## **DEPARTMENT OF MICROBIOLOGY**



A Certificate course in

MILKY MUSHROOM CULTIVATION

From 04-12-2019 to 25-01-2020



#### **DEPARTMENT OF MICROBIOLOGY**

#### A CERTIFICATE COURSE IN MILKY MUSHROOM CULTIVATION

<u>About the certificate course</u>: The course focus to provide self employment to students empowering them with the right knowledge to make their own Mushroom Making unit.

#### OUTCOMES OF CERTIFICATE COURSE: At the end of the course the student will

- To enhance skills in mush room house management.
- To improve ability to harvest mushrooms and handle them post-harvest to maintain quality.
- To empower individuals to start their own milky mushroom cultivation entrepreneurship.

The course is designed and developed by the course coordinator and the following

faculty taught the course

Dr. N. Praveena kumara

Dr. K.Sucharitha

Smt.M.Lakshmi Hima bindhu

#### **Course Details:**

Number of Participants: 65

Duration of the course: 30 hours

#### Criteria of Assessment

Summative: At the end of the course.

#### **Number of Credits: 2**

#### Eligibility Criteria to get the certificate

75 % attendance

Attending both Formative and Summative Assessment.

Securing minimum of 40% marks.

Timings: 4 PM TO 5 PM

Venue: Microbiology Lab, Government Women's college, Guntur.

Course starting date: 04-12-2019

Course ending date: 25-01-2020

# GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR DEPARTMENT OF MICROBIOLOGY

# A CERTIFICATE COURSE IN MILKY MUSHROOM CULTIVATION

2019-2020

From 04-12-2019 to 25-01-2020

**CIRCULAR** 

A certificate course in Milky Mushroom Cultivation will be held from 04-12-2019 to 25-01-2020 for II & III year students. The duration of the course is 30 hours. The course will help in introducing and training in techniques of mushroom cultivation involving practical sessions and empower them with an expertise to start their own mushroom cultivation business.

**Course Coordinator** 

PRINCIPAL

PRINCIPAL

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OT. COLLEGE FOR WOMEN (A)

# Milky mushroom cultivation (Certificate course 30 hrs.) SYLLABUS

#### **Objectives of the Course:**

- Introduce participants to the biology, nutritional benefits, and market demand for milky mushrooms.
- Demonstrate techniques for substrate preparation, spawn production, and inoculation and provide guidelines for designing and managing mushroom house.
- Educate participants on disease and pest management strategies specific to milky mushroom cultivation.
- Train participants in harvesting techniques and post-harvest handling practices to maintain mushroom quality.

#### Unit I

Introduction to mushrooms and mushroom cultivation. History and Scope of mushroom cultivation. Mushroom biology including Taxonomical rank, life cycle, Vegetative characters; Edible and Poisonous mushrooms

#### **UNIT II**

Planting material: Spawn culturing: techniques, media preparation, sterilization, equipment's used, Laminar flow chamber, autoclave. Preparation of spawn, pure culture, Mother spawns Spawn production

#### **UNIT III**

Cultivation technique of Common edible mushrooms: Milky mushroom (Calocybe indica), Importance of mushrooms: Nutritional value of mushrooms and the mushroom recipes, Medicinal mushrooms and their use in industries. Therapeutic aspects- antitumor effect

#### **UNIT IV**

Problems in mushroom cultivation - diseases, pests and nematodes, weed moulds and their management strategies.design and layout of mushroom farm. Marketing opportunities, marketing liabilities exploring local and national markets.

#### Reference:

- 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.



#### **CERTIFICATE COURSE IN MILKY MUSHROOM CULTIVATION**

#### Introduction:

The Certificate Course on Milky Mushroom Cultivation was conducted over a period of 30 hours with the aim of equipping participants with the knowledge and skills required to successfully cultivate milky mushrooms. The course was designed to cater to individuals interested in mushroom farming, providing them with insights and techniques essential for milky mushroom cultivation.

#### Aim:

To provide participants with a comprehensive understanding of milky mushroom cultivation techniques.

To equip participants with skills necessary for substrate preparation, spawn production, and mushroom house management.

To empower individuals with the knowledge and expertise to start their own mushroom cultivation businesses.

#### **Objectives:**

- Introduce participants to the biology, nutritional benefits, and market demand for milky mushrooms.
- Demonstrate techniques for substrate preparation, spawn production.
   Provide guidelines for designing and managing mushroom house.
- Educate participants on disease and pest management strategies specific to milky mushroom cultivation.
- Train participants in harvesting techniques and post-harvest handling practices to maintain mushroom quality.

#### **Procedure:**

The course comprised a series of lectures, demonstrations, hands-on activities. Participants were provided with course materials, manuals, and resources for further reading. Assessment methods include assignments, and a final exam where participants had to develop a milky mushroom cultivation plan for a hypothetical scenario.

#### **Outcomes:**

Participants gained a solid understanding of milky mushroom cultivation principles and techniques.

Enhanced skills in substrate preparation, spawn production, and mushroom house management. Increased awareness of disease and pest management strategies specific to milky mushroom cultivation.

Empowered individuals to start their own milky mushroom cultivation enterprises or integrate mushroom farming into existing agricultural practices.

## Government College For Women (A), Guntur Department Of Microbiology

## **Certificate Course On MILKY MUSHROOM CULTIVATION**

### STUDENTS ENROLLMENT LIST

S.No	Name of the student	Course
1.	P.SRAVANI	II BT.BC.C
2.	K.SUMA SWARAJYALAKSHMI	II BT.BC.C
3.	B.VYUHITHA	II BT.BC.C
4.	G.JULEE	II BT.BC.C
5.	P.LOKA PAVANI	II BT.BC.C
6.	B.ROJARANI	II MZC
7.	S.SRUTHI	II MZC
8.	D.LAKSHMI BHARANI	II MZC
9.	A.JYOTHI BAI	II BT.BC.C
10.	B.MERCY AMRUTHA	II MBC
11.	K.SUBHASHINI	II MBC
12.	P.DHANAMMA	II TTM
13.	V.SRUJANI	II TTM
14.	M.SAHITHI	II TTM
15.	D.CHENEMMA	II TTM
16.	T.RASHMIKA	II TTM
17.	J.AMAREESWARI	II TTM
18.	B.MANISHA	II TTM
19.	S.HARSHITHA	II TTM
20.	P.PADMA	III BZC
21.	M.ANITHA	II B.COM COMPUTERS
22.	P.SAGARI	II B.COM COMPUTERS
23.	D.SANTHOSHI BAI	II B.COM COMPUTERS
24.	D.PAVANI	II B.COM COMPUTERS
25.	SK.M SHABEENA	II B.COM COMPUTERS
26.	R.PARVATHI	II MBC
<i>27</i> .	N.HEMA PRIYANKA	II MBC
28.	R.KAVITHA BAI	II MZC
29.	D.SIVA NAGA JYOTHI	II B.COM G
30.	A.DHANA LAKSHMI	II B.COM G
31.	SK.GOWSIA	II B.COM G
32.	B.THRIVENI	III BA
33.	SK.NAGURBI	III BA
34.	B.RAJA RAMANI	III MBZC
<i>35.</i>	SK.AMEENA	III MBZC
36.	A.ADILAKSHMI	III MBZC
<i>37</i> .	CH.PAVANI	III MBZC
38.	P.KALYANI	III MBZC

39.	M.MANASA	III MBZC
40.	K.VENNELA	III MBZC
41.	D.SIVA NAGA JYOTHI	III MBZC
42.	N.GAYATHRI	III MBZC
43.	SK.REHANA	III MBZC
44.	P.VENKATA TEJA	III MBZC
45.	G.SWETHA	III MBZC
46.	A.LAKSHMI BAI	III MBZC
47.	M.NAGAMANI BAI	III MBZC
48.	R.RAMASAHITHI	III MBZC
49.	Y.NAVEENA	III MBZC
50.	B.SANDHYA	III MBZC
51	A.SAMATHA	III MBZC
52.	D.SUREKHA	III MBZC
53.	D.CHINNARI	III MBZC
54.	K.CHINNARI	III MBZC
55.	B.KEERTHI	III MB B BC
56	P.SUJATHA	III MB B BC
57	S.TABASSUM	III MB B BC
58.	MD.FOUZIA SULTHANA	III MB B BC
59.	N.JERUSHA	III MB B BC
60	M.ESWARAMMA	III MB B BC
61	V.SRUJANI	III MB B BC
62	G.SASWITHA	III MB B BC
63	E.TIRUPATHAMMA	III MB B BC
64	T.VENUSREE	II BT BC C
65	M.VENEELA BAI	III BZC (TM)

## Government College For Women (A), Guntur

## **Department Of Microbiology**

### **Certificate Course On Organic Farming**

## **AWARD LIST**

S.No	Name of the student		Marks(50)	Attendance 30 hours
1.	P.SRAVANI	II BT.BC.C	41	25
2.	K.SUMA SWARAJYALAKSHMI	II BT.BC.C	43	24
3.	B.VYUHITHA	II BT.BC.C	39	26
4.	G.JULEE	II BT.BC.C	39	24
5.	P.LOKA PAVANI	II BT.BC.C	40	20
6.	B.ROJARANI	II MZC	45	23
7.	S.SRUTHI	II MZC	43	24
8.	D.LAKSHMI BHARANI	II MZC	36	21
9.	A.JYOTHI BAI	II BT.BC.C	40	22
10.	B.MERCY AMRUTHA	II MBC	43	23
11.	K.SUBHASHINI	II MBC	39	22
12.	P.DHANAMMA	II TTM	40	25
13.	V.SRUJANI	II TTM	38	28
14.	M.SAHITHI	II TTM	40	23
15.	D.CHENEMMA	II TTM	40	21
16.	T.RASHMIKA	II TTM	37	23
17.	J.AMAREESWARI	II TTM	39	24
18.	B.MANISHA	II TTM	42	26
19.	S.HARSHITHA	II TTM	36	24
20.	P.PADMA	III BZC	38	21
21.	M.ANITHA	II B.COM COMPUTERS	37	23
22.	P.SAGARI	II B.COM COMPUTERS	36	24
23.	D.SANTHOSHI BAI	II B.COM COMPUTERS	38	25
24.	D.PAVANI	II B.COM COMPUTERS	38	25
25.	SK.M SHABEENA	II B.COM COMPUTERS	40	20
26.	R.PARVATHI	II MBC	40	20
27.	N.HEMA PRIYANKA	II MBC	40	23
28.	R.KAVITHA BAI	II MZC	46	21
29.	D.SIVA NAGA JYOTHI	II B.COM G	36	22
30.	A.DHANA LAKSHMI	II B.COM G	39	26
31.	SK.GOWSIA	II B.COM G	37	20
32.	B.THRIVENI	III BA	36	20
33.	SK.NAGURBI	III BA	37	21
34.	B.RAJA RAMANI	III MBZC	40	24
<i>35.</i>	SK.AMEENA	III MBZC	45	20
36.	A.ADILAKSHMI	III MBZC	41	25
<i>37.</i>	CH.PAVANI	III MBZC	43	24

38.	P.KALYANI	III MBZC	45	25
39.	M.MANASA	III MBZC	39	23
40.	K.VENNELA	III MBZC	46	21
41.	D.SIVA NAGA JYOTHI	III MBZC	43	21
42.	N.GAYATHRI	III MBZC	38	22
43.	SK.REHANA	III MBZC	39	20
44.	P.VENKATA TEJA	III MBZC	42	23
45.	G.SWETHA	III MBZC	45	25
46.	A.LAKSHMI BAI	III MBZC	39	26
47.	M.NAGAMANI BAI	III MBZC	44	20
48.	R.RAMASAHITHI	III MBZC	46	24
49.	Y.NAVEENA	III MBZC	42	20
50.	B.SANDHYA	III MBZC	40	20
51	A.SAMATHA	III MBZC	41	24
52.	D.SUREKHA	III MBZC	45	26
53.	D.CHINNARI	III MBZC	36	25
54.	K.CHINNARI	III MBZC	43	24
55.	B.KEERTHI	III MB B BC	46	25
56	P.SUJATHA	III MB B BC	41	22
57	S.TABASSUM	III MB B BC	45	26
58.	MD.FOUZIA SULTHANA	III MB B BC	42	22
59.	N.JERUSHA	III MB B BC	43	22
60	M.ESWARAMMA	III MB B BC	41	24
61	V.SRUJANI	III MB B BC	43	25
62	G.SASWITHA	III MB B BC	44	21
63	E.TIRUPATHAMMA	III MB B BC	41	20
64	T.VENUSREE	II BT BC C	42	23
65	M.VENEELA BAI	III BZC (TM)	41	

#### Certificate course-2019 - 20

#### **Examination on milky mushroom cultivation**

#### I. Answer any 25 questions

25x2=50M

- 1. What is the historical significance of mushroom cultivation?
- 2. Define the scope of mushroom cultivation in modern agriculture.
- 3. What are the taxonomical ranks involved in mushroom classification?
- 4. Describe the life cycle of a typical mushroom.
- 5. Explain the vegetative characters of mushrooms.
- 6. Distinguish between edible and poisonous mushrooms based on their characteristics.
- 7. Enumerate the techniques used in spawn culturing.
- 8. Discuss the process of media preparation for spawn culturing.
- 9. What methods are employed for sterilization in spawn culturing?
- 10.List the equipments commonly used in spawn culturing.
- 11. Explain the purpose and functionality of a laminar flow chamber.
- 12. How does an autoclave contribute to spawn culturing?
- 13. Differentiate between pure culture and mother spawn.
- 14. Outline the steps involved in spawn production.
- 15. Analyze the cultivation technique of Milky mushroom
- 16. Elaborate on the nutritional value of mushrooms.
- 17. How are mushrooms integrated into various recipes?
- 18. Highlight the medicinal properties of mushrooms.
- 19. Discuss the industrial use of medicinal mushrooms.
- 20. Investigate the antitumor effects associated with mushrooms.
- 21. Identify common diseases affecting mushroom cultivation.
- 22. What pests and nematodes are problematic in mushroom farming?
- 23. How are weed molds managed in mushroom cultivation?
- 24. Explain the design and layout considerations for a mushroom farm.
- 25. What are the marketing opportunities for mushroom products?

- 26. Discuss the liabilities associated with marketing mushroom products.
- 27. Explore strategies for tapping into local markets for mushroom sales.
- 28. How can national markets be accessed for mushroom products?
- 29. Evaluate the importance of quality control in mushroom marketing.
- 30. Suggest innovative marketing approaches for mushroom products.



## GOVT. COLLEGE FOR WOMEN (A), GUNTUR

### DEEPARTMENT OF MICROBIOLOGY CERTIFICATE COURSE FROM 04-12-2019 TO 25-01-2020

This is to certify that Ms. N. Hema Priyanka of II B.Sc (MbBC) has successfully completed Certificate Course in Milky Mushroom Cultuvation conducted by the Department of Microbiology and fulfilled all prerequisites of UGC norms for the award of credits.

Course Coordinator

Principal

V.R. molen

## **ATTENDENCE**

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G. Saswitha	III MBBC	- 8	×	-	×	K	X		×	×	W	2	×	×	¥	-			-					
Con and and and and and and and and and an	TO MBBC	X	0	-			0		6	0														
V. Srujani J. Sunanda G. Saswitha & Timpatamma	(III MBBC)	×				-	1			×	×	×	×	a	×	×	×	×	×	x	~	×		
(p. Danamma)	-	200	A	×	×	X	×	1	×			×	×	×	×	es.	×	×	×	-	×	×		
T venusree	T BTBC C	4	×	×	a	×	×		*	×	0.	X	-	-										
M vennela bai	III BSCOM)	*	-																					