

**STSN GOVERNMENT DEGREE COLLEGE**

**CERTIFICATE COURSE  
ON  
MUSHROOM CULTIVATION**



**Dr.A.Narayana swamy**  
Course Co-ordinator  
Lecturer in Botany  
Department of Botany  
STSN Government Degree College  
KADIRI -515591

**2021-2022**

1. Title of the Course : **MUSHROOM CULTIVATION.**
2. Name of Institution : S.T.S.N Government Degree College, Kadiri
3. Co-ordinator : A.Narayana swamy; Department of Botany.
4. Duration / Hours : Jan 3<sup>rd</sup> to Feb 28<sup>th</sup> 2022 (30 Working days) (30 Hours)
5. Eligibility of the Course : Intermediate (Science subjects with Biology)



## Minutes of the Meeting

**Date:** 01.01.2022

**Time:** 10 AM

**Venue:** Department of Botany, STSN GDC Kadiri

### Attendees:

1. Dr. A. Narayana Swamy, Head of Department (HOD), Botany
2. Kum. V. Rojarani, Guest Faculty, Department of Botany.

### Agenda: Planning for the Certificate Course on "Mushroom Cultivation"

#### 1. Purpose of the Meeting:

The main agenda of the meeting was to discuss and plan the upcoming Certificate Course on Mushroom Cultivation.

#### 2. Overview of the Certificate Course:

- Dr. A. Narayana Swamy provided a brief overview of the importance of the certificate course and its relevance to the students and community.

#### 3. Curriculum Design:

- The curriculum for the Mushroom Cultivation course was discussed, considering the basics, cultivation techniques, and hands-on training components.

#### 3. Course Co-ordinator: Dr. A. Narayana Swamy, Head of Department (HOD), Botany.

#### 4. Duration and Schedule:

- The duration of the certificate course was discussed, and a tentative schedule was proposed. Jan 3<sup>rd</sup> to Feb 28<sup>th</sup> 2022 (30 Working days) (30 Hours). The team agreed to have a mix of theory and practical sessions.

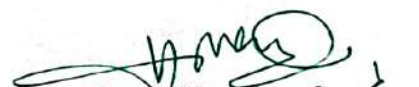
#### 5. Venue and Facilities:

- The availability of classrooms, laboratories, and necessary equipment for practical sessions was confirmed. Any additional requirements were discussed.

Meeting minutes prepared by:

  
**PRINCIPAL**  
STSN Govt. DEGREE COLLEGE  
KADIRI - 515 591  
Sri Sathya Sai



  
Dr. A. Narayana Swamy,  
Head of Department (HOD),  
Department of Botany.

## Permission Letter

01.01.2022,  
STSN GDC,  
Kadiri.

To  
Principal,  
STSN GDC,  
Kadiri.

Subject: Request for Permission to Conduct a Certificate Course on "Mushroom Cultivation"

Respected Principal

I am happy to request your kind permission to conduct a Certificate Course on "**Mushroom Cultivation**" for the interested students of our college. This course aims to equip students with the necessary knowledge and skills to cultivate mushrooms successfully.

Course Details:

- Course Title: Certificate Course on Mushroom Cultivation
- Duration: 30 Working days (Jan 3rd to Feb 28th, 2022)
- Total Hours: 30 Hours
- Course Coordinator: Dr. A. Narayana Swamy, Head of the Department (HOD), Botany.

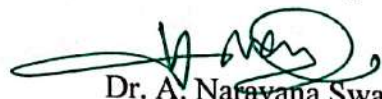
I kindly request your permission to conduct this certificate course under the auspices of STSN GDC, Kadiri. We believe this course will be a valuable addition to our academic offerings and will benefit a significant number of students. We are confident that we can successfully organize and conduct this course and ensure its high quality and relevance.

We would be grateful if you could consider our request and grant us the necessary permission to proceed with the course. We are available to discuss the course details further at your convenience.

Thank you for your time and consideration

Yours Sincerely

  
**PRINCIPAL**  
STSN Govt. DEGREE COLLEGE  
KADIRI - 515 591  
Sri Sathya Sai (Dist).

  
Dr. A. Narayana Swamy,  
Head of the Department (HOD),  
Department of Botany,  
STSN GDC, KADIRI.

Circular

01.01.2022  
STSN GDC,  
Kadiri.

Dear Students,

I am happy announce that a Certificate Course on “**Mushroom Cultivation**” will be conducted at STSN Government Degree College, Kadiri. The course is scheduled to take place from January 3rd to February 28th, 2022, and will span 30 working days, with a total of 30 hours of instruction.

The course will be coordinated by Dr. A. Narayana Swamy, Head of the Department of Botany. Dr. Swamy is an expert in the field of botany and has extensive experience in mushroom cultivation. The course will cover the following topics:


- Introduction to mushroom cultivation
- Types of mushrooms and their cultivation
- Composting and substrate preparation
- Mushroom harvesting and post-harvest handling
- Marketing and economics of mushroom cultivation

The course will be held every day from 4-5 PM for one hour. We encourage all students who are interested in learning about mushroom cultivation to attend this course. It will be a great opportunity to gain valuable knowledge and skills that will serve you well in your future careers.

Thank you for your attention.

III B2C  


Sincerely,

  
Dr. A. Narayana Swamy,  
Head of the Department (HOD),  
Department of Botany,  
STSN GDC, KADIRI.

  
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**STSN GOVERNMENT DEGREE COLLEGE; KADIRI**  
**CERTIFICATE COURSES IN BOTANY (2021-2022)**  
(Mushroom cultivation - Theory Syllabus)

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**SYLLABUS OF THE COURSE**

**UNIT I**

History and introduction: Edible mushrooms and Poisonous mushrooms.

Systematic position, morphology, distribution, structure and life cycle of *Agaricus* and *Pleurotus*.

6 H

**UNIT II**

Nutritional value, medicinal value and advantages – types - milky, straw, button mushrooms,

Equipment for mushroom cultivation

5 H

**UNIT III**

Cultivation Technology: button mushrooms mushroom – substrate, spawn making. Methods – bed method.

6 H

**UNIT IV**

Oyster mushroom cultivation –Substrate, spawning, pre-treatment of substrate.

Maintenance of mushroom Cultivation of milky mushroom – Spawn, composting, spawning, harvesting

5 H

**UNIT V**

Diseases - Common pests, disease prevention and control measures.

Processing - Blanching, steeping, sun drying, canning, pickling, freeze drying.

Storage – short term and long-term storage.

8 H

**Field Study:** Visiting the mushroom cultivating Laboratory or Farm

**REFERENCES:**

1. Pandey B P 1996. A textbook of fungi. Chand and company, New Delhi.
2. Kaul T N 2001. Biology and conservation of mushrooms. Oxford and IBH publishing company N.Delhi
3. Gupta P.K. Elements of Biotechnology. Teaching and Practical session will be 90 working periods
4. Harander Singh. 1991. Mushrooms- The Art of Cultivation- Sterling Publishers.
5. Indian Journal of Mushrooms. Published by I.M.G.A. Mushroom Research Laboratory. College Agriculture, Solan

**STSN GOVERNMENT DEGREE COLLEGE; KADIRI**  
**CERTIFICATE COURSES IN BOTANY (2021-2022)**  
(Mushroom cultivation - Theory Syllabus)

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**Certificate Course in Mushroom Cultivation**

**Course Objectives:**

- 1. Understanding Mushroom Diversity:** To provide students with a comprehensive understanding of edible and poisonous mushrooms, exploring their systematic position, morphology, distribution, structure, and life cycle, with a focus on *Agaricus* and *Pleurotus*.
- 2. Nutritional and Medicinal Value:** To elucidate the nutritional and medicinal value of mushrooms, emphasizing the types such as milky, straw, and button mushrooms.
- 3. Cultivation Technology for Button Mushrooms:** To equip students with practical knowledge of button mushroom cultivation, covering aspects like substrate preparation, and cultivation methods, specifically the bed method.
- 4. Oyster Mushroom Cultivation:** To provide insights into the cultivation of oyster mushrooms.
- 5. Disease Prevention and Control:** To educate students on common pests and diseases affecting mushroom cultivation, and to impart knowledge on preventive measures and control strategies, and healthy mushroom farming practices.
- 6. Post-Harvest Processing and Storage:** To familiarize students with post-harvest processing techniques.
- 8. Field Study:** To provide practical exposure to students through a field study, allowing them to visit a mushroom cultivating farm. This hands-on experience aims to reinforce theoretical knowledge and enhance practical skills.

