



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 2019-2020. 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: 16/07/2019

End Date: 29/10/2019

Time: 0 hr

Venue: Room 55

Registration Details

Last Date for Registration: 01/07/2019

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

POST GRADUATE DEPARTMENT AND RESEARCH CENTRE OF BOTANY

THIRUVNANTHAPURAM

ADD ON COURSE -2019-2020

LIST OF STUDENTS- MUSHROOM CULTIVATION

SL.NO	NAME OF STUDENT	CLASS/ SEMESTER
1	SANGEETHA UNNI	II PG
2	SREELEKSHMY SURESH S	II PG
3	UNNIMAYA U S	II PG
4	AMRITHA B	I PG
5	ANUPRIYA S	I PG
6	GAYATHRI B L	I PG
7	VYSHAK R NAIR	III UG
8	ANANDHU KRISHNAN RS	III UG
9	ANU MOL BINU	III UG
10	ARAVIND PS	III UG
11	ARIYA NANTHA SJ	III UG
12	ASWATHY K	III UG
13	FATHIMA SS	III UG
14	GANGA MS	III UG
15	JEEVA MURUKESH	III UG
16	KRISHNA GS	III UG
17	PRIYA NM	III UG
18	RESHMI KL	III UG
19	SUBIN B	III UG
20	ANJANA S S	III UG
21	NEERAJA A S	III UG
22	VARSHA SATHYAN	II UG
23	VYSHNAV V L	II UG
24	YADHU KRISHNAN R L	II UG
25	ABHIJITH KUMAR A B	II UG
26	ABHIRAMI R S	II UG
27	AMAL G KRISHNAN	II UG
28	ANANDITA D	II UG

29	APARNA B	II UG
30	APARNA S B	II UG
31	LEKSHMI SS	II UG
32	SREELEKSHMI PS	II UG
33	KAVYA T NAIR	II UG
34	DHANA KRISHNA RR	II UG
35	REVATHY SEKHAR	II UG
36	BINDUJA B JAYAN	II UG
37	ABHIRAMI AR	I UG
38	AKHILA BS	I UG
39	AMAL V	I UG
40	ANJIMA BINOJ	I UG
41	ANUJA.T.L	I UG
42	ARYA MOHAN	I UG
43	ASWANI NIMA NAIR	I UG
44	ATHIRA N	I UG
45	GAYATHRI JAYAKUMAR.S	I UG
46	GOKUL AS	I UG
47	GREESHMA GS NAIR	I UG
48	KAILAS NATH H	I UG
49	MANJIMA KRISHNAN R	I UG
50	NIKHITHA VIJAYAN.V.S	I UG

HEAD OF THE DEPARTMENT

PRINCIPAL

MAHATMA GANDHI COLLEGE, THIRUVNANTHAPURAM

POST GRADUATE DEPARTMENT AND RESEARCH CENTRE OF BOTANY

ADD ON COURSE – 2019 - 2020

ATTENDANCE OF STUDENTS - MUSHROOM CULTIVATION

SL.NO	NAME OF STUDENT	CLASS/ SEMESTER	16.07.19	27.07.19	9/8/19	17/8/19	26/8/19	31/8/19	3.9.19	20.9.19	25/9/19	30/9/19
			TUESDAY	SAT	FRI	SAT	MON	SAT	TUE	FRI	Wed	mon
1	SANGEETHA UNNI	II PG	x	x	x	x	x	x	x	x	x	x
2	SREELEKSHMY SURESH S	II PG	f	f	x	x	x	x	x	x	Ab	x
3	UNNIMAYA U S	II PG	Ab	f	f	x	x	x	x	x	x	x
4	AMRITHA B	I PG	x	f	f	x	x	f	Ab	x	x	x
5	ANUPRIYA S	I PG	f	f	f	x	x	f	x	x	x	x
6	GAYATHRI B L	I PG	f	f	f	Ab	x	x	x	Ab	x	x
7	VYSHAK R NAIR	III UG	f	f	f	x	x	x	x	x	x	x
8	ANANDHU KRISHNAN R S	III UG	f	Ab	f	x	x	Ab	f	x	x	Ab
9	ANUMOL BINU	III UG	x	f	f	x	x	x	x	x	x	x
10	ARAVIND PS	III UG	x	f	f	x	x	x	Ab	x	x	x
11	ARIYANANTHA S J	III UG	f	f	f	x	x	x	x	f	x	x
12	ASWATHY K	III UG	f	f	f	x	x	x	x	x	x	x
13	FATHIMA S S	III UG	x	f	Ab	x	x	x	x	x	x	x
14	GANGA M S	III UG	x	x	f	x	Ab	x	x	Ab	f	Ab
15	JEEVA MURUKESH	III UG	x	f	f	x	x	x	f	x	x	x
16	KRISHNA G S	III UG	f	f	f	x	x	Ab	x	x	x	f
17	PRIYAN M	III UG	Ab	f	x	x	f	x	f	x	x	x
18	RESHMI K L	III UG	x	f	f	f	f	x	f	x	f	x
19	SUBIN B	III UG	f	f	f	f	f	x	f	Ab	x	Ab
20	ANJANA S S	III UG	f	Ab	x	x	x	x	Ab	x	x	x
21	NEERAJA A S	III UG	f	f	f	f	f	x	x	x	x	x
22	VARSHA SATHYAN	II UG	f	f	f	Ab	x	x	x	x	x	x

