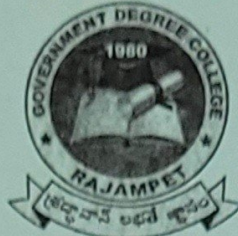




COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE

RAJAMPET, KADAPA. Dt.

(Affiliated to Yogi Vemana University, Kadapa.)

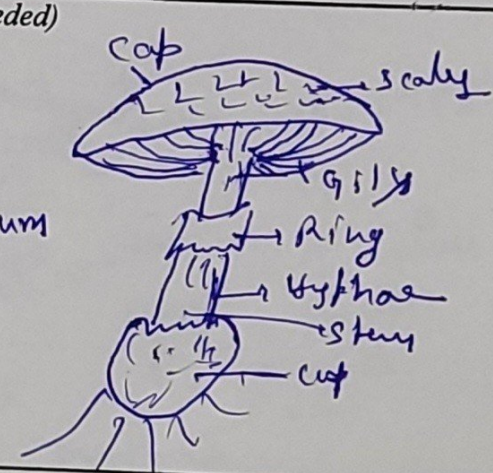
TEACHING PLAN

ACADEMIC YEAR 2023 -2024

Name of the Department : Botany
NAME OF THE LECTURER : B. Nagaraj Babu
Course / Group : III BZCE&BCS & II Bcom
Subject / Page :

Sl.No.	Subject	Paper	Page No.
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Teaching Plan / Lesson No.

Name of the Topic	structure of Mushroom
Hours required	
Learning Objectives	To understand the structure of mushrooms
Previous knowledge to be reminded	Recall the information from previous knowledge.
Examples / Illustrations	Diagrams & charts, IPT
Additional inputs	Black Board, slide
Teaching Aids used	Black Board, slide
References cited	Text book, video publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) structure stipe pileus ↓ Annulus Trama ↓ sub hymenium ↓ hymenium ↓ Annulus 

B. Nagesh Kumar
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Life cycle of mushroom
Hours required	
Learning Objectives	understand the life cycle of mushroom
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagram, chart ppt
Additional inputs	
Teaching Aids used	Black Board & ICT tool
References cited	Text book, vivane publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) life cycle vegetative ↓ ascogonium ↓ setum ↓ plasmogamy ↓ karyogamy ↓ basidiocarp → Basidium → spore The diagram illustrates the life cycle of a mushroom. It starts with vegetative growth, which leads to the formation of an ascogonium. A setum (sterile hair) enters the ascogonium through a pore. This is followed by plasmogamy (fusion of cytoplasm) and karyogamy (fusion of nuclei). The process results in the formation of a basidiocarp (mushroom body), which contains basidia. Each basidium produces four haploid spores.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Differences between edible & poisonous mushrooms												
Hours required													
Learning Objectives	Differentiate the mushrooms												
Previous knowledge to be reminded	Recalled the information ^{knowledge} comprehending												
Examples / Illustrations	Diagrams, charts & slides												
Additional inputs													
Teaching Aids used	Black Board, ICT												
References cited	Text book, vivak publication												
Student Activity Planned after the teaching	test												
Activity planned outside the class room, if any													
Any other activity	Assignment												
Topic Synopsis	(Continue on the reverse side if needed) <table> <tr> <td>poisonous</td><td>edible</td></tr> <tr> <td>- cut → green @ purple</td><td>- cut → doesn't green @ purple</td></tr> <tr> <td>- taste - stings tongue</td><td>- does not burn the tongue</td></tr> <tr> <td>- have a bad odour</td><td>- pleasant odour</td></tr> <tr> <td>- bitter</td><td>- sweet taste</td></tr> <tr> <td>- no presence of worms</td><td>- presence of worms</td></tr> </table>	poisonous	edible	- cut → green @ purple	- cut → doesn't green @ purple	- taste - stings tongue	- does not burn the tongue	- have a bad odour	- pleasant odour	- bitter	- sweet taste	- no presence of worms	- presence of worms
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- bitter	- sweet taste												
- no presence of worms	- presence of worms												

B. N. Sankar Bala
Signature of the Lecturer

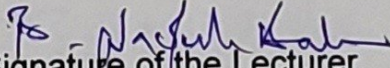
Teaching Plan / Lesson No.

Name of the Topic	morphological feature of button mushrooms.
Hours required	
Learning Objectives	understand the morphology of button mushrooms understand the morphology of button mushrooms
Previous knowledge to be reminded	Recalled the information from previous knowledge understand the morphology of button mushrooms
Examples / Illustrations	Diagrams, charts, ppt slides
Additional inputs	
Teaching Aids used	Black board, TGT
References cited	Textbook, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Cap → 2.5 to 4 cm - hourglass pinkish Gills → 2 face from the stem - short Stem → 2-7 cm long 1-2.5 cm thick - blade with small scales Flask → white and firm odor and taste - pleasant chemical reaction - both negative

B. Nafiseh Sahar
Signature of the Lecturer

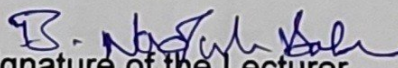
Teaching Plan / Lesson No.

Name of the Topic	Nutritional value of mycotoxins
Hours required	
Learning Objectives	know the importance of mycotoxins in daily life
Previous knowledge to be reminded	Recalled the information from previous know the importance of mycotoxins knowledge
Examples / Illustrations	Diagrams, charts and ppt slides
Additional inputs	
Teaching Aids used	Black Board, ICT
References cited	
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) - used as food since time immemorial - placed between meat and vegetable - rich protein, carbohydrate and vitamins - low in caloric value - good for heart and diabetic patients - source of vit-B₁, B₂, niacin, pantothenic acid, biotin, folic acid, vit C, D, A & K - rich essential amino acids.


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Multidisciplinary nature of environmental education
Hours required	
Learning Objectives	understand the nature of Environmental Education
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	Diagrams, charts & slides
Additional inputs	
Teaching Aids used	Black Board, JCT tool
References cited	Text book, VIVA publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) <pre> graph TD LS[Life science] --> MES[Modeling Environmental study] BAS[Basic and Applied study] --> MES TECH[Technology] --> MES CIV[civil, chemical, Hydraulics, nano] --> MES MA[management awareness] --> MES ESE[Economics, sociology, Law, education, mass communication] --> MES CS[computer science] --> MES MS[Mathematics statistics] --> MES </pre>


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Biodiversity
Hours required	
Learning Objectives	understand about the biodiversity
Previous knowledge to be reminded	Recall the information from ^{knowledge} previous
Examples / Illustrations	Diagrams, charts & ppt slides
Additional inputs	
Teaching Aids used	Black board, TCT
References cited	Text book, video publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) variability among living organisms - variety & variability of genus - species and Ecosystems between and within - the term coined by Walter Rosen, 1985 - 80 million of plants, animals & microbes are existing in the world - knowledge of biodiversity is essential for sustainable utilization of resources.

B. Nandini Reddy
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Lay out of mushroom farm
Hours required	
Learning Objectives	understand the layout of mushroom farm
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	Diagram, chart
Additional inputs	
Teaching Aids used	Black Board
References cited	Text book.
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) composting platform — Bulk chamber — pasteurization room spawn unit → Growing rooms least possible land — wind direction → phase-I bunkers constructed in line nearer to the phase-II tunnels for their operational convenience

B. N. S. S. S.
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Methods of composting
Hours required	
Learning Objectives	Understand about the method of composting
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	Diagram & Chart
Additional inputs	
Teaching Aids used	Black Board, ICT
References cited	Text book, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) long & short wetting of straw, wetting of the ingredients mixing straw + ingredients • moisture 72-75% ↓ pile formation ↓ I turning ↓ II turning ↓ III turning (add Gypsum) ↓ IV, V, VI and turning.

B. Rajesh Kumar
Signature of the Lecturer

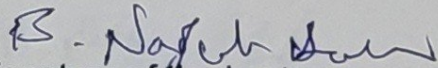
Teaching Plan / Lesson No.

Name of the Topic	Human population growth and its impacts on environment.
Hours required	
Learning Objectives	Understand the impact on environment
Previous knowledge to be reminded	Recalled the information from previous knowledge.
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black Board
References cited	Text book & video publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) - Increasing the extraction of resources from the environment. - Increasing the burning of fossil fuel for energy. - Increase in fresh water use for drinking, agriculture, recreation and industrial processes. - Increasing ecological impacts on environment.

B. N. Narayan
Signature of the Lecturer

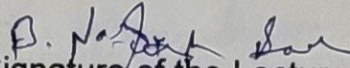
Teaching Plan / Lesson No.

Name of the Topic	Deforestation
Hours required	
Learning Objectives	Understand about the deforestation
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board
References cited	Textbook, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) It is the process of cutting down the trees - clearing the forest on a large scale to use the land for cultivation, building houses, factories etc. - causes - human beings - forest fire, floods, droughts effects of deforestation: - Global warming, increased air pollution, increased temperature, desertification, scarcity of raw materials


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Green house effect global warming
Hours required	
Learning Objectives	understand the green house effect
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board
References cited	Text book
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) — is the process by which radiations from the sun are absorbed by the greenhouse gases and not reflected back into space. This insulates the surface of the earth and prevents it from freezing. A green house is a house made of glass that can be used to grow plants. The sun's radiations warm the plants and the air inside the greenhouse.


