
11	UG23BOT13	ANUSREE T B	I B Sc Botany	Qualified
12	UG23BOT14	APARNA K S	I B Sc Botany	Qualified
13	UG23BOT16	FASNA K SHAINSHAD	I B Sc Botany	Qualified
14	UG23BOT17	M M SHABANA YASMIN	I B Sc Botany	Qualified
15	UG23BOT18	M S SHAHLA	I B Sc Botany	Qualified
16	UG23BOT20	NADHA A P	I B Sc Botany	Qualified
17	UG23BOT21	NIKHITHA K Y	I B Sc Botany	Qualified
18	UG23BOT23	SREESHMA C B	I B Sc Botany	Qualified
19	UG23BOT24	T N NASNA	I B Sc Botany	Qualified
20	UG22BOT01	AFRAH M	II B Sc Botany	Qualified
21	UG22BOT02	AMEENA K B	II B Sc Botany	Qualified
22	UG22BOT03	FATHIMA P B	II B Sc Botany	Qualified
23	UG22BOT04	HADHIYA U A	II B Sc Botany	Qualified
24	UG22BOT05	JUBNA K M	II B Sc Botany	Qualified
25	UG22BOT07	FATHIMA	II B Sc Botany	Qualified
26	UG22BOT08	FATHIMA AFRIN P S	II B Sc Botany	Qualified
27	UG22BOT09	HASNA P A	II B Sc Botany	Qualified
28	UG22BOT10	NEZRIN MN	II B Sc Botany	Qualified
29	UG22BOT12	SHIFA MOL T A	II B Sc Botany	Qualified
30	UG22BOT13	SREE DAKSHINA DILEEP	II B Sc Botany	Qualified
31	UG22BOT16	AISWARYA T V	II B Sc Botany	Qualified

32	UG22BOT18	ASHITHA C A	II B Sc Botany	Qualified
33	UG22BOT19	FATHIMA NASREEN	II B Sc Botany	Qualified
34	UG22BOT21	HAFISA P H	II B Sc Botany	Qualified
35	UG22BOT23	MUBEENA P M	II B Sc Botany	Qualified
36	UG22BOT25	SANA NASRIN P M	II B Sc Botany	Qualified
37	UG22BOT26	SHAHINA ABDUL RAHIM	II B Sc Botany	Qualified
38	UG22BOT27	SITHARA PARVIN	II B Sc Botany	Qualified
39	UG23BOT04	MUHAMMED ADIL	II B Sc Botany	Qualified
40	UG23BOT11	AMALKRISHNA P P	II B Sc Botany	Qualified
41	UG23BOT15	AQTHAR M G	II B Sc Botany	Qualified
42	UG23BOT19	MOHAMMED RIZWAN C S	II B Sc Botany	Qualified
43	UG23BOT22	SAFIN SAJI	II B Sc Botany	Qualified
44	UG22BOT06	ABHINAND K	II B Sc Botany	Qualified
45	UG22BOT11	SARATH CHANDRAN K S	II B Sc Botany	Qualified
46	UG22BOT14	ABDUL NISAM V R	II B Sc Botany	Qualified
47	UG22BOT15	ADITH E U	II B Sc Botany	Qualified
48	UG22BOT17	AKHILDAS V M	II B Sc Botany	Qualified
49	UG22BOT20	GOKUL R	II B Sc Botany	Qualified
50	UG22BOT22	MISBAHUL HAQ K M	II B Sc Botany	Qualified
51	UG22BOT24	RINOY R	II B Sc Botany	Qualified


Teacher in Charge


Head of Department
Research & PG Dept. of Botany
MES Asmabi College
P. Vemballur, Ponnusur Dt.
Kerala - 686671


Principal


PRINCIPAL,
M. E. S. ASMABI COLLEGE
P.O.P. VEMBALLUR,
KODUNGALLUR-686671



Report of Add-on Course on Mushroom Cultivation



Conducted by
Research Department of Botany
MES Asmabi College, P Vemballur
2023-24

REPORT ON ADD-ON COURSE ON MUSHROOM CULTIVATION
RESEARCH AND PG DEPARTMENT OF BOTANY

Academic Year 2023-24

Department	: Research and PG Department of Botany
Name of the Course Coordinator	: Nazeema M K
Head of the Department	: Dr. Girija T P
Name of the Certificate Course	: Add-on Course on Mushroom Cultivation
Course code	: AS23MC
Course Duration	: 30 hours (20 hours Theory and 10 hours Practical)
Total number of students enrolled	: 51 (I Year and II Year Botany)
Mode of course conduct	: Offline and online classes
Date of Introduction	: July 25, 2023

On July 25, 2023, the Research and PG Department of Botany introduced an add-on course on mushroom cultivation for students in I Year and II Year Botany. A total of 51 students enrolled in the course. By February 2024, we had successfully completed all the theoretical and practical classes, ensuring comprehensive learning for our students. All enrolled students successfully completed the program and obtained their certifications.

Course Structure and Methodology:

The course utilized a blended approach, combining online sessions via Google Meet and offline practical sessions. This method provided students with both theoretical knowledge and hands-on experience, enhancing their understanding of key concepts such as bed preparation, spawning, and cropping.

Evaluation and Certification:

Internal and external evaluations were conducted to assess students' progress and performance. The results were announced on March 4, 2024. We commend the dedication and hard work demonstrated by all students, with each one qualifying for the certificate of completion.

Course Outcome and Focus:

The course focused on enhancing employability and fostering entrepreneurship skills among students interested in mushroom cultivation. It equipped them with the necessary knowledge to establish and manage mushroom farms of varying scales throughout the year. Emphasizing the potential profitability of mushroom farming, even for those with limited prior experience, the course empowered students to confidently pursue their own ventures. By leveraging technology and suitable infrastructure, students are now well-prepared to ensure the success of their mushroom farming endeavors.

This report reflects the successful implementation and outcomes of the add-on course on mushroom cultivation, contributing to the academic enrichment and practical skills development of our botany students during the academic year 2023-24.