MAHATMA GANDHI COLLEGE, THIRUVNANTHAPURAM

POST GRADUATE DEPARTMENT AND RESEARCH CENTRE OF BOTANY

ADD ON COURSE – 2019 - 2020

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1	SANGEETHA UNNI	II PG	x	x	x	x	x	x	x	x	x	x
2	SREELEKSHMY SURESH S	II PG	f	f	x	x	x	f	x	f	Ab	f
3	UNNIMAYA U S	II PG	Ab	f	f	x	x	f	x	x	x	x
4	AMRITHA B	I PG	x	f	f	x	x	f	Ab	x	f	x
5	ANUPRIYA S	I PG	f	f	f	x	x	f	x	x	f	f
6	GAYATHRI B L	I PG	f	f	f	Ab	x	x	x	Ab	f	x
7	VYSHAK R NAIR	III UG	f	f	f	x	x	x	f	x	f	f
8	ANANDHU KRISHNAN R S	III UG	f	Ab	f	x	x	Ab	f	f	x	Ab
9	ANUMOL BINU	III UG	x	f	f	x	x	x	x	x	f	x
10	ARAVIND PS	III UG	x	f	f	x	x	x	Ab	f	f	f
11	ARIYANANTHA S J	III UG	f	f	f	x	x	x	x	f	x	x
12	ASWATHY K	III UG	f	f	f	x	x	x	x	x	x	f
13	FATHIMA S S	III UG	x	f	Ab	x	x	x	x	f	x	x
14	GANGA M S	III UG	x	x	f	x	Ab	x	x	Ab	f	Ab
15	JEEVA MURUKESH	III UG	x	f	f	x	x	x	f	x	f	x
16	KRISHNA G S	III UG	f	f	f	x	x	Ab	x	x	x	f
17	PRIYAN M	III UG	Ab	f	x	x	f	x	f	f	f	f
18	RESHMI K L	III UG	x	f	f	f	f	x	f	x	f	x
19	SUBIN B	III UG	f	f	f	f	f	x	f	Ab	f	Ab
20	ANJANA S S	III UG	f	Ab	x	f	f	x	Ab	f	f	x
21	NEERAJA A S	III UG	f	f	f	f	f	x	f	f	f	x
22	VARSHA SATHYAN	II UG	f	f	f	Ab	f	x	f	f	f	f

