

From

The Head of the Department  
Department of Botany  
MES Keveeyam College, Valanchery

To

The Principal  
MES Keveeyam College, Valanchery

Sir,

Sub: Request for the Approval of Certificate Course

The Department of Botany is planning to conduct a Certificate Course on "MUSHROOM CULTIVATION (KVM/CC/BOT/22-23/01)" of 30 hours duration for the first and second year UG students. So kindly grant permission for the same.

Yours faithfully,



Dr. Janeeshma E.  
Assistant Professor  
Department of Botany



Place: Valanchery

Date: 19/10/2022



SHAHEED P.P.  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
M.E.S KEVEEYAM COLLEGE  
VALANCHERY, PIN 676 552

From

The Head of the Department  
Department of Botany  
MES Keveeyam College, Valanchery

To

The Principal  
MES Keveeyam College, Valanchery

Sir,

Sub: Request for the Approval of Board of Studies for the short term course


The following academicians may be included in the Board of Studies for the short term course on "MUSHROOM CULTIVATION (KVM/CC/BOT/22-23/01)" to be conducted by the department.

1. Dr. Jyothi.P.V, Associate Professor, Department of Botany, MES Ponnani College.
2. Dr. Krishna Prabha K. S. , Assistant Professor, Department of Zoology, MES Keveeyam College, Valanchery
3. Dr. Janeeshma E, Assistant Professor, Department of Botany, MES Keveeyam College, Valanchery
4. Dr.Abdul Faisal P, Assistant Professor, Department of Botany, MES Keveeyam College, Valanchery.

Kindly do the needful to constitute the Board of Studies with these members.

Yours faithfully,



  
Dr. Janeeshma E.  
Assistant Professor  
Department of Botany

Place: Valanchery  
Date: 19/10/2022



SHANMUGA  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
M.E.S KEVEEYAM COLLEGE  
VALANCHERY, PIN 622 002



# MES KEVEEYAM COLLEGE VALANCHERY

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Order No. Acs/2018-19/01

Date: 22/10/2022

## *Proceedings of the Principal, MES Keveeyam College Valanchery*

(Present: Prof. Shajid P.P.)

- Ref: (1) Request from the Head of the Department of Botany dt: 22/10/2022  
(2) Minutes of Board of Studies meeting for approval of the syllabus dt:  
20/10/2022

### ORDER

As per reference cited (1), request was received from the HOD, Department of Botany to start a short term course on "MUSHROOM CULTIVATION, (KVM/CC/BOT/22-23/01)". In the same letter, the head of the department has recommended a panel of academicians to be included in the Board of Studies.

The department of Botany is hereby given sanction to conduct a short term course on Approaches for environmental awareness and education to the UG students of the college.

The board of studies for the above course is constituted with the following members

1. Dr. Jyothi.P.V, Associate Professor, Department of Botany, MES Ponnani College.
2. Dr. Krishna Prabha K. S. , Assistant Professor, Department of Zoology, MES Keveeyam College, Valanchery
3. Dr. Janeeshma E, Assistant Professor, Department of Botany, MES Keveeyam College, Valanchery
4. Dr.Abdul Faisal P, Assistant Professor, Department of Botany, MES Keveeyam College, Valanchery

Order is issued accordingly.



Prof. Shajid P.P.

Principal

SHAJID P P  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
M.E.S KEVEEYAM COLLEGE  
VALANCHERY, PIN 676 552

Copy to

1. HOD, Department of Botany
2. File



## MINUTES OF BOARD OF STUDIES MEETING

Venue: Department of Botany





Date: 20/10/2022

Agenda: Approval of syllabus of the short term course

Decisions:-

1. Discussions were done on the draft syllabus
2. Suggestions were made to include practical hrs.
3. A one day Field trip has to be included.
4. Approval can be given to syllabus

Members Present:

1. Dr. Jyothi.P.V, Associate Professor, Department of Botany, MES Ponnani College. 
2. Dr. Krishna Prabha K. S. , Assistant Professor, Department of Zoology, MES Keveeyam College, Valanchery 
3. Dr. Janceesma E, Assistant Professor, Department of Botany, MES Keveeyam College, Valanchery 
4. Dr.Abdul Faisal P, Assistant Professor, Department of Botany, MES Keveeyam College, Valanchery 



SHAJID P P  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
MES KEVEEYAM COLLEGE  
VALANCHERY, PIN 676 552

## DEPARTMENT OF BOTANY

### CERTIFICATE COURSE IN MUSHROOM CULTIVATION

Mushroom cultivation can help to reduce poverty by strengthens livelihoods through the generation of a fast yielding and nutritious source of food, which act as a reliable source of income. As it does not require access to land, the cultivation is less expensive and attractive.

Mushroom cultivation is not only a source for nutritious protein-rich food; it can also contribute to the production of effective medicinal products. It is an eco-friendly agricultural practice in the efficient utilization of agricultural and industrial waste. It can also play a significant role in generating self-employment opportunity. Considering the significance of mushroom cultivation the department is offering a certificate course in mushroom cultivation for the under graduate students. In addition to theory classes the course is providing hands-on trainings, seminars, assignments and field visits.

