

# Revised Syllabus

## DEPARTMENT OF BOTANY COURSE CURRICULUM & MARKING SCHEME

### B.Sc. I & II Semester BOTANY

(Based on Choice Based Credit System)

SESSION : 2022-23



ESTD : 1958

## GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG, 491001 (C.G.)

(Former Name – Govt. Arts & Science College, Durg)

NAAC Accredited Grade A<sup>+</sup>, College with CPE - Phase III (UGC), STAR COLLEGE (DBT)

Phone : 0788-2212030

Website - [www.govtsciencecollegedurg.ac.in](http://www.govtsciencecollegedurg.ac.in), Email – [autonomousdurg2013@gmail.com](mailto:autonomousdurg2013@gmail.com)



# Govt. V.Y.T. PG Autonomous College, Durg (Chhattisgarh)

(Erstwhile: Govt. Arts & Science College, Durg)

## Proposed Scheme For 4Yr UG Program in Botany

Semester	Core	Elective Discipline Specific	Generic Elective	Ability Enhancement Course	Skill Enhancement Course	Internship / Project	Value Added Courses	Total Credits
1	CC1 Biodiversity (Microbes, Algae, Fungi, and Archegoniate) (4 Credits)		GEC 1 Biodiversity (Microbes, Algae, Fungi, and Archegoniate) (4 Credits)	Choose 1 from pool of AEC Hindi Language (2 Credits)	Choose 1 from the pool of SEC Mushroom Culture Technology (2 Credits)		Sports (2 Credits)	22
2	CC2 Plant Ecology and Taxonomy (4 Credits)		GEC2 Plant Ecology and Taxonomy (4 Credits)	Environment Studies (2 Credits)	Choose 1 from pool of SEC Medicinal Botany (2 Credits)		Sports (2 Credits)	22
<b>Students on exit shall be awarded undergraduate certificate (in the field of Multidisciplinary Study) after securing the requisite 48 credits in Semester 1 and 2</b>								
3	CC3 Plant Anatomy and Embryology (4 Credits)	Choose 1 from a pool of GEC-3 Plant Anatomy and Embryology (4 Credits)			Choose 1 from pool of SEC Mushroom Culture Technology (2 Credits)		Sports (2 Credits)	22
4	CC 4 Plant Physiology and Metabolism (4 Credits)	Choose 1 from a pool of GEC-4 Plant Physiology and Metabolism (4 Credits)			Choose 1 from pool of SEC Medicinal Botany (2 Credits)		Sports (2 Credits)	22
<b>Students on exit shall be awarded undergraduate Diploma (in the field of Multidisciplinary Study) after securing the requisite 96 credits in Semester IV</b>								
	CC5 Cell and		Choose 1 GEC Cell		Choose 1 from pool of			

*[Signature]*

5	Molecular Biology (4 Credits)		and Molecular Biology (4 Credits)		SEC Mushroom Culture Technology (2 Credits)	Sports (2 Credits)	22
6	CC6 Genetics (4 Credits)		Choose 1 GEC Genetics (4 Credits)		Choose 1 from the pool of SEC Medicinal Botany (2 Credits)	Sports (2 Credits)	22
<b>Students on exit shall be awarded Bachelor of (in the field of Multidisciplinary Study) after securing the requisite 134 credits in Semester VI</b>							
7	CC 7 Plant Biotechnology (4 C)	Choose 2 DSE I- Biomolecules DSE II Analytical Techniques in Plants DSE III Biostatistics	Research Methodology (6)				
8		Choose 2 DSE I- Natural Resource Management DSE II- Bioinformatics DSE III- Stress Biology				Review/Project/Dissertation (12)	
<b>Students on exit shall be awarded Bachelor of (in the field of Multidisciplinary Study)(Honours or Honours with Academic projects/Enterpruenership) after securing the requisite 192 credits in Semester VIII</b>						Total	192



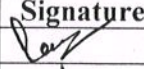
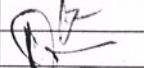
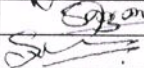
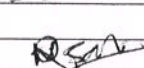
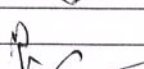
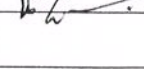

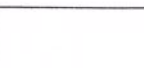

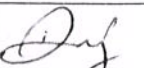
Coordinator

**GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG**  
**Syllabus and Marking Scheme for B.Sc. Semester- I and II**

**SESSION: 2022-2023**

Paper No.	Title of the Paper	Marks Allotted in Theory		Marks Allotted in Internal Assessment	
		Max	Min	Max	Min
<b>First Semester</b> (Course Code- BBO101)	Biodiversity (Microbes, Algae, Fungi and Archegoniate) (03 Credit)	60	12	15	03
BBOL01	Lab Course/ Practical (01 Credit)	25	05		
	<b>Total</b>	<b>100</b>			
<b>Second Semester</b> (Course Code- BBO102)	Plant Ecology and Taxonomy (03 Credit)	60	12	15	03
BBOL02	Lab course/ Practical (01 Credit)	25	05		
	<b>Total</b>	<b>100</b>			

**Name and Signatures of Members Board of Studies**

S. No.	Category	Name of Nominated Members	Signature
1.	Chairperson	<b>Dr. Ranjana Shrivastava</b>	
2.	Members	1. Prof. Smt. Gayatri Pandey	
		2. Dr. G. S. Thakur	
		3. Dr. Shriram Kunjam	
		4. Dr. Satish Kumar Sen	
		5. Dr. Vijay Laxmi Naidu	
		6. Mr. Motiram Sahu	
		7. Dr. Rajeshwari Prabha Lahare	
3.	Subject specialist	1. Prof. P.C. Panda Retd. Professor Borsi Durg C.G.)	
		2. Dr. N.B. Singh (Govt. N.PG. Science College Raipur C.G.)	
4.	VC Nominated member	Dr. Aruna Shrivastava (Govt. D.B. Girls PG College Raipur C.G.)	
5.	Corporate/ Industrial area Representative	Shri Manish Jain (Apollo College, Durg C.G.)	
6.	Ex Meritorious Student PG	Umashankar Gayakwad	
7.	Subject expert from other Department	Dr. DivyaMinz (Department of Zoology, Govt. V.Y.T. PG. Autonomous College Durg C.G.)	

Govt. V.Y.T. PG Autonomous College, Durg (Chhattisgarh)

Department of Botany

2022-2023

B.Sc. Semester -I (CBCS)

(Course Code- BBO101)

Core Course: Biodiversity (Microbes, Algae, Fungi and Archegoniate)

(Credits: 04 Theory-3, Practicals-1)

**THEORY**

Lectures: 60

M. Marks: 60

### Course Outcome

On completion of the course, students are able to:

CO 1: To define the microbes and explain structure and types of viruses and bacteria.

CO 2: To explain the reproduction and economic importance of viruses and bacteria.

CO 3: To discuss the general characters, distribution and range of thallus organization of algae.

CO 4: To describe the classification, Morphology, life cycle and economic importance of algae.

CO 5: State the diversity, general characters, classification and nutrition of Fungi, Lichen and Mycorrhiza.

CO 6: To describe life cycle and economic importance of fungi, lichen and mycorrhiza.

CO 7: To define Archegoniate and alternation of generation

CO 8: To discuss general characters, classifications, life cycle and economic importance of Bryophytes, Pteridophytes and Gymnosperm.

### Unit 1: Microbes

(10 Lectures)

**Viruses** – Discovery, general structure, replication (general account), DNA virus (T-phage); Lytic and lysogenic cycle, RNA virus (TMV); Economic importance;

**Bacteria** – Discovery, General characteristics and cell structure; Reproduction – vegetative, asexual and recombination (conjugation, transformation and transduction); Economic importance.

### Unit 2: Algae

(12 Lectures)

General characteristics; Ecology and distribution; Range of thallus organization and reproduction; Classification of algae; Morphology and life-cycles of the following: *Nostoc*, *Chlamydomonas*, *Oedogonium*, *Vaucheria*, *Ectocarpus*, *Polysiphonia*. Economic importance of algae.

### Unit 3: Fungi

(12 Lectures)

Introduction- General characteristics, ecology and significance, range of thallus organization, cell wall composition, nutrition, reproduction and classification; True Fungi- General characteristics, ecology and significance, life cycle of *Rhizopus* (Zygomycota) *Penicillium*,

*Peziza*(Ascomycota), *Puccinia* (Basidiomycota)*Alternaria* (Deuteromycota); Symbiotic Associations-Lichens: General account, reproduction and significance; Mycorrhiza: ectomycorrhiza and endomycorrhiza and their significance

#### **Unit 4: Introduction to Archegoniate**

**(12 Lectures)**

Unifying features of archegoniate, Transition to land habit, Alternation of generations.

**Bryophytes:**General characteristics, adaptations to land habit, Classification, Range of thallus organization. Classification (up to family), morphology, anatomy and reproduction of *Marchantia* and *Funaria*. (**Developmental details not to be included**). Ecology and economic importance of bryophytes.

#### **Unit 5: Pteridophytes and Gymnosperms**

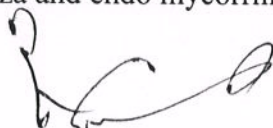
**(14 Lectures)**

**Pteridophytes:**General characteristics, classification, Early land plants (*Rhynia*). Classification (up to family), morphology, anatomy and reproduction of *Selaginella* and *Equisetum*. (**Developmental details not to be included**). Heterospory and seed habit, stelar evolution. Ecological and economical importance of Pteridophytes.

**Gymnosperms:**General characteristics, classification. Classification (up to family), morphology, anatomy and reproduction of *Cycas* and *Pinus*. (Developmental details not to be included). Ecological and economical importance.

#### **Practical**

1. EMs/Models of viruses – T-Phage and TMV, Line drawing/Photograph of Lytic and Lysogenic Cycle.
2. Types of Bacteria from temporary/permanent slides/photographs; EM bacterium; Binary Fission; Conjugation; Structure of root nodule.
3. Gram staining
4. Study of vegetative and reproductive structures of Nostoc, Chlamydomonas (electron micrographs), Oedogonium, Vaucheria, Ectocarpus\* and Polysiphonia through temporary preparations and permanent slides. (\* Ectocarpus - Specimen and permanent slides)
5. *Rhizopus* and *Penicillium*: Asexual stage from temporary mounts and sexual structures through permanent slides.
6. *Alternaria*: Specimens/photographs and tease mounts.
7. *Puccinia*: Herbarium specimens of Black Stem Rust of Wheat and infected Barberryleaves; section/tease mounts of spores on Wheat and permanent slides of both the hosts.
8. *Agaricus*: Specimens of button stage and full-grown mushroom; Sectioning of gills of *Agaricus*.
9. *Lichens*: Study of growth forms of lichens (crustose, foliose and fruticose)
10. *Mycorrhiza*: Ecto mycorrhiza and endo mycorrhiza (Photographs)



11. *Marchantia*- morphology of thallus, W.M. rhizoids and scales, V.S. thallus through gemma cup, W.M. gemmae (all temporary slides), V.S. antheridiophore, archegoniophore, L.S. sporophyte (all permanent slides).
12. *Funaria*- morphology, W.M. leaf, rhizoids, operculum, peristome, annulus, spores (temporary slides); permanent slides showing antheridial and archegonial heads, L.S. capsule and protonema.
13. *Selaginella*- morphology, W.M. leaf with ligule, T.S. stem, W.M. strobilus, W.M. microsporophyll and megasporophyll (temporary slides), L.S. strobilus (permanent slide).
14. *Equisetum*- morphology, T.S. internode, L.S. strobilus, T.S. strobilus, W.M. sporangiophore, W.M. spores (wet and dry) (temporary slides); T.S. rhizome (permanent slide).
15. *Cycas*- morphology (coralloid roots, bulbil, leaf), T.S. coralloid root, T.S. rachis, V.S. leaflet, V.S. microsporophyll, W.M. spores (temporary slides), L.S. ovule, T.S. root (permanent slide).
16. *Pinus*- morphology (long and dwarf shoots, W.M. dwarf shoot, male and female), W.M. dwarf shoot, T.S. needle, T.S. stem, L.S./T.S. male cone, W.M. microsporophyll, W.M. microspores (temporary slides), L.S. female cone, T.L.S. & R.L.S. stem (permanent slide).

