



MAHATMA GANDHI COLLEGE

THIRUVANANTHAPURAM

POST GRADUATE DEPARTMENT OF BOTANY & RESEARCH CENTER

NOTICE

ADD-ON COURSE –MUSHROOM CULTIVATION

Dear students,

We are excited to announce the introduction of an Add-On course titled "Mushroom Cultivation" for the academic year 2018-2019. This course aims to provide students with an in-depth understanding of mushroom cultivation techniques and their practical applications.

Details of the Add-On Course:

Course Duration: 3 months

Start Date: 11/07/2018

End Date: 30/10/2018

Time: 0 hr

Venue: Room 55

Registration Details

Last Date for Registration: 30/06/2018

Seats are limited, and admission to the course will be on a first-come, first-served basis. Interested students are encouraged to register at the earliest to secure their spot.

For any queries or additional information, please contact the course coordinator. Head, Department of Botany at the department office between 10:00 AM to 4:00 PM on weekdays.

Warm regards,


Head, Department of Botany



**MAHATMA GANDHI COLLEGE
THIRUVANANTHAPURAM**

Re-accredited with B+ Grade by NAAC

**ADD ON COURSE
MUSHROOM CULTIVATION
COURSE STRUCTURE AND SYLLABUS**

BY

**POST GRADUATE DEPARTMENT &
RESEARCH CENTRE OF BOTANY**



(2018 onwards)

OBJECTIVES OF THE COURSE

- **Understanding Mushroom Biology:** Studying mushroom cultivation involves gaining a deep understanding of the biology, life cycle, and growth requirements of different mushroom species.
- **Cultivating Edible Mushrooms:** One of the main objectives of studying mushroom cultivation is to produce edible mushrooms for consumption and commercial purposes. This involves learning about the specific cultivation techniques, substrate preparation, spawn production, and environmental conditions required for different mushroom species.
- **Disease Management:** Studying mushroom cultivation includes researching and developing strategies for the prevention and management of diseases that can affect mushroom crops. This objective focuses on understanding common pathogens, identifying disease-resistant strains, implementing proper sanitation practices, and exploring alternative disease control methods.
- **Economic Viability and Market Development:** This objective includes conducting market research, evaluating consumer preferences, analyzing production costs, and exploring value-added product development to support successful commercialization and entrepreneurship in the mushroom industry.

EXPECTED OUTCOMES OF THE COURSE

- **Increased Knowledge and Understanding:** Studying mushroom cultivation leads to a deeper understanding of mushroom biology, cultivation techniques, and the factors influencing mushroom growth and development.
- **Improved Cultivation Techniques:** Through research and study, new and improved cultivation techniques can be developed. Improved techniques can result in higher yields, better quality mushrooms, and more efficient production processes.
- **Enhanced Disease Management Strategies:** Research on mushroom cultivation helps in identifying and developing effective strategies for disease prevention, early detection, and management.
- **Sustainable Cultivation Practices:** Studying mushroom cultivation promotes the development and adoption of sustainable practices. This includes exploring alternative and renewable substrates, implementing recycling and waste management strategies, minimizing the use of synthetic inputs, and reducing the environmental footprint of mushroom cultivation.
- **Increased Commercial Viability:** By improving cultivation techniques, optimizing production processes, and developing marketable products, the profitability and competitiveness of mushroom farming can be enhanced. This benefits farmers, entrepreneurs, and the overall mushroom industry.
- **Training and Education Opportunities:** Studying mushroom cultivation creates opportunities for training programs, workshops, and educational resources.

COURSE STRUCTURE

DURATION : 30 Hrs

ASSESSMENT & CERTIFICATION : The trainee will be tested for his skill, knowledge and attitude during the period of training and at the end of the training programme including practical examinations.

COURSE STRUCTURE

DURATION : 30 Hrs

ASSESSMENT & CERTIFICATION : The trainee will be tested for his skill, knowledge and attitude during the period of training and at the end of the training programme including practical examinations.

MUSHROOM CULTIVATION

SYLLABUS

(Total 30 hrs)

MODULE-I (10 hrs)

- History and introduction of Edible and Poisonous mushrooms.
- Common Indian mushrooms.
- Systematic position, morphology, distribution, structure of *Agaricus* and *Pleurotus*.