23	VYSHNAV V L	II UG	x	x	x	x	x	x	x	x	ab	x
24	YADHU KRISHNAN R L	II UG	x	x	x	x	x	x	x	ab	x	x
25	ABHIJITH KUMAR A B	II UG	y	x	x	ab	x	y	ab	x	x	ab
26	ABHIRAMI R S	II UG	ab	x	x	x	x	f	x	x	ab	x
27	AMAL G KRISHNAN	II UG	y	x	x	x	x	x	x	x	ab	x
28	ANANDITA D	II UG	f	x	x	x	x	ab	f	x	x	x
29	APARNA B	II UG	f	x	x	x	x	x	f	f	x	ab
30	APARNA S B	II UG	f	x	ab	x	x	x	x	ab	x	x
31	LEKSHMI S S	II UG	y	x	x	x	y	x	x	x	x	x
32	SREELEKSHMI P S	II UG	ab	x	x	x	x	x	x	x	y	ab
33	KAVYA T NAIR	II UG	x	x	x	x	ab	x	x	f	x	x
34	DHANA KRISHNA R R	II UG	x	x	x	x	x	x	x	ab	x	x
35	REVATHI SEKHAR	II UG	x	x	x	x	y	x	y	x	y	x
36	BINDUJA B JAYAN	II UG	x	ab	x	x	x	x	ab	f	x	x
37	ABHIRAMI A R	I UG	f	x	x	x	x	x	x	f	y	x
38	AKHILA B S	I UG	x	x	ab	x	x	x	x	f	y	ab
39	AMAL V	I UG	x	x	x	x	x	y	x	x	x	x
40	ANJIMA BINOJ	I UG	y	x	x	x	x	x	x	f	ab	x
41	ANUJA.T.L	I UG	x	x	x	x	x	x	ab	f	x	x
42	ARYA MOHAN	I UG	x	y	x	x	y	x	x	x	x	x
43	ASWANI NIMA NAIR	I UG	x	ab	x	x	x	x	x	x	x	x
44	ATHIRA N	I UG	x	x	x	x	x	x	x	ab	x	ab
45	GAYATHRI JAYAKUMAR.S	I UG	x	x	x	x	x	ab	x	y	y	x
46	GOKUL A S	I UG	x	x	x	x	x	x	x	y	x	x
47	GREESHMA G S NAIR	I UG	f	x	x	x	x	x	x	x	ab	x
48	KAILAS NATH H	I UG	f	x	x	x	x	x	ab	x	x	x
49	MANJIMA KRISHNAN R	I UG	f	x	x	x	x	x	x	x	x	ab
50	NIKHITHA VIJAYAN.V.S	I UG	x	x	x	x	ab	x	x	ab	x	x
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MAHATMA GANDHI COLLEGE
THIRUVANANTHAPURAM

POST GRADUATE DEPARTMENT & RESEARCH CENTRE OF BOTANY

ADD ON COURSE- MUSHROOM CULTIVATION

QUESTION PAPER

2019-2020 Academic year

Duration: 1 hr

Marks: 30

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

1. Differentiate between edible and poisonous mushrooms.
2. Name three common Indian mushrooms.
3. What are the main categories of mushrooms mentioned in the course?
4. Briefly describe the importance of spawn making in mushroom cultivation.
5. What is the role of substrate preparation in mushroom cultivation?
6. Explain the common Indian mushrooms and their significance in local cuisine.
7. Describe the systematic position, and distribution, of *Agaricus* and *Pleurotus* mushrooms.

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

8. Elaborate on the structure of *Agaricus*.
9. Provide a detailed explanation of the maintenance and harvesting stages in mushroom cultivation.
10. Explain the processing methods and their importance in mushroom preservation.
11. Discuss the history and introduction of both edible and poisonous mushrooms. Provide examples of each.
12. Discuss the nutritional value, medicinal value, and advantages of different types of mushrooms.

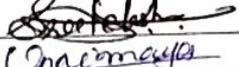
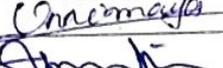
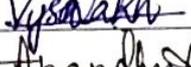
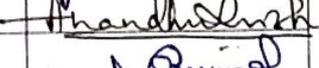
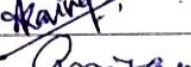
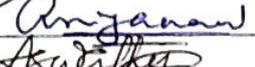
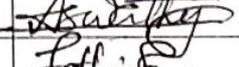
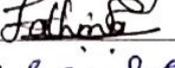
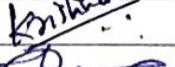
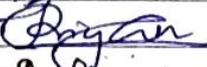
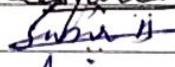
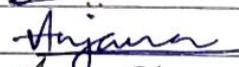
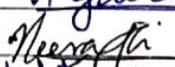
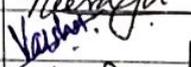
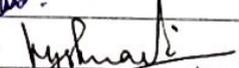
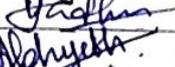
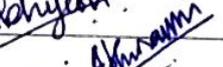
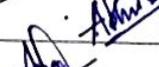
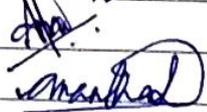
MAHATMA GANDHI COLLEGE