### Suggested Readings

1. Kumar, H.D. (1999). Introductory Phycology. Affiliated East-West. Press Pvt. Ltd. Delhi. 2nd edition.
2. Tortora, G.J., Funke, B.R., Case, C.L. (2010). Microbiology: An Introduction, Pearson Benjamin Cummings, U.S.A. 10th edition.
3. Sethi, I.K. and Walia, S.K. (2011). Text book of Fungi & Their Allies, MacMillan Publishers Pvt. Ltd., Delhi.
4. Alexopoulos, C.J., Mims, C.W., Blackwell, M. (1996). Introductory Mycology, John Wiley and Sons (Asia), Singapore. 4th edition.
5. Raven, P.H., Johnson, G.B., Losos, J.B., Singer, S.R., (2005). Biology. Tata McGraw Hill, Delhi, India.
6. Vashishta, P.C., Sinha, A.K., Kumar, A., (2010). Pteridophyta, S. Chand. Delhi, India.
7. Bhatnagar, S.P. and Moitra, A. (1996). Gymnosperms. New Age International (P) Ltd Publishers, New Delhi, India.

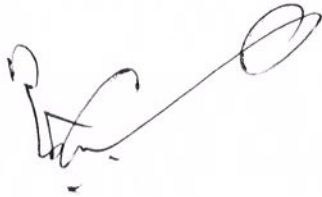


## Practical Scheme

**Time: 3Hrs**

**M.M. 25**

1. Microbiology/Algae	04
2. Fungi/Bryophytes	04
3. Pteridophytes/Gymnosperm	04
4. Spotting (1-5)	05
5. Project/Field work	02
5. Viva-voce	02
6. Sessional	04





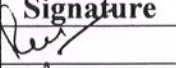
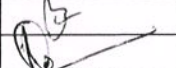
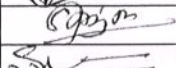
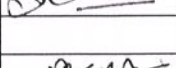
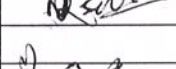
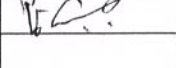



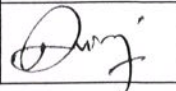
**Question Paper Format and Distribution of Marks for Under Graduate Examination**

1. The question paper for UG Classes is to be divided into three Sections - A, B & C.
2. Section A shall contain very short answer type questions (answer in one or two sentences) or objective type questions. (No Multiple choice questions. No 'fill in the blank' type Questions)
3. Section B shall contain short answer type questions with the limit of 150 words.
4. Section C shall contain long answer/descriptive type questions. The students are required to answer precisely and the answer should not exceed the limit of 350 words.
5. The scheme of marks should be as follows:

Question Type	MM 60 (Marks x No. of Questions)
A (Very short Answer)	1x10 = 10
B (Short Answer)	4x5 = 20
C (Long Answer)	6x5 = 30

- ✓ The half yearly internal examinations will be held. 10% out of marks obtained by the students in each paper in internal examinations will be added to 90% of marks obtained in each paper of annual examination.

