Academic Year	2020-21

B.P.H.E. Society's
Ahmednagar College, Ahmednagar
Internal Quality Assurance Cell
CO, PO, and PSO Attainment Sheet

Department Name	Botany

Program Name	M.Sc.(PG)

Program Outcomes(PO)

PO1	Understand the scope and significance of the discipline.
PO2	In order to make students open-minded and curious, we try our best to enhance and develop a scientific attitude.
PO3	We make the students fit for the society by enabling them to work hard. Make the students exposed to the diverse life forms.
PO4	Make them skilled in practical work, experiments, laboratory equipment and to interpret correctly on biological materials and data.
PO5	Develop interest in Biological research. Encourage the students to do research in related disciplines.
PO6	Develop a thirst to preserve the natural resources and environment.
PO7	Develop the ability for the application of acquired knowledge in various fields of life so as to make our country self-sufficient
PO8	Appreciate and apply ethical principles to biological science research and studies
PO9	Imbibe love and curiosity towards nature through the living plants.
PO10	
PO11	
PO12	

Program Specific Outcome(PSO)

PSO1	Understanding the classification of plants from cryptogams to Spermatophyte. Identification of the flora within field enhances basics of plants. Study of biodiversity in relation to habitat will correlates with climate change, land and forest degradation. Application of Botany in agriculture is through study of plant pathology.
PSO2	Understand the ultra structure and function of cell membranes, cell communications, signaling, genetics, anatomy, taxonomy, ecology and plant Physiology and biochemistry. To understand the multi functionality of plant cells in production of fine chemicals and their wide spread industrial applications.

PSO3	Molecular and Physiological adaptations in plants in response to biotic and abiotic stress. Genes responsible for stress tolerance genetic engineering of plants.

Academic Year :	**2020-21**

Class	M.Sc. I
Subject Code	40111
Subject Name	BOUT 111: Botany Theory Paper I- Plant Systematics I
Semester No	I
Teacher Name	Dr. Sudhir Suryavanshi (Algae) Dr. Prasad Y. Lamrood (Fungi) & Dr. Nisha Godse (Bryophyte)
Course Outcomes	
CO1	Students will learn the diversity of cryptogams
CO2	The students will learn basic aspects of Fungi including taxonomy
CO3	Students will learn charactes of various subdivisions with respect to distinguishing characters, types of Plasmodium and fruit bodies, Life cycle pattern
CO4	Ability to understand the core concepts and classification of Higher cryptogams
CO5	Abilty to understand the morphology, anatomy,life cycles of bryophytes

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	2	2	2	2	2	2	2	2	2			
CO2	2	2	2	2	2	2	2	2	2	2	2	2
CO3	2	2	2	2	2	2	2	2	2	2	2	2
CO4	2	2	2	2	2	2	2	2	2	2	2	2
CO5	2	2	2	2	2	2	2	2	2	2	2	2
Average	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00

Class	M.Sc. I
Subject Code	40112
Subject Name	BOUT 112: Botany Theory Paper II- Cell Biology and Evolution
Semester No	I
Teacher Name	Mr.Sagar Bawake
Course Outcomes	

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	3	3	2	3	2	2	3	3	3	3	3	3
CO2	2	2	2	2	3	2	2	2	3	3	3	3
CO3	2	2	2	2	2	2	2	2	3	3	3	3
CO4	3	3	2	2	2	3	2	2	3	3	3	3

	CO1	Students will get knowledge about plant cell, cell theory, organization of cell, various organells and there function from plant cell.	CO5	3	3	2	2	3	2	3	3	2	3	3	3
	CO2	wiil learn about nucleus & its composition, ribosomes, cytoskeleton, signal transduction and signaling molucule.	Average	2.60	2.60	2.00	2.20	2.40	2.20	2.40	2.40	2.80	3.00	3.00	3.00
	CO3	Phosphate signaling, nuclear signaling and serine threonine signaling.													
	CO4	Geting knowledge about cell cycle and cell aging process.													
	CO5	They will able to understands the earth formation, Geological time scale, Origin of cells, Concepts of natural evolution, Population genetics.													

Class	MSc I	Course Outcomes	Program Outcomes									PSOs		
Subject Code	40113		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BOUT 113: Botany Theory Paper III- Cytogenetics & Plant Breding	CO1	2	1	3	2	1	2	2	3	2	2	2	2
Semester No	I	CO2	2	3	1	1	3	2	1	2	2	2	1	2
Teacher Name	Sudhir Bale & Dr. Nisha Godse	CO3	1	1	2	2	2	1	2	1	3	3	2	1
Course Outcomes		CO4	2	2	2	2	3	3	2	2	2	2	3	1
CO1	Ability to understand concepts of classical genetics viz; Mendelian, Gene interaction, cytoplasmic inheritance etc	CