

S. G. B. S.P. Sanstha's

Shri Guru Buddhiswami Mahavidyalaya

Purna (Jn.) – 431511, Dist. Parbhani (M.S.) India (Estd. 1983)

(Permanently Affiliated to Swami Ramanand Teerth Marathwada University, Nanded)

Re-accredited by NAAC at 'B' Grade with "2.42" CGPA

Recognised under 2 (f) and 12 (B) of UGC Act 1956

ISO 9001:2015 Certified Institute; Obtained "A" Grade in Academic Audit by S.R.T.M. U. N.

Awarded The Best College (Rural) 2019 – 2020 by S.R.T.M. University, Nanded



Value-added / Skill Enhancement Course

Certificate Course in Mushroom Culture

Course Co-ordinator:

Dr. Sanjay M. Dalvi

Department of Botany

DEPARTMENT OF BOTANY

Value-added / Skill Enhancement Course

CERTIFICATE COURSE IN MUSHROOM CULTURE

(With effect from the academic year 2020-2021)

SYLLABUS

Eligibility for the Course:

Candidates for admission to Certificate course in Mushroom Culture should possess a Higher Secondary School Education Certificate.

Duration of the Course: 40 hrs.

Course objectives

- To strengthen promotion and cultivation of mushroom production
- Enable students to identify edible and poisonous mushrooms
- To help students to understand nutritive, economic and medicinal importance of mushrooms
- To give hands-on training for the preparation of bed for mushroom cultivation and spawn production

Course Outcomes

By successful completing the course students will be able to:

- Identify edible type mushrooms
- Learn a means of self-employment and income generation
- Gain knowledge of cultivating different types edible mushrooms
- They can manage pest and diseases of mushrooms



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Unit: I Mushroom morphology and Classification:

(08 hrs)

Different parts of a typical mushroom & variations in mushroom morphology. Key to differentiate Edible from Poisonous mushrooms. Based on occurrence- Epigenous & Hypogenous, Natural Habitats-Humicolous, Lignicolous & Coprophilous, Color of spores- white, yellow, pink, purple brown & black, Morphology- fruiting layers exposed to air, fruiting layers not exposed to air, plants with predominantly pitted cap, cap saddled shape & saucer shape, Structure and texture of fruit bodies-gilled fungal & pore fungal, Fruit bodies and spores- Ainsworth et al (1973) classification. Recent Classification- 8th edition of Ainsworth & Bisby's 'Dictionary of Fungi'.

Unit: II Biology of Mushrooms and Nutrient Profile:

(06 hrs)

Button, Straw & Oyster- General morphology, distinguishing characteristics, spore germination and life cycle. Protein, amino acids, calorific values, carbohydrates, fats, vitamins & minerals.

Unit III: Cultivation Techniques:

(08 hrs)

Cultivation System & Farm design: Fundamentals of cultivation system- small village unit & larger commercial unit. Principles of mushroom farm layout- location of building plot, design of farm, bulk chamber, composting platform, equipments & facilities, pasteurization room & growing rooms. Facilities required for spawn preparation, Preparation of spawn substrate, preparation of pure culture, media used in raising pure culture, culture maintenance, storage of spawn. Compost & Composting: Principles of composting, machinery required for compost making, materials for compost preparation. Methods of Composting- Long method of composting (LMC) & Short method of composting (SMC).

Unit IV : Practicals and Field Visits:

(18 hrs)

1. Study of laboratory instruments
2. Study of composting and Spawning
3. Study of Casing and Cropping
4. Study of harvesting and preservation of mushroom.
5. Introduction to preservation methods of mushroom.
 - i. Cultivation of Oyster mushroom (*Pleurotus sajor-caju*): Composting, Spawning, Casing, Cropping, Harvesting, Preservation
6. Visit to Mushroom cultivation center.



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EVALUATION

Certificate course in Mushroom Culture

Examination

A theory paper of 02 hrs. duration for maximum of 50marks with passing minimum of 40% marks.

Question Paper Pattern

Maximum marks: 50

Credits: 02

Time: 02 hrs.

Part A: MCQ (10 marks) (05 questions).

Part B: Long Answer Questions (40marks) (04 questions, each question for 10 marks)

REFERENCES

1. Marimuthu, T. *et al* (1991). Oyster mushroom, Dept of plant pathology Tamil Nadu. Agriculture University, Coimbatore.
2. Pandey R. K, S. K Ghosh, 1996. A Handbook on mushroom cultivation. Emkey publication.
3. Panthak V. N & Yadav N. (1998). Mushroom production & processing technology AGROBIOS JAIPUR.
4. Nitha Bhal (2000). Handbook on mushroom 2nd. ed. vol.1 and 2. Oxford and IBH publication co. pvt ltd. New Delhi.
5. Tewari Pankaj Kapoor, S. C. (1988). Mushroom cultivation. Mittal publication, New Delhi.
6. V. Npathak, Nagendra Yadavu and Maneesha Gaur, Mushroom production and processing technology vedams Ebook PVT-Ltd NEW DELHI. (2008)
7. A hand book of edible mushroom, S.Kannaiyan & K.Ramasamy (1980). Today & Tomorrows printers & publishers, New Delhi
8. Handbook on Mushrooms, Nita Bahl, oxford & IBH Publishing Co

Text Book:

1. Mushroom Cultivation, Tripathi, D. P. (2005) Oxford & IBH Publishing Co. PVT.LTD, New Delhi.



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Ref: SGBMP / IQAC / 2020 21 / 19

Date 23.11.2020

To,

- i) **Dr. S. L. Shinde,** (External Expert)
Professor & Head, Dept. of Botany,
Rajiv Gandhi Mahavidyalaya, Mudkhed.
- ii) **Dr. S. L. Ingle,** (External Expert)
Assistant Professor, Dept. of Botany,
HJP Mahavidyalaya, Himayatnagar.
- iii) **Dr. S. M. Dalvi,** (Internal Expert)
Professor & Head, Dept. of Botany,
S.G.B. Mahavidyalaya, Purna (Jn.)

Dear Sir/s,

It gives us immense pleasure to inform you that the College Management has decided to introduce a **Certificate Course in Mushroom Culture** for UG students across the streams. You are hereby informed to draft the syllabus within a week and submit the same to the IQAC.




Dr. K. Rajkumar
Principal

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Purna (Jn.) Dist. Parbhani

Date 30 .11.2020

To,
The Principal,
S.G.B. Mahavidyalaya, Purna

Respected Sir,

We are submitting herewith the final draft of the syllabus of **Certificate Course in Mushroom Culture** for UG students across the streams. You are requested to accept it and oblige.

Thank You.



Dr. S. L. Shinde,
(External Expert)
Professor & Head, Dept. of Botany,
Rajiv Gandhi Mahavidyalaya, Mudkhed.



Dr. S. L. Ingle,
(External Expert)
Assistant Professor, Dept. of Botany,
HJP Mahavidyalaya, Himayatnagar



Dr. S. M. Dalvi,
(Internal Expert)
Professor & Head, Dept. of Botany,
S.G.B. Mahavidyalaya, Purna

Enclosures:

- i) Final Draft of Syllabus of Certificate Course in Mushroom Culture




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