**Name and Signatures of Members Board of Studies**

S. No.	Category	Name of Nominated Members	Signature
1.	Chairperson	<b>Dr. Ranjana Shrivastava</b>	
2.	Members	1. Prof. Smt. Gayatri Pandey	
		2. Dr. G. S. Thakur	
		3. Dr. Shriram Kunjam	
		4. Dr. Satish Kumar Sen	
		5. Dr. Vijay Laxmi Naidu	
		6. Mr. Motiram Sahu	
		7. Dr. Rajeshwari Prabha Lahare	
3.	Subject specialist	1. Prof. P.C. Panda Retd. Professor Borsi Durg C.G.)	
		2. Dr. N.B. Singh (Govt. N.PG. Science College Raipur C.G.)	
4.	VC Nominated member	Dr. Aruna Shrivastava (Govt. D.B. Girls PG College Raipur C.G.)	
5.	Corporate/ Industrial area Representative	Shri Manish Jain (Apollo College, Durg C.G.)	
6.	Ex Meritorious Student PG	Umashankar Gayakwad	
7.	Subject expert from other Department	Dr. <del>D</del> <sup>D</sup> <del>IN</del> <sup>IN</sup> <del>MI</del> <sup>MI</sup> <del>NG</del> <sup>NG</sup> (Department of Zoology, Govt. V.Y.T. PG. Autonomous College Durg C.G.)	



Govt. V.Y.T. PG Autonomous College, Durg (Chhattisgarh)

Department of Botany

2022-2023

B.Sc. Semester -II (CBCS)

(Course Code- BBO102)

Core Course: Plant Ecology and Taxonomy

(Credits: Theory-3, Practicals-1)

THEORY

Lectures: 60

M. Marks: 60

### Course Outcome

On completion of the course, students are able to:

CO 1: To define the plant ecology and describe various ecological factors in living system.

CO 2: To understand about the inter relationship between living world and environment.

CO 3: To understand about the fundamental aspect of ecosystem and phytogeography.

CO 4: To define taxonomy and types of classification systems.

CO 5: To describe general taxonomic rule on plant classification.

CO 6: To understand about the process of plant description and identification.

### Unit 1: Introduction of plant ecology

(12 Lectures)

**Ecological factors:** **Soil:** -Origin, formation, composition, soil profile. **Water:** States of water in the environment, precipitation types. **Light and temperature:** Variation Optimal and limiting factors; Adaptation of hydrophytes and xerophytes.

### Unit 2: Plant communities and Ecosystem

(12 Lectures)

Characters; Ecotone and edge effect; Succession; Processes and types.

**Ecosystem:** Structure; energy flow trophic organisation; Food chains and food webs, Ecological pyramids, Biogeochemical cycling: Cycling of carbon, nitrogen and Phosphorous

### Unit 3: Introduction to plant taxonomy

(14 Lectures)

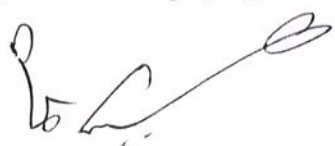
**Botanical nomenclature:** Principles and rules (ICBN); ranks and names; binominal system, typification, principle of priority and its limitations.

Herbarium techniques, important herbaria and botanical gardens of the world and India; Taxonomic evidences from cytology and phytochemistry.

### Unit 4: System of Classification and Numerical taxonomy

(10 Lectures)

**Types of classification-**artificial, natural and phylogenetic. Bentham and Hooker (upto series), Engler and Prantl (up to series).



**Numerical taxonomy:** Characters; variations; OTUs, character weighting and coding; cluster analysis; phenograms, cladograms (definitions and differences).

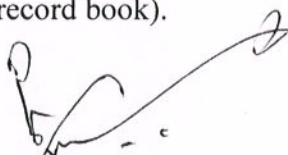
**Unit 5: Systematic study of taxonomic plants**

**(12 Lectures)**

Study of vegetative and floral characters of the following families: Fabaceae, Brassicaceae, Malvaceae, Asteraceae, Apocynaceae, Apiaceae, Solanaceae, Lamiaceae and Liliaceae.