MODULE- II (5 hrs)

- Nutritional value, medicinal value and advantages- types- milky, straw, button and poisonous mushrooms
- Production level, economic return, Foreign exchange from Mushroom cultivating countries and international trade.

MODULE- III (10 hrs)

- Cultivation of Paddy straw mushroom, Oyster mushroom, white button mushroom and milky mushrooms
- Spawn making, Substrate preparation, Maintenance and Harvesting
- Composting

MODULE- IV (5 hrs)

- Diseases- Common pests, disease prevention and control measures- *Agaricus*, *Pleurotus* and *Volverilla*.
- Processing and storage of mushrooms

Field Study: Visit to a mushroom cultivating Laboratory and handson training for processing.

MAHATMA GANDHI COLLEGE

POST GRADUATE DEPARTMENT AND RESEARCH CENTRE OF BOTANY

THIRUVNANTHAPURAM

ADD ON COURSE-2018-2019

LIST OF STUDENTS-MUSHROOM CULTIVATION

SL.NO	NAME OF STUDENT	CLASS/ SEMESTER
1	ARSHA R J	II PG
2	ASWATHY J S	II PG
3	ASWATHY S	II PG
4	AHALYA ASOK A S	I PG
5	ANJANA K	I PG
6	ANJU B	I PG
7	AMITHA S NAIR	III UG
8	ARYAB NAIR	III UG
9	ARYA MG	III UG
10	ASHTAMY L	III UG
11	ATHIRARS	III UG
12	DEVU NIVEDITHA UH	III UG
13	DIVYASNAIR	III UG
14	NAMRATA NAIR	III UG
15	PARVATHIR.S.	III UG
16	RENJANA KR	III UG
17	SAJITHA N	III UG
18	SANDRA MJ	III UG
19	SARANYA LM	III UG
20	SREELEKSHMI RG	III UG
21	ABHIJITH U	III UG
22	ABHILASH CHANDRAN J	II UG
23	AISWARYA S	II UG
24	AKHILA S	II UG
25	ANANDU H	II UG
26	ANJALI KRISHNA MR	II UG
27	ANJANA.K	II UG
28	ANJANA SS	II UG

29	GOKUL GOPINATH	II UG
30	GOPIKA D PILLAI	II UG
31	JASMIN SK	II UG
32	KARTHIKA BS	II UG
33	NEERAJA AS	II UG
34	NEETHU MT	II UG
35	RENJITHA.R.S	II UG
36	REVATHY BR	II UG
37	ABHIRAMI NAIR P.J	I UG
38	AISWARYAM.S.	I UG
39	ARJUN.V.S	I UG
40	ATHIRA S.L	I UG
41	ATHIRA.S.J	I UG
42	BINDUJA B JAYAN	I UG
43	DEVIKA G NAIR	I UG
44	GOWRIPRIYA.B.S	I UG
45	MALAVIKA. S	I UG
46	PRABHA.J	I UG
47	REVATHI SEKHAR	I UG
48	SAJNA.S.S	I UG
49	SANDRA MP	I UG
50	SHILPA KV	I UG