#### Aim of the Course

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

**Duration of the Course: 30 Hours**

#### COURSE ASSESSMENT

Assessment of students was carried out on the basis of internal evaluations which include attendance, assignments, viva, test papers and practical skill during training. Certificates will be issued to students on successful completion of the course



Dr. Janeeshmee

SHARATH P  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
M.E.S KEVEEYAM COLLEGE  
VALANCHERY, PIN 676 552



**CERTIFICATE COURSE  
ON  
MUSHROOM CULTIVATION**

**Course code: KVM/CC/BOT/22-23/01**

**Duration: 30 Hours**

**Course Objectives:**

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

**Course outcome:**

By successfully completing the course, students will be able to:

- Identify edible types of mushroom
- Gain the knowledge of cultivation of different types of edible mushrooms and spawn production
- Manage the diseases and pests of mushrooms
- Learn a means of self-employment and income generation

**Syllabus**

**Module 1: Introduction to mushrooms (2 hours)**

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

**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, harvesting. Cultivation of oyster and paddy straw mushroom. Problems in cultivation - diseases, pests and nematodes, weed moulds and their management strategies.

**Module 4: Health benefits of mushrooms (2 Hours)**

Nutritional and medicinal values of mushrooms including 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 (7 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

**Practicals (5 Hours)**

- Identification of *Agaricus bisporus*, *Calocybe indica*, *Pleurotus sajorcaju*, and *Volvariella volvcea*

  
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- Sterilization of substrates, culture media preparation, production of pure culture, Cultivation of oyster and paddy straw mushroom

#### 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)



*[Signature]*  
Dr. Janeeshma E.

*[Signature]*

SILAJID P P  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
MES KEVEEYAM COLLEGE  
VALANCHERY, PIN 626 002





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**DEPARTMENT OF BOTANY**

*Organizes*

# **MUSHROOM CULTIVATION**

**Registration Deadline : 20/10/2022**

**Duration : 30 hrs**

**Eligibility: UG Students**

**For more details: Contact Botany Department**





Name: .....

Roll. No.....



**MES KEVEEYAM COLLEGE VALANCHERY**  
**FOURTH SEMESTER B.SC INTEGRATED BOTANY**  
**CERTIFICATE COURSE IN MUSHROOM CULTIVATION EXAMINATION, 2022**

**Time: 30mins**

**Marks : 50**

**Part A: Short Answer Questions (2 Marks Each)**

*Answer any 6 questions. Each question carries 2 marks. (6 x 2 = 12 marks)*

1. Define mycelium.
2. List two types of edible mushrooms.
3. What is spawn in mushroom cultivation?
4. Name any two substrates used in mushroom cultivation.
5. What is the importance of sterilization in mushroom cultivation?
6. Mention the role of humidity in mushroom growth.
7. What are the nutritional benefits of mushrooms?
8. Define inoculation in the context of spawn production.

**Part B: Short Essay Questions (5 Marks Each)**

*Answer any 4 questions. Each question carries 5 marks. (4 x 5 = 20 marks)*

1. Explain the process of substrate preparation for mushroom cultivation.
2. Discuss the importance of spawn quality in successful mushroom cultivation.
3. Describe the different types of mushroom cultivation systems.
4. What are the steps involved in post-harvest handling of mushrooms?
5. Explain the role of temperature control in mushroom growth.
6. Discuss the economic factors to consider before starting a mushroom farm.

**Part C: Long Essay Questions (10 Marks Each)**

*Answer any 1 question. Each question carries 10 marks. (1 x 10 = 10 marks)*

1. (a) Describe in detail the complete process of spawn production, including substrate preparation, inoculation, and incubation.  
OR  
(b) Discuss the various environmental factors that influence the growth and yield of mushrooms, and explain how these factors can be controlled in a mushroom farm.

SHANMUGA  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
MES KEVEEYAM COLLEGE  
VALANCHERY, PIN-676 552

**Part D: Case Study or Practical Application (8 Marks)**

*Answer the following question. (1 x 8 = 8 marks)*

1. Analyze a case study of a successful small-scale mushroom farm, highlighting the key steps in their cultivation process, the challenges they faced, and how they overcame them. Discuss the lessons that can be applied to your own mushroom cultivation practice.

SUJITH P P  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
M.E.S KEVEEYAM COLLEGE  
VALANCHERY, PIN 676 562





## Mark list

Name of College/Institution/Center : MES KEVEEYAM College, Valanchery  
Name of Course : Mushroom cultivation

Sl. No.	Reg. No.	Name of candidate	Marks
1	KVAVIBC001	FATHIMA RANA	25
2	KVAVIBC002	JALVA KV	25
3	KVAVIBC003	LIYANA	25
4	KVAVIBC004	MUFEEEDHA U K	25
5	KVAVIBC005	ANUPAMA K	25
6	KVAVIBC006	MARVA T	25
7	KVAVIBC007	ABHISHEK NAIR R	24
8	KVAVIBC008	DEEPAK BABU N	25
9	KVAVIBC009	JASIM JALEEL P T	25
10	KVAVIBC010	SIVAPRAKASH	24
11	KVAVIBC011	AISHA DILNA AMEED	25
12	KVAVIBC012	FATHIMA NUSHATH K	25
13	KVAVIBC013	FATHIMA RINSHA	25
14	KVAVIBC014	SALIMA P	22
15	KVAVIBC015	SHAHANA SHERIN K K	24
16	KVAVIBC016	SREYA K P	24
17	KVAVIBC017	THAHNIYYA T	25
18	KVAVIBC018	IJAS ALI T K	25
19	KVAVIBC019	MUHAMMED THEFSEEL V	25



*[Signature]*  
Dr. Jameeshna E

*[Signature]*

SHAHID P T  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
MES KEVEEYAM COLLEGE  
VALANCHERY, PIN 676



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### Certificate of completion

This is to certify that .....ANUPAMA K.....  
.....has successfully completed the  
certificate course on *Mushroom cultivation* conducted by the Department of Botany of MES  
Keveeyam College Valanchery during the academic year 2022-23.

  
Dr. Janeeshma E  
COURSE CO-ORDINATOR

  
Dr. Janeeshma E  
HEAD OF DEPARTMENT

  
Prof. Vinodkumar K.P  
PRINCIPAL







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## Certificate

This is to certify that

KVM/CC/22-23/

DEEPAK BABU N. II<sup>nd</sup> Year Botany

has successfully completed the certificate course on "Mushroom cultivation"

conducted by the Department of Botany, MES  
Keveeyam College, Valanchery during the period 2022-23.

K. K. K.

CO-ORDINATOR

K. K. K.

HEAD OF DEPARTMENT

K. K. K.

Dr. K.P. VINOD KUMAR  
PRINCIPAL





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## Certificate

This is to certify that

KVM/CC/22-23/

MUFEEDHA V.K. 2nd year Botany  
has successfully completed the certificate course on "Mushroom Cultivation"  
conducted by the Department of Botany, MES

Keveeyam College, Valanchery during the period 2022-23.

K. L. V. S.

CO-ORDINATOR

Spalman

HEAD OF DEPARTMENT

K. Vinod

Dr. K.P. VINOD KUMAR  
PRINCIPAL





### Time table for the short term certificate course

Date	Day	Name of the faculty	time
5/10/2022	Thursday	Dr. Janeeshma E	8.30-9.30, 3.30-4.30
7/11/2022	Monday	Sruthi	3.30-4.30
8/11/2022	Tuesday	Ragitha	3.30-4.30
9/11/2022	Wednesday	Dr. Abdul Faisal	3.30-4.30
10/11/2022	Thursday	Dr. Janeeshma E	3.30-4.30
14/11/2022	Monday	Sruthi	3.30-4.30
15/11/2022	Tuesday	Ragitha	3.30-4.30
16/11/2022	Wednesday	Dr. Abdul Faisal	3.30-4.30
17/11/2022	Thursday	Dr. Janeeshma E	3.30-4.30
21/11/2022	Monday	Sruthi	3.30-4.30
22/11/2022	Tuesday	Ragitha	3.30-4.30
23/11/2022	Wednesday	Dr. Abdul Faisal	3.30-4.30
24/11/2022	Thursday	Dr. Janeeshma E	8.30-9.30
28/11/2022	Monday	Sruthi	3.30-4.30
29/11/2022	Tuesday	Ragitha	3.30-4.30
30/11/2022	Wednesday	Dr. Abdul Faisal	8.30-9.30, 3.30-4.30
1/12/2022	Thursday	Dr. Janeeshma E	8.30-9.30
5/12/2022	Monday	Sruthi	3.30-4.30
6/12/2022	Tuesday	Ragitha	3.30-4.30
7/12/2022	Wednesday	Dr. Abdul Faisal	3.30-4.30
8/12/2022	Thursday	Ragitha	3.30-4.30
9/12/2022	Friday	Dr. Janeeshma E	Field trip



*[Signature]*

Dr. Janeeshma

Sruthi

*[Signature]*

Ragitha

*[Signature]*

Dr. Abdul Faisal.

*[Signature]*

*[Signature]*

SHAJID P P  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
MES KEVEEYAM COLLEGE  
VALANCHERY, PIN 676 507



KERALA AGRICULTURAL UNIVERSITY  
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**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that Ms. ANUPAMA K has attended one day training programme of "Mushroom Production" on 13-09-2023 at Krishi Vigyan Kendra Malappuram, Tavanur.

Place : Tavanur

Date : 13-09-2023

Programme Coordinator



SHAJID P P  
ASSISTANT PROFESSOR  
IN CHARGE OF PRINCIPAL  
MES KEVEEYAM COLLEGE

