

St. Aloysius' College (Autonomous) Jabalpur, M.P.
Department of Botany and Microbiology
B.Sc. I Semester Botany
Applied Botany
Paper—1/ Major /Minor
Session 2023-24

Program: Certificate		Class: B.Sc. I Semester	Year: B.Sc. I Semester	Session: 2023-24
Subject: Botany				
1	Course Code	S1-BOTA1T		
2	Course Title	Applied Botany (Paper I)		
3	Course Type (Core Course/Elective/Generic Elective/Vocational/.)	Core Course		
4	Pre-requisite (if any)	To study this course, a student must have had the subject Biology/ Life Sciences/ Agriculture in class/12 th		
5	Course Learning outcomes (CLO)	<p>On completion of this course, the learners will</p> <p>CO 1- to apply fundamental knowledge of various agricultural practices and the scientific methods to solve problems at national and local level in agriculture</p> <p>CO 2 - be able to understand the significance and role of botany.</p> <p>CO3 - be able to learn the basic aspects of applied botany.</p> <p>CO4 - be able to explore about employment opportunities in field of botany.</p> <p>CO 5 - be able to understand the opportunities of social services.</p> <p>CO 6 - be able to gain knowledge about best health practices.</p> <p>CO 7 - be able to explore startup opportunities in field of botany.</p>		
6	Credit Value	4 Credits		
7	Total Marks	Max. Marks: 40+60	Minimum marks: 35	

Part B- Content of the Course		
Total No. of Lectures- 60 Hours Tutorials-00 Practical-00 (04 hours per week): L-T-P:		
Unit	Topic	No. of Lectures
I	1.1 Introduction, objective and importance of applied botany 1.2 History and evolution of botany. 1.3 Relation of plants to man and relation with other services. 1.4 Various disciplines of botany and their applications to human welfare.	12
II	1.1 Definition and types of pollution and pollutants 1.2 Phytoremediation: Air, water, soil, noise and thermal pollutants (any 5 plants with botanical name, family) and their role in pollution control. 1.3 Bioremediation: definition and types.	12
III	1.1 Ancient agricultural practices. 1.2 Modern agriculture practices: polyhouse, drip irrigation, hydroponics, computer-based agriculture, terrace farming. 1.3 Organic farming: introduction, objective and brief technique 1.4 Horticulture: definition and role in human welfare 1.5 Forestry: definition, branches and role in human welfare 1.6 Silviculture: definition and management practices	12
IV	1.1 Role of Botany in Rural development 1.2 Ethnobotany: Introduction and importance 1.3 Ethnomedicine: Definition and examples. (Local name, botanical name, family and importance of Neem, Aloe, Clove, Ginger, Tulsi, Turmeric, Giloy, Emblica, Ashwagandha, Arandi) 1.4 Ethno-fibres: Definition and examples (Local name, botanical name, family and importance of Jute, Coconut, Elephant Grass, Cotton) 1.5 1.5 Ethno-food crops: Definition and examples (local name, botanical name, family and importance of Garadu, Singada, Kutaki, Sama, Kodo, Bathua, Sehjan, Jowar, Makka, Bajra, Jau)	12
V	1.1 Plant tissue culture: Definition, types and importance. 1.2 DNA recombination technique: Introduction, tools and importance	12

	1.3 Role of recombination in present era 1.4 Bioinformatics : Definition, concept and tools 1.5 Introduction of bioinformatics software: Basic idea of BLAST and FASTA Importance of bioinformatics.	
Keywords/Tags: Applied Botany, History of Botany, Evolution of Botany, Botany in Human Welfare, : Pollution, Pollutants, Phytoremediation, Bioremediation, Hydroponics, Polyhouse, Terrace Farming, Organic Farming, Horticulture, Silviculture, Ethnobotany, Ethnomedicine, Ethno-Fibers, Ethno-Food Crops, Bioinformatics, BLAST, FASTA, Recombinant DNA, Plant Tissue Culture		
Part C – Learning Resources		
Text Books, References Books, Other Resources.		
Suggested Reading: <ol style="list-style-type: none"> 1. Levetin E. And McMahon K. “Plants and Society” Mc Graw Hill Education. 2007 2. Maiti R., Rodrigues H.G. and Thakur A.S. “Applied Botany” American Academic Press.2017 3. Negi S.S. “Forest Botany “ M/S Bishen Singh Mahendra Pal Singh 2012 4. Agrahari R.P. “Environment Ecology, Biodiversity, Climate Change and Disaster Management” Mc Graw Hill Education. 2020 5. Sharma D. K. “Biodiversity Conservation: Current Status and Future Strategies” Write and Print Publication. 2017 6. Singh J. “Biodiversity Environment and Sustainability” MD Publications Pvt Ltd/2008 7. Gupta P. K. “Molecular Biology and Genetic Engineering “ Rastogi Publications. 2005 8. Sharma V., Munjal S. and Shankar A. “Bioinformatics” Rastogi Publications. 2008 		

Part – D – Assessment and evaluation		
Suggested Continuous evaluation methods : Max. Marks: 100 Continuous comprehensive evaluation (CCE) marks : 40 University examination (UE) marks : 60		
Internal assessment	Class test	15
Continuous comprehensive evaluation (CCE)	Assignment/ presentation	25
		Total marks : 40
External assessment:	section A: Three very short questions (50 words each)	Total marks : 60
University examination section:	section B: Three short questions (200 words each)	
60	section C: Three long questions (500 words each)	
Time – 2:00 Hours		