**Course Outcomes:**

Upon completion of the course, students should be able to:

- Identify and differentiate between edible and poisonous mushrooms.
- Evaluate the nutritional and medicinal value of various mushroom types.
- Demonstrate proficiency in button mushroom cultivation techniques, including substrate preparation and spawn making.
- Apply knowledge to successfully cultivate oyster and white button mushrooms.
- Identify, prevent, and control common pests and diseases affecting mushroom cultivation.
- Execute post-harvest processing techniques for mushrooms.
- Gain practical experience through a field study, integrating theoretical knowledge into real-world applications.

The course aims to empower individuals with the knowledge and skills necessary for successful mushroom cultivation, fostering an understanding of the entire cultivation process, from growth to post-harvest processing.

**S.T.S.N GOVERNMENT COLLEGE KADIRI**  
**CERTIFICATE COURSES IN BOTANY**  
(Mushroom cultivation)

**Time Table (Action Plan) – Day wise Topics**

Course Dates: Jan 3<sup>rd</sup> to Feb 28<sup>th</sup> 2022 (30 Working days) (30 Hours). Every day 4-5 PM

S.No.	Date	Topic
1	03.01.2022	History and introduction: Mushroom cultivation
2	04.01.2022	Edible mushrooms
3	05.01.2022	Poisonous mushrooms.
4	07.01.2022	Systematic position, morphology, distribution, structure of <i>Agaricus</i>
5	17.01.2022	Life cycle of <i>Agaricus</i>
6	18.01.2022	<i>Agaricus</i> gill structure
7	19.01.2022	Systematic position, morphology, distribution, structure of <i>Pleurotus</i>
8	22.01.2022	Nutritional value, medicinal value and advantages of mushrooms
9	24.01.2022	Types of mushrooms – milky mushrooms
10	25.01.2022	Types of mushrooms - straw, button mushrooms
11	28.01.2022	Morels mushrooms
12	29.01.2022	Equipment for mushroom cultivation
13	01.02.2022	Compost preparation
14	02.02.2022	Cultivation Technology: Button mushrooms – Spawn Preparation
15	04.02.2022	Button mushrooms – substrate preparation - requirements
16	07.02.2022	Button mushrooms cultivation methods
17	08.02.2022	Oyster mushroom cultivation –Substrate, spawning,
18	09.02.2022	Oyster mushroom cultivation pre-treatment of substrate.
19	11.02.2022	Maintenance of mushroom Cultivation of milky mushroom – Spawn, composting, spawning, harvesting
20	14.02.2022	Students activity related to Mushroom cultivation
21	15.02.2022	Mushroom – Diseases - Common pests,
22	16.02.2022	Mushroom disease prevention and control measures.
23	18.02.2022	Processing - Blanching, steeping, sun drying,
24	19.02.2022	Canning, pickling, freeze drying.
25	21.02.2022	Storage – short term and long-term storage.
26	22.02.2022	Practicals - Compost preparation
27	23.02.2022	Practicals – <i>Agaricus</i> , <i>Pleurotus</i> specimens study
28	25.02.2022	Practicals - Paddy straw bed preparation
29	26.02.2022	Practicals - Mushroom cultivation-1
30	27.02.2022	Practicals - Mushroom cultivation-2
31	28.02.2022	Assignment - Feedback collection



## Participants (List of the students)

S.No	Student Name	Signature of the student
1	A PRIYANKA	A. Priyanka
2	S APSANA	S. APSANA
3	A MADHU	A. MADHU
4	B JAGADEESH	B. Jagadeesh
5	B SHIREESHA	B. Shireesha
6	B HARITHA BAI	B. Haritha Bai
7	B JYOTHI	B. Jyothi
8	B SAI KRISHNA	B. Sai Krishna
9	B THRIVENI	B. Thriveni
10	B RAVI KUMAR	B. Ravi Kumar
11	B.RAVI TEJA NAIK	B. Ravi teja Naik
12	B GANESH	B. Ganesh
13	C LAVANYA	C. Lavanya
14	C REDDY SEENU	C. Reddy Seenu
15	D SAI VARDHINI YADAV	D. Saivardhini Yadav
16	J ANITHA	J. ANITHA
17	J ASWANI	J. Aswani
18	K ADI KESAVULU	K. Adi Kesavulu
19	K PRAVEEN KUMAR	K. Praveen Kumar
20	M ANITHA	M. Anitha
21	N CHANDHRA KALA	N. Chandrakala
22	OGETI VINOD	O. Vinod
23	P RUHINAJ	P. Ruhinaj
24	P HARSHIYA	P. Harshiya
25	S NASEEMA	S. Naseema
26	S RUBIYA	S. Rubiya
27	S AYESHA	S. Ayesha
28	T GOWTHAMI	T. Gowthami
29	VANKADOTH MAHESH NAIK	V. Mahesh Naik.
30	Y AMRUTHA	Y. Amrutha



