



# 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 2022-2023. 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: 01/07/2022

End Date: 15/11/2022

Time: 0 hr

Venue: Room 55

#### **Registration Details**

Last Date for Registration: 25/06/2022

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**



POST GRADUATE DEPARTMENT AND RESEARCH CENTRE OF BOTANY

MAHATMA GANDHI COLLEGE

THIRUVNANTHAPURAM

ADD ON COURSE- MUSHROOM CULTIVATION

LIST OF STUDENTS- 2022-2023

SL.NO	NAME OF STUDENT	CLASS/ SEMESTER
1	AKHILA A G	II PG
2	JONHINA J BONCO	II PG
3	NANIKA NURESH	II PG
4	ABHIRAMEN KUMAR	I PG
5	DEVIKA G NAIR	I PG
6	SIMI M S	I PG
7	ABHISHEK RAJESH	III UG
8	AKASH V	III UG
9	ANNE MARY B	III UG
10	ATHIMALS KUMAR	III UG
11	GOWRI L AJ	III UG
12	SARANYA V S	III UG
13	SHILPA S ANIL	III UG
14	SANDEEP S	III UG
15	ANJITHA PRASAD S L	III UG
16	APARNA A	III UG
17	CHANDHANA N S	III UG
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19	SANDRA U SAJAN	III UG
20	MOSES MATHEW	III UG
21	SAILEKSHMI V S	III UG
22	AKSHAY N P	II UG
23	AKSHAYA A M	II UG
24	AMAL A	II UG
25	AVAN V T	II UG
26	DEVI PRAKASH	II UG
27	DEVIKA D	II UG
28	DHANUSHL S	II UG
29	SANDESH JS	II UG

30	SANDRA S NAIR	II UG
31	AKHIL KRISHNA A S	II UG
32	ATHULYA KRISHNA.S	II UG
33	AVANTHIKA.M.R	II UG
34	DEVIKA RAJAN A T	II UG
35	FEBA K U	II UG
36	RIYA B SUDHARSANAN	II UG
37	ANAKHA A	I UG
38	ARCHA. M. S	I UG
39	NANDANA S S	I UG
40	REVATHY.S	I UG
41	ABHINAV SS	I UG
42	ADITHYA S NAIR	I UG
43	ARJUN V S	I UG
44	KAVYA T R	I UG
45	LEKSHMI JAYAN	I UG
46	MOHAMMAD FAIZAL F	I UG
47	NIKHIL S	I UG
48	SIVADATH U	I UG
49	YAZIN SURYAN	I UG
50	NIHAL R MUHAMMED	I UG

















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## ADD ON COURSE- MUSHROOM CULTIVATION

QUESTION PAPER

2022-2023 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.




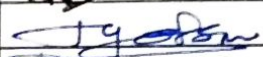

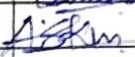
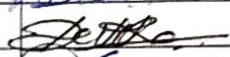
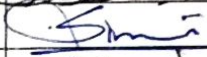
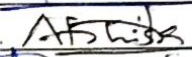
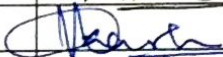
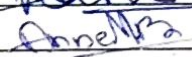
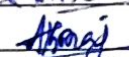

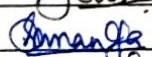
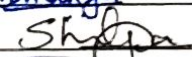


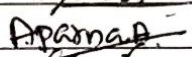
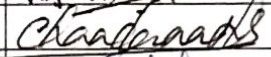
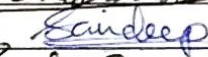
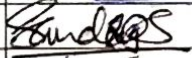
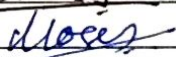
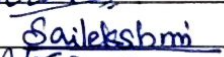

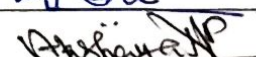
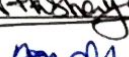


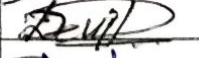
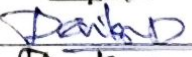
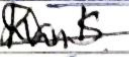
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ADD ON COURSE- MUSHROOM CULTIVATION