**Practical**

1. Study of instruments used to measure microclimatic variables: Soil thermometer, maximum and minimum thermometer, anemometer, psychrometer/hygrometer, rain gauge and lux meter.
2. Determination of pH, and analysis of two soil samples for carbonates, chlorides, nitrates, sulphates, organic matter and base deficiency by rapid field test.
3. Comparison of bulk density, porosity and rate of infiltration of water in soil of three habitats.
4. (a) Study of morphological adaptations of hydrophytes and xerophytes (four each).  
(b) Study of biotic interactions of the following: Stem parasite (*Cuscuta*), Root parasite (*Orobanche*), Epiphytes, Predation (Insectivorous plants)
5. Determination of minimal quadrat size for the study of herbaceous vegetation in the college campus by species area curve method. (Species to be listed)
6. Quantitative analysis of herbaceous vegetation in the college campus for frequency and comparison with Raunkiaer's frequency distribution law.
7. Study of vegetative and floral characters of the following families (Description, V.S. flower, section of ovary, floral diagram/s, floral formula/e and systematic position according to Bentham & Hooker's system of classification): Brassicaceae - *Brassica*, *Alyssum* / *Iberis*; Malvaceae - *Hibiscus-rosa-sinensis*, Asteraceae - *Sonchus/Launaea/Vernonia/Ageratum*, *Eclipta/Tridax*; Apocynaceae - *Thevetia*, Solanaceae - *Datura/Withania*; Lamiaceae - *Salvia/ Ocimum*; Liliaceae - *Asphodelus / Lilium / Allium*.
8. Mounting of a properly dried and pressed specimen of any wild plant with herbarium label (to be submitted in the record book).

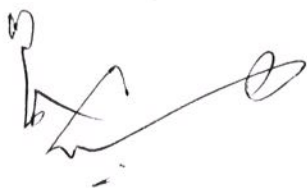


### Suggested Readings

1. Kormondy, E.J. (1996). Concepts of Ecology. Prentice Hall, U.S.A. 4th edition.
2. Sharma, P.D. (2010) Ecology and Environment. Rastogi Publications, Meerut, India. 8th edition.
3. Simpson, M.G. (2006). Plant Systematics. Elsevier Academic Press, San Diego, CA, U.S.A.
4. Singh, G. (2012). Plant Systematics: Theory and Practice. Oxford & IBH Pvt. Ltd., New Delhi. 3rd edition.

### Practical Scheme

<b>Time: 3Hrs</b>	<b>M.M. 25</b>
1. Morphological and Anatomical adaptations / Soil Test	04
2. Quantitative analysis of plants	04
3. Plant Description	04
4. Spotting (1-5)	05
5. Project/Field work	02
6. Viva-voce	02
7. Sessional	04











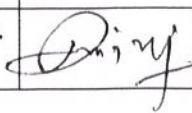
**Question Paper Format and Distribution of Marks for Under Graduate Examination**

6. The question paper for UG Classes is to be divided into three Sections - A, B & C.
7. Section A shall contain very short answer type questions (answer in one or two sentences) or objective type questions. (No Multiple choice questions. No 'fill in the blank' type Questions)
8. Section B shall contain short answer type questions with the limit of 150 words.
9. Section C shall contain long answer/descriptive type questions. The students are required to answer precisely and the answer should not exceed the limit of 350 words.
10. The scheme of marks should be as follows:

Question Type	MM 6 (Marks x No. of Questions)
<b>A (Very short Answer)</b>	<b>1x10 = 10</b>
<b>B (Short Answer)</b>	<b>4x5 = 20</b>
<b>C (Long Answer)</b>	<b>6x5 = 30</b>

- ✓ The half yearly internal examinations will be held. 10% out of marks obtained by the students in each paper in internal examinations will be added to 90% of marks obtained in each paper of annual examination.

**Name and Signatures of Members Board of Studies**

S. No.	Category	Name of Nominated Members	Signature
1.	Chairperson	<b>Dr. Ranjana Shrivastava</b>	
2.	Members	1. Prof. Smt. Gayatri Pandey	      
		2. Dr. G. S. Thakur	
		3. Dr. Shriram Kunjam	
		4. Dr. Satish Kumar Sen	
		5. Dr. Vijay Laxmi Naidu	
		6. Mr. Motiram Sahu	
		7. Dr. Rajeshwari Prabha Lahare	
3.	Subject specialist	1. Prof. P.C. Panda Retd. Professor Borsi Durg C.G.)	
		2. Dr. N.B. Singh (Govt. N.PG. Science College Raipur C.G.)	
4.	VC Nominated member	Dr. Aruna Shrivastava (Govt. D.B. Girls PG College Raipur C.G.)	
5.	Corporate/ Industrial area Representative	Shri Manish Jain (Apollo College, Durg C.G.)	
6.	Ex Meritorious Student PG	Umashankar Gayakwad	
7.	Subject expert from other Department	Dr. Divya Minz (Department of Zoology, Govt. V.Y.T. PG. Autonomous College Durg C.G.)	