POST GRADUATE DEPARTMENT AND RESEARCH CENTRE OF BOTANY

THIRUVNANTHAPURAM

ADD ON COURSE – 2019 - 2020

MARK LIST OF STUDENTS - MUSHROOM CULTIVATION

SL.NO	NAME OF STUDENT	CLASS/ SEMESTER	MARK	SIGNATURE
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2	SREELEKSHMY SURESH S	II PG	24	
3	UNNIMAYA U S	II PG	22	
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6	GAYATHRI B L	I PG	17	
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9	ANUMOL BINU	III UG	26	
10	ARAVIND PS	III UG	23	
11	ARIYANANTHA S J	III UG	24	
12	ASWATHY K	III UG	08	
13	FATHIMA S S	III UG	19	
14	GANGA M S	III UG	21	
15	JEEVA MURUKESH	III UG	25	
16	KRISHNA G S	III UG	20	
17	PRIYAN M	III UG	19	
18	RESHMI K L	III UG	23	
19	SUBIN B	III UG	26	
20	ANJANA S S	III UG	28	
21	NEERAJA A S	III UG	18	
22	VARSHA SATHYAN	II UG	16	
23	VYSHNAV V L	II UG	15	
24	YADHU KRISHNAN R L	II UG	06	
25	ABHIJITH KUMAR A B	II UG	28	
26	ABHIRAMI R S	II UG	23	
27	AMAL G KRISHNAN	II UG	21	
28	ANANDITA D	II UG	04	

29	APARNA B	IIUG	18	aparna b
30	APARNA S B	IIUG	21	aparna s b
31	LEKSHMI S S	IIUG	22	lekshmi s s
32	SREELEKSHMI P S	IIUG	25	sreelekshmi p s
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35	REVATHI SEKHAR	IIUG	24	revathi sekhar
36	BINDUJA B JAYAN	IIUG	20	binduja b jayan
37	ABHIRAMI A R	IUG	18	abhirami a r
38	AKHILA B S	IUG	19	akhila b s
39	AMAL V	IUG	05	amal v
40	ANJIMA BINOJ	IUG	25	anjima binoj
41	ANUJA.T.L	IUG	27	anuja.t.l
42	ARYA MOHAN	IUG	21	arya mohan
43	ASWANI NIMA NAIR	IUG	18	aswani nima nair
44	ATHIRA N	IUG	06	athira n
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46	GOKUL A S	IUG	20	gokul a s
47	GREESHMA G S NAIR	IUG	24	greeshma g s nair
48	KAILAS NATH H	IUG	26	kailas nath h
49	MANJIMA KRISHNAN R	IUG	20	manjima krishnan r
50	NIKHITHA VIJAYAN.V.S	IUG	28	nikhitha vijayan.v.s

HEAD OF THE DEPARTMENT

PRINCIPAL



MAHATMA GANDHI COLLEGE

THIRUVANANTHAPURAM

Re-accredited with B+ Grade by NAAC

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

Mushroom Cultivation Add-on Course Report

Academic Year: 2019-2020

The Department of Botany, in a bid to blend conventional education with real-world applications, rolled out an add-on course focused on mushroom cultivation. Designed for both Undergraduate and Post Graduate students, this 30-hour course was more than just an educational endeavor. It aimed to inculcate a scientific mindset and foster a sense of civic duty among students. The program reflects the department's unwavering commitment to a rounded educational experience. Dr. Remya Krishnan, an Assistant Professor from the Department of Botany at NSS College, Cherthala, Alappuzha, led the course. Alongside her, various faculty members enriched the course, bringing their unique expertise to the sessions.

Initiated on a Saturday, the course spanned across several working days, with sessions arranged flexibly either before or after standard college timings. During the first session, Dr. Remya Krishnan provided students with an overview of the vast domain of mushroom cultivation and the cutting-edge research in this area. Her approach was highly interactive, eliciting enthusiastic responses from the students.

The curriculum that followed delved deep into mushroom cultivation techniques, tools, and terminologies. Students were introduced to innovative methodologies and the cultural importance of mushroom cultivation. Ensuring an interactive environment, the course encouraged students to voice their questions, with many intrigued about cultivating mushrooms in their personal spaces. To ensure retention and understanding, review sessions were interspersed within the course. These sessions, filled with engaging interactions, were instrumental in reinforcing the students' learning.

To mark the end of the course, certificates were distributed, recognizing the students' efforts and their successful completion of the course. To sum it up, the mushroom cultivation add-on course stands as evidence of the Botany Department's dedication to ensuring students get both theoretical knowledge and hands-on experience.

**MAHATMA GANDHI COLLEGE
THIRUVANANTHAPURAM**

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**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.

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.