HEAD OF THE DEPARTMENT


PRINCIPAL

MAHATMA GANDHI COLLEGE, THIRUVNANTHAPURAM

POST GRADUATE DEPARTMENT AND RESEARCH CENTRE OF BOTANY

ADD ON COURSE – 2018-2019

ATTENDANCE OF STUDENTS - MUSHROOM CULTIVATION

SL.NO	NAME OF STUDENT	CLASS/ SEMESTER	11.07.18 WED	21.07.18 SAT	25.07.18 WED	29.07.18 SAT	02.08.18 THU	13.8.18 MON	18.8.18 SAT	04.9.18 TUE	11.09.18 TUE	26.9.18 WED
1	ARSHA R J	II PG	x	x	x	x	x	x	✓	?	x	Ab
2	ASWATHY J S	II PG	x	x	x	x	x	x	x	x	x	x
3	ASWATHY S	II PG	Ab	x	x	x	x	Ab	Ab	x	Ab	x
4	AHALYA ASOK A S	I PG	x	Ab	x	x	x	x	Ab	x	Ab	x
5	ANJANA K	I PG	x	x	x	x	x	x	x	x	x	x
6	ANJU B	I PG	x	x	x	x	Ab	x	x	Ab	x	Ab
7	AMITHA S NAIR	III UG	x	x	x	x	x	x	x	x	x	Ab
8	ARYA B NAIR	III UG	x	x	Ab	x	x	Ab	x	x	x	x
9	ARYA M G	III UG	x	x	x	Ab	x	x	x	Ab	x	x
10	ASHTAMY L	III UG	x	x	x	x	x	x	Ab	x	x	x
11	ATHIRA R S	III UG	x	Ab	x	x	Ab	x	Ab	x	x	x
12	DEVU NIVEDITHA U H	III UG	x	x	x	x	x	x	x	x	Ab	x
13	DIVYA S NAIR	III UG	x	Ab	x	Ab	x	x	x	x	x	x
14	NAMRATA NAIR	III UG	x	x	x	x	x	Ab	x	x	x	Ab
15	PARVATHI R.S.	III UG	x	x	x	x	x	x	x	Ab	x	x
16	RENJANA K R	III UG	x	x	Ab	x	x	x	Ab	x	x	x
17	SAJITHA N	III UG	Ab	x	x	x	x	x	x	x	x	x
18	SANDRA M J	III UG	x	x	x	Ab	Ab	x	x	x	x	x
19	SARANYA L M	III UG	x	x	x	x	x	x	x	x	x	Ab
20	SREELEKSHMI R G	III UG	x	Ab	x	x	x	Ab	x	Ab	Ab	x
21	ABHIJITH U	III UG	x	x	x	x	x	x	Ab	x	x	x
22	ABHILASH CHANDRAN J	II UG	x	x	x	Ab	Ab	x	x	x	x	Ab

MAHATMA GANDHI COLLEGE, THIRUVNANTHAPURAM

POST GRADUATE DEPARTMENT AND RESEARCH CENTRE OF BOTANY

ADD ON COURSE – 2018-2019

ATTENDANCE OF STUDENTS - MUSHROOM CULTIVATION

SL.NO	NAME OF STUDENT	CLASS/ SEMESTER	29.9.18	06.10.18	17.10.	24.10.18	30.10.18						
			SAT	Sat	Thu	wed	Tue						
1	ARSHA R J	II PG	Ab	x	Ab	x	Ab						
2	ASWATHY J S	II PG	x	x	T	f	f						
3	ASWATHY S	II PG	x	Ab	T	x	x						
4	AHALYA ASOK A S	I PG	x	x	f	x	Ab						
5	ANJANA K	I PG	x	f	f	x	f						
6	ANJU B	I PG	x	f	f	Ab	f						
7	AMITHA S NAIR	III UG	x	f	Ab	Ab	x						
8	ARYA B NAIR	III UG	x	f	x	f	f						
9	ARYA M G	III UG	x	f	x	x	f						
10	ASHTAMY L	III UG	f	x	f	f	x						
11	ATHIRA R S	III UG	x	Ab	f	f	f						
12	DEVU NIVEDITHA U H	III UG	Ab	x	f	f	f						
13	DIVYA S NAIR	III UG	x	x	x	f	Ab						
14	NAMRATA NAIR	III UG	x	x	f	f	x						
15	PARVATHI R.S.	III UG	f	x	Ab	f	f						
16	RENJANA K R	III UG	T	x	x	f	x						
17	SAJITHA N	III UG	x	x	x	f	Ab						
18	SANDRA M J	III UG	f	x	x	Ab	x						
19	SARANYA L M	III UG	f	Ab	x	Ab	f						
20	SREELEKSHMI R G	III UG	Ab	x	x	x	x						
21	ABHIJITH U	III UG	f	f	x	f	f						
22	ABHILASH CHANDRAN J	II UG	f	f	Ab	x	Ab						