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	spawning
Hours required	
Learning Objectives	understand about the spawning
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	Diagram & charts
Additional inputs	
Teaching Aids used	Black Board
References cited	Text book
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Mixing the mushroom seed (or spawn) in the compost is called as spawning. - Surface spawning - double layer spawning - through spawning - spot spawning - spawn running - supplementing - spawning.

B. Naphan
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	casing
Hours required	
Learning Objectives	knowledge about the casing
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams, charts
Additional inputs	
Teaching Aids used	Black board
References cited	Text book
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment.
Topic Synopsis	(Continue on the reverse side if needed) covering the top of mushroom bed after completing of spawn run with a layer of appropriate soil mixture is known as casing. - Casing soil is a nutrient deficient medium, which help in converting the vegetative phase into fruiting. it helps in conserving the environment in mushroom beds.

TS. Sankar
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	problems in cultivation - mushrooms
Hours required	
Learning Objectives	understand the problems in mushroom cultivation
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams, charts
Additional inputs	
Teaching Aids used	Black Board
References cited	Text book
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Contamination - Humidity - Excess moisture - Fresh air - light - wrong climate - wrong substrate - Faulty spawn - Quantity of spawn - lack of knowledge - lack of patience - improper harvesting

B. N. Singh
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	picking and packing of mushrooms
Hours required	
Learning Objectives	understand the package of mushrooms
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	Diagram - charts
Additional inputs	
Teaching Aids used	Black board
References cited	Text book
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) - Modified atmosphere packaging (MAP) Modified atmosphere is created in a sealed package of a fresh product by respiratory gas exchange - Modified humidity packaging:- Most polymeric films used in conventional packing have lower water vapour transmission rate relative to transpiration rate of fresh produce.

S. Nandan
Signature of the Lecturer

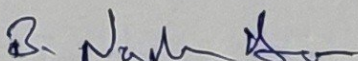
Teaching Plan / Lesson No.

Name of the Topic	sustainable development
Hours required	
Learning Objectives	Understand the sustainable development
Previous knowledge to be reminded	Recalled the information from previous ^{knowledge}
Examples / Illustrations	Diagram & charts
Additional inputs	
Teaching Aids used	Black board
References cited	Text book
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs - - End poverty in all its forms everywhere. - Ensure healthy living and promote well-being for all at all ages. - Ensure inclusive and equitable quality education

B. J. S. S.
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	conservation of biodiversity
Hours required	
Learning Objectives	understand the conservation of biodiversity
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	diagrams, charts
Additional inputs	
Teaching Aids used	Black board
References cited	Text books.
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Sustainability is a concept related to the development of products, goods, and services that involve meeting our present needs without compromising the ability of future generations to fulfil their own needs without compromising the ability as a concept recognises that the


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Environmental International agreements International Agreements.
Hours required	
Learning Objectives	Understand the agreements in environment
Previous knowledge to be reminded	Recollect the informations from previous knowledge
Examples / Illustrations	Diagrams, charts
Additional inputs	
Teaching Aids used	Black board
References cited	Text book
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) International - agreements are formal understandings between two or more country. An agreement between two country is called "bilateral", while an agreement between several country is "multilateral". The country bound by an international agreement are generally referred to as "state parties".

B. N. S. Sar
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	shelf life of mushrooms
Hours required	
Learning Objectives	Understand the shelf life of mushrooms
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black Board
References cited	Text book
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) The shelf life of freshly harvested mushrooms is limited to 1-3 days at ambient condition. Shelf life improved through - Temperature - stored at 0°C - Respiration - to prevent thin - rapid cooling cooling technique - increase shelf life up to 2 days - Relative humidity to store mushrooms in an environment with relatively low humidity less than 95%.

B. N. K. S. S.
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	value added products of mushrooms
Hours required	
Learning Objectives	Understand the value added products
Previous knowledge to be reminded	Recalled the information from ^{knowledge} previous
Examples / Illustrations	Diagrams, charts
Additional inputs	
Teaching Aids used	Black Board
References cited	Text Book
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) • Mushroom fortified cakes:- can be made by fortification to a level of 10-20% of dry mushroom powder in the wheat flour. The process of making cake remains the same. * Mushroom Based Vegetarian sausages:- by adding 5% saturated fat and binding agent - carboxymethyl, soyaprotein, casein. * Mushroom fortified Instant noodle: prepared from pleurotus extract.

B. N. S. S.

Signature of the Lecturer