**Govt. V.Y.T. PG Autonomous College, Durg (Chhattisgarh)**  
**Department of Botany**  
**2022-2023**  
**B.Sc. Semester -I (CBCS)**  
**Skill Enhancement Course (SEC)**  
**Mushroom Culture Technology**  
**(Credits 2)**  
**Lectures: 30**

Introduction, history. Nutritional and medicinal value of edible mushrooms; Poisonous mushrooms. Types of edible mushrooms available in India - *Volvariella volvacea*, *Pleurotus citrinopileatus*, *Agaricus bisporus*. **(5 Lectures)**

**Cultivation Technology:** Infrastructure: substrates (locally available) Polythene bag, vessels, Inoculation hook, inoculation loop, low-cost stove, sieves, culture rack, mushroom unit (Thatched house) water sprayer, tray, small polythene bag. **(6 Lectures)**

**Pure culture Techniques:** Medium, sterilization, preparation of spawn, multiplication. Mushroom bed preparation - paddy straw, sugarcane trash, maize straw, banana leaves. Factors affecting the mushroom bed preparation - Low-cost technology, Composting technology in mushroom production. **(6 Lectures)**

**Suggested Readings**

1. Marimuthu, T. Krishnamoorthy, A.S. Sivaprakasam, K. and Jayarajan. R (1991)
2. Oyster Mushrooms, Department of Plant Pathology, Tamil Nadu Agricultural University, Coimbatore.
3. Swaminathan, M. (1990) Food and Nutrition. Bappco, The Bangalore Printing and Publishing Co. Ltd., No. 88, Mysore Road, Bangalore - 560018.
4. Tewari, Pankaj Kapoor, S.C., (1988). Mushroom cultivation, Mittal Publications, Delhi.
5. Nita Bahl (1984-1988) Hand book of Mushrooms, II Edition, Vol. I & Vol. II.



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**Department of Botany**

**2022-2023**

**B.Sc. Semester -I (CBCS)**

**Skill Enhancement Course (SEC)**

**Medicinal Botany**

**(Credits 2)**

**Lectures: 30**

History, Scope and Importance of Medicinal Plants. Indigenous Medicinal Sciences; Definition and Scope-Ayurveda, Siddha and Unani: History, origin. (10 Lectures)

**Propagation of Medicinal Plants:** Objectives of the nursery, its classification, important components of a nursery, sowing, pricking, use of green house for nursery production, propagation through cuttings, layering, grafting and budding. (10 Lectures)

Ethnobotany: Definition; Ethnobotany in India: Methods to study ethnobotany; Applications of Ethnobotany

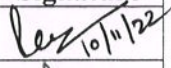

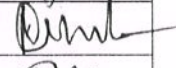
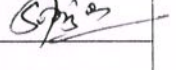
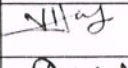
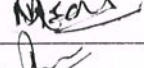
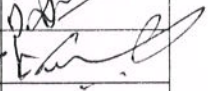
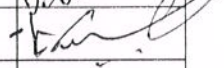

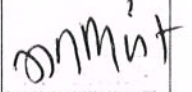
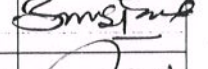
Folk medicines: Folk medicines of ethnobotany, ethnomedicine, ethnoecology, ethnic communities of India.

**Suggested Readings**

1. Trivedi P C, 2006. Medicinal Plants: Ethnobotanical Approach, Agrobios, India.
2. Purohit and Vyas, 2008. Medicinal Plant Cultivation: A Scientific Approach, 2nd edn.- Agrobios, India.



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