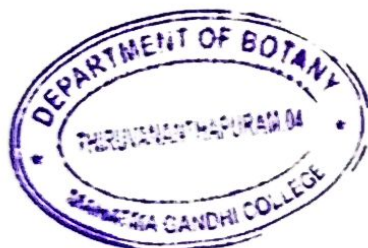
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15	ANJITHA PRASAD.S.L	III UG	21	
16	APARNA .A	III UG	20	
17	CHANDHANA N S	III UG	06	
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27	DEVIKA D	II UG	22	
28	DHANUSH.I.S	II UG	24	
29	SANDESH JS	II UG	20	

29	SANDESH JS	II UG	24	<i>Sandesh</i>
30	SANDRA S NAIR	II UG	26	<i>Sandra</i>
31	AKHIL KRISHNA A S	II UG	07	<i>Akhil</i>
32	ATHULYA KRISHNA.S	II UG	20	<i>Athulya</i>
33	AVANTHIKA.M.R	II UG	05	<i>Avantika</i>
34	DEVIKA RAJAN A T	II UG	24	<i>Devika</i>
35	FEBA K U	II UG	28	<i>Feba</i>
36	RIYA B SUDHARSANAN	II UG	18	<i>Riya</i>
37	ANAKHA A	I UG	07	<i>Anakha</i>
38	ARCHA. M. S	I UG	15	<i>Archana</i>
39	NANDANA S S	I UG	19	<i>Nandana</i>
40	REVATHY.S	I UG	23	<i>Revathy</i>
41	ABHINAV SS	I UG	27	<i>Abhinav</i>
42	ADITHYA S NAIR	I UG	08	<i>Adithya</i>
43	ARJUN V S	I UG	16	<i>Arjun</i>
44	KAVYA T R	I UG	14	<i>Kavya</i>
45	LEKSHMI JAYAN	I UG	22	<i>Lekshmi</i>
46	MOHAMMAD FAIZAL F	I UG	07	<i>Mohammed</i>
47	NIKHIL S	I UG	28	<i>Nikhil</i>
48	SIVADATH U	I UG	26	<i>Sivadath</i>
49	YAZIN SURYAN	I UG	08	<i>Yazin</i>
50	NIHAL R MUHAMMED	I UG	22	<i>Nihal</i>

*[Signature]*  
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

## **Report on the Add-on Course – Mushroom Cultivation**

**Academic Year: 2022-2023**

In an effort to seamlessly weave conventional classroom learning with hands-on practical exposure, the Department of Botany has introduced an avant-garde add-on course centered around mushroom cultivation. This program is not merely an academic enterprise; it's a well-thought-out initiative aimed at igniting scientific enthusiasm and instilling a deep sense of societal contribution among our scholars. Such an initiative amplifies our unwavering dedication to a holistic educational approach. This 30-hour course, fashioned to cater to both Undergraduate and Post Graduate audiences, was expertly steered by Dr. Bosco Lawrence, Professor & Head at Gov. College for Women, TVM. His in-depth sessions, delivered with precision and clarity, were enriched by invaluable contributions from various faculty members, ensuring that students gained a comprehensive understanding of the subject. The initial session, presided over by Dr. Bosco Lawrence, dove deep into the mesmerizing world of mushroom cultivation. The eagerness and active engagement displayed by the students resonated with the subject's allure and their intrinsic interest. Subsequent lectures provided a granular insight into tissue culture, touching upon essential terminologies, pioneering techniques, and core tools of the trade. Moreover, the expansive applications and overarching significance of tissue culture across a multitude of sectors were elucidated. Maintaining a spirit of interactive learning, students were encouraged to actively participate, with many expressing a palpable interest in harnessing these techniques firsthand. To further solidify their foundational knowledge, periodic review sessions were integrated, ensuring clear understanding and retention of the subject matter. Upon culmination of the course, students were presented with certificates, recognizing their dedication and successful completion of the course modules. To encapsulate, the introduction of this mushroom cultivation techniques add-on course stands as a testament to the Department of Botany's ethos. It reflects our consistent endeavor to meld theoretical paradigms with tangible application, striving to offer a comprehensive and enriching learning experience to our students.



# **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.**