**STSN GOVERNMENT COLLEGE KADIRI**  
**Model Question paper of theory**  
**(Certificate Course: *Mushroom cultivation*)**

**Time: 1 H**

**EXTERNAL EXAM**

**Max. Marks:40**

**Assessment:**

<b>Theory</b>	<b>40 Marks (20 MCQS)</b>
<b>Practicals (Hands on Training)</b>	<b>10 Marks</b>
<b>Total Marks</b>	<b>50 Marks</b>

**STSN GOVERNMENT COLLEGE KADIRI**  
**Model Question paper of theory**  
**(Certificate Course: *Mushroom cultivation*)**

**Time: 1 H**

**Each question carries 2 Marks : 40 Marks**

**పుట్టగొడుగుల పెంపకం ఆన్‌లైన్ సర్టిఫికేట్ కోర్సు - 2021-22**

1. మన దేశంలో పెంచే పుట్టగొడుగులలో మొదటి స్థానం గుండి ఆయిస్టర్ వరిగడ్డి పాల
2. పుట్టగొడుగుల ఉత్పాదకతను ప్రభావితం చేసేది ఉష్ణోగ్రత సాపేక్ష ఆద్రత బొగ్గుపులుసు వాయువు (CO2) మూడూ
3. పుట్టగొడుగు ఫార్మ్ లో ముఖ్యమైన భాగాలు స్పాన్ యూనిట్ కంపోస్టు యూనిట్ పంట యూనిట్ మూడూ
4. స్వచ్ఛమైన పుట్టగొడుగుల విత్తనాన్ని కంపోస్టుతో కలపడాన్ని ---- అంటారు స్పానింగ్ కేసింగ్ స్టీమింగ్ రఫ్‌లింగ్
5. విషపూరితమైన ముత్యపుచిప్ప పుట్టగొడుగు ప్రజాతి రకం అగారికస్ ఫ్లిరోటస్ అమానిటా వాల్వేరియెల్లా
6. వాల్ వేరియల్ల జాతి పుట్టగొడుగుల జాతి ---- గుండి ఆయిస్టర్ పాల వరిగడ్డి
7. కంపోస్టులో ఉండే హానికరమైన సూక్ష్మజీవులను నాశనం చేయటం మాయిశ్చరైజేషన్ పాశ్చరైజేషన్ సోలరైజేషన్ ఏదీకాదు
8. కేసింగ్ పదార్థాల నాణ్యతను పెంచేది తక్కువ బరువు మృదువైన అకృతి అధిక నీరు ఇముడ్చుకొనే సామర్థం అన్నీ
9. పుట్టగొడుగులలో కోత అనంతరం నిర్వహణ పద్ధతులు కడగటం ప్యాకింగ్ క్యానింగ్ మూడూ

10. పుట్టగొడుగు జాతికి చెందినది -----

బ్యాక్టీరియా వైరస్ ఫంగస్ ఏదీకాదు

11. పంటగదుల్ని శుభం చేయడానికి వాడే రసాయనం

పేపిండి ఫార్మలిన్ అగార్ పై ఏవీ కావు

12. కంపోస్టు తయారీలో గడ్డి అన్నింట కన్నా అనుకూలమైనది -----

రాగి గడ్డి జొన్నగడ్డి గోధుమ గడ్డి వరిగడ్డి

13. వాణిజ్య స్పాన్ తయారీకి వాడే ధాన్యాలు

గోధుమ వరి జొన్న పై వన్నీ

14. శీలీంధ్రజాలం పెరిగిన కంపోస్టుపై 3-4 సెంమీల మందు కల్గిన మట్టి పొరను ఏమంటారు.