23	AISWARYA S	II UG	x	x	x	x	x	+	Ab	x	x	x
24	AKHIL AS	II UG	Ab	x	x	x	Ab	+	x	x	x	+
25	ANANDU H	II UG	x	x	x	Ab	x	Ab	x	Ab	x	Ab
26	ANJALI KRISHNA M R	II UG	x	Ab	x	x	x	+	x	x	x	x
27	ANJANA .K	II UG	x	x	x	x	y	+	x	x	x	+
28	ANJANA S S	II UG	x	x	Ab	x	Ab	+	x	x	Ab	x
29	GOKUL GOPINATH	II UG	x	x	x	x	x	+	x	x	x	x
30	GOPIKA D PILLAI	II UG	x	x	x	Ab	+	+	Ab	x	x	+
31	JASMIN S K	II UG	Ab	x	x	x	+	Ab	x	Ab	x	x
32	KARTHIKA B S	II UG	x	x	x	x	+	+	x	x	x	Ab
33	NEERAJA A S	II UG	x	x	x	x	+	+	x	x	x	+
34	NEETHU M T	II UG	x	Ab	x	x	+	+	x	x	x	+
35	RENJITHA. R.S	II UG	x	x	x	x	+	Ab	Ab	x	x	Ab
36	REVATHY B R	II UG	x	x	x	x	+	+	x	x	Ab	x
37	ABHIRAMI NAIR P. J	IUG	x	x	Ab	x	+	+	x	x	x	x
38	AISWARYA M.S.	IUG	x	x	x	x	Ab	x	x	x	x	Ab
39	ARJUN. V.S	IUG	Ab	x	x	Ab	+	x	x	x	x	+
40	ATHIRA S.L	IUG	x	x	x	x	+	+	x	x	x	+
41	ATHIRA.S.J	IUG	x	Ab	x	x	x	Ab	Ab	x	x	+
42	BINDUJA B JAYAN	IUG	x	x	x	x	+	x	x	x	Ab	+
43	DEVIKA G NAIR	IUG	+	x	x	x	+	+	x	Ab	x	+
44	GOWRIPRIYA. B.S	IUG	+	+	x	x	+	+	x	x	x	+
45	MALAVIKA. S	IUG	x	x	x	x	+	x	Ab	x	x	Ab
46	PRABHA .J	IUG	+	x	Ab	x	+	+	+	x	x	+
47	REVATHI SEKHAR	IUG	x	x	x	x	+	+	x	x	x	+
48	SAJNA.S.S	IUG	Ab	x	x	x	Ab	+	+	Ab	x	+
49	SANDRA M P	IUG	x	x	x	Ab	+	Ab	x	x	x	Ab
50	SHILPA K V	IUG	x	Ab	x	x	+	+	Ab	x	x	+

SIGNATURE OF FACULTY ENGAGED THE CLASS

SIGNATURE OF HOD

MAHATMA GANDHI COLLEGE
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POST GRADUATE DEPARTMENT & RESEARCH CENTRE OF BOTANY

ADD ON COURSE- MUSHROOM CULTIVATION

QUESTION PAPER

2018-2019 Academic year

Duration: 1 hr

Marks: 30

PART A - (Answer any 5; 2 marks each = 10 marks)

1. Briefly discuss the historical significance of mushrooms.
2. Define the term "morphology" in relation to mushrooms.
3. Explain the medicinal value of mushrooms.
4. Describe the process of composting in mushroom cultivation.
5. Why is disease prevention important in mushroom cultivation?
6. Mention two common pests found in mushroom cultivation.
7. Explain the significance of mushroom storage.

PART B - (Answer any 3; 10 marks each = 30 marks)

8. Discuss the nutritional and medicinal benefits of mushrooms and their economic impact on a global scale.
9. Outline the cultivation process of the Oyster mushroom.
10. Explain the process of spawn making, its importance, and the challenges faced.
11. Describe the common diseases found in *Pleurotus* and the control measures adopted.
12. Highlight the international trade aspects and foreign exchange implications of mushroom cultivation.

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ADD ON COURSE- 2018-2019

MARK LIST OF STUDENTS- MUSHROOM CULTIVATION

SL.NO	NAME OF STUDENT	CLASS/ SEMESTER	MARK	SIGNATURE
1	ARSHA R J	II PG	22	
2	ASWATHY J S	II PG	21	
3	ASWATHY S	II PG	26	
4	AHALYA ASOK A S	I PG	29	
5	ANJANA K	I PG	18	
6	ANJU B	I PG	22	
7	AMITHA S NAIR	III UG	21	
8	ARYA B NAIR	III UG	27	
9	ARYA M G	III UG	28	
10	ASHTAMY L	III UG	26	
11	ATHIRA R S	III UG	22	
12	DEVU NIVEDITHA U H	III UG	24	
13	DIVYA S NAIR	III UG	24	
14	NAMRATA NAIR	III UG	22	
15	PARVATHI R.S.	III UG	07	
16	RENJANA K R	III UG	18	
17	SAJITHA N	III UG	23	
18	SANDRA M J	III UG	21	
19	SARANYA L M	III UG	27	
20	SREELEKSHMI R G	III UG	19	
21	ABHIJITH U	III UG	20	
22	ABHILASH CHANDRAN J	II UG	22	
23	AISWARYA S	II UG	28	
24	AKHIL AS	II UG	21	
25	ANANDU H	II UG	08	
26	ANJALI KRISHNA M R	II UG	19	
27	ANJANA .K	II UG	20	
28	ANJANA S S	II UG	23	

29	GOKUL GOPINATH	IIUG	28	Gokul Gopinath
30	GOPIKA D PILLAI	IIUG	26	Goopika Pillai
31	JASMIN S K	IIUG	16	Jasmin
32	KARTHIKA B S	IIUG	22	Karthika
33	NEERAJA A S	IIUG	23	Neeraja
34	NEETHU M T	IIUG	27	Neethu
35	RENJITHA. R.S	IIUG	19	Renjitha
36	REVATHY B R	IIUG	16	Revathy
37	ABHIRAMI NAIR P. J	IUG	18	Abhirami
38	AISWARYA M.S.	IUG	20	Aiswarya
39	ARJUN. V.S	IUG	22	Arjun
40	ATHIRA S.L	IUG	24	Athira
41	ATHIRA.S.J	IUG	28	Athira
42	BINDUJA B JAYAN	IUG	05	Binduja
43	DEVIKA G NAIR	IUG	21	Devika
44	GOWRIPRIYA. B.S	IUG	18	Gowripriya
45	MALAVIKA. S	IUG	22	Malavika
46	PRABHA .J	IUG	24	Prabha
47	REVATHI SEKHAR	IUG	20	Revathi
48	SAJNA.S .S	IUG	27	Sajna
49	SANDRA M P	IUG	26	Sandra
50	SHILPA K V	IUG	23	Shilpa

HEAD OF THE DEPARTMENT

PRINCIPAL



MAHATMA GANDHI COLLEGE

THIRUVANANTHAPURAM

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DEPARTMENT OF BOTANY

CERTIFICATE

This is to certify that of
..... has successfully completed Add on
Course in "....." offered by
Department of Botany, Mahatma Gandhi College, TVPM during the
academic year


Head of the Department


Principal

Report of Add on Course – Mushroom cultivation

Academic Year- 2018-2019

To facilitate a deeper understanding and hands-on experience beyond conventional educational methods, the Department of Botany initiated an add-on course in mushroom cultivation. This program was developed not only to educate but also to instil a scientific temperament among students and nurture a sense of social responsibility. Furthermore, this course is a testament to our commitment to ensuring that our students receive a comprehensive education.

Structured as a 30-hour course, the content was curated for Post Graduate and Undergraduate students. The course was spearheaded by Dr. Pradeesh S, Assistant Professor at the Department of Botany, NSS College, Pandalam. Additionally, several faculty members contributed to the course by conducting classes, thus offering students a diverse range of expertise.

Classes commenced on a Saturday and continued on subsequent working days, being accommodated either before or after regular college hours. In the inaugural session, Dr. Pradeesh S introduced students to the multifaceted world of Mushroom and discussed ongoing research in the field. The session was interactive, and students eagerly engaged with Dr. Pradeesh S, showcasing their enthusiasm for the subject.

Subsequent lectures delved into the intricacies of Mushroom Cultivation. Students were familiarized with terminologies, techniques, and tools associated with Mushroom Cultivation. Newer methodologies and the significance of Mushroom Cultivation in diverse cultures were elaborated upon, further enriching student understanding. Importantly, sessions were designed to be interactive, encouraging students to clarify doubts. Many were curious about the feasibility of cultivating Mushrooms in their homes. Regular review sessions were embedded into the course structure, where students had the opportunity to consolidate their learning and interact with the faculty. These interactions proved to be invaluable in reinforcing the course content. At the end of the course, students were awarded certificates to acknowledge their participation and successful completion.

In conclusion, the add-on course in mushroom cultivation is a testament to the Department of Botany's commitment to holistic student development, bridging the gap between theoretical knowledge and practical application.