రఫ్టింగ్ కేసింగ్ స్పానింగ్ పాశ్చరైజేషన్

15. పాల పుట్టగొడుగుల శాస్త్రీయ నామం

కాల్సైబా ఇండికా అగారికస్ బైస్పోరస్ వాల్వారియోల్లా వాల్వేసియా పైవేవికాదు

16. పుట్టగొడుగుల పెంపకంలో అవసరమైన విత్తనాన్ని ఏమంటారు

కంపోస్టు సబ్ స్ట్రేట్ స్పాన్ పైవేవి కావు

17. పుట్టగొడుగుల పెంపకం వల్ల లాభాలు

తక్కువ కాలవ్యవధిలో పెంచవచ్చు వ్యవసాయ వ్యర్థపదార్థాల పై పెంచవచ్చు

పుట్టగొడుగుల వ్యర్థాన్ని ఎరువుగా వాడవచ్చు పై వన్నీ

18. పుట్టగొడుగులలోని భాగాలు

టోపి / cap కాడ / stipe మొప్పలు / Gills పై వన్నీ

19. గుండీ పుట్టగొడుగు శాస్త్రీయ నామం

కాల్సైబా ఇండికా అగారికస్ బైస్పోరస్ వాల్వారియోల్లా వాల్వేసియా

20. పుట్టగొడుగులలో అధికంగా ఉండే పోషకాలు

ప్రోటీన్లు విటమిన్లు ఐరన్ క్యాల్షియం



## Feedback form:

### FEEDBACK FROM THE PARTICIPANTS

Name of the activity:

Date:

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Name of the participant:

Class:

Phone No.

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1. How would you rate the quality of the presentations and demonstrations during the event?

- Excellent
- Very Good
- Good
- Satisfactory

2. What was your level of satisfaction about the activity?

- Excellent
- Very Good
- Good
- Satisfactory

3. Please rate your overall knowledge level about the topics covered before attending the session.

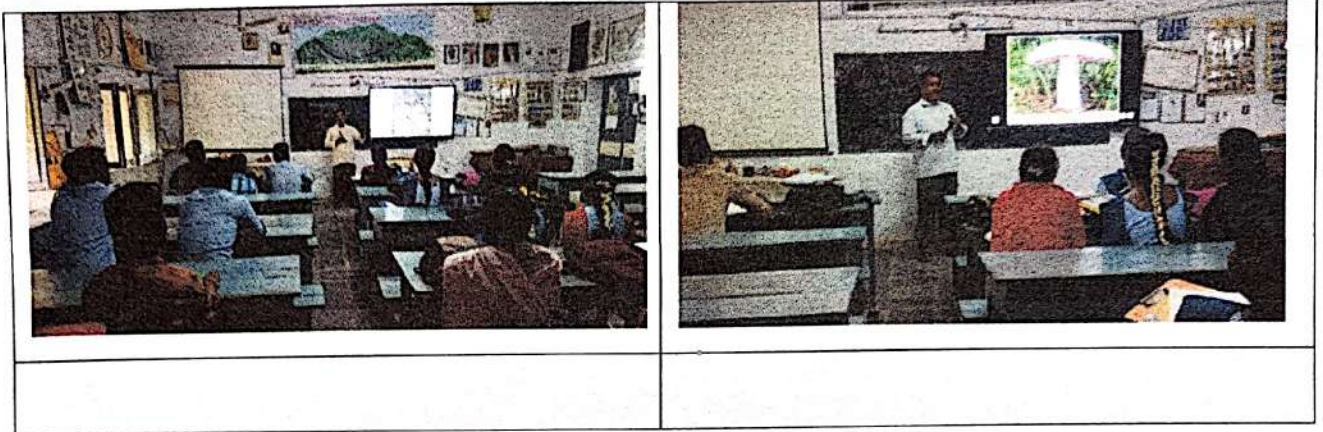
- Excellent
- Good
- Fair
- Poor

4. Please rate your overall knowledge level about the topics covered after attending the session.

- Excellent
- Good
- Fair
- Poor

5. Please write your suggestions / observations for improvement of the programme

## Photographs:



## Model Certificate:



**S.T.S.N. Govt. Degree College**  
**KADIRI - 515591**  
**Sri Sathya Sai Dist., A.P.**  
Affiliated to Sri Krishnadevaraya University (SKU), Ananthapuramu



### Certificate

This is to certify that, Mr./Miss. \_\_\_\_\_ has participated and successfully completed a Certificate Course on “**Mushroom cultivation**” organized by the Department of Botany, S.T.S.N Govt. Degree College, Kadiri., Ananthapuramu Dist., A.P.

Course conducted from Jan 3<sup>rd</sup> to Feb 28 th 2022 (30 Hours).

**Co-ordinator**  
**Head, Department of Botany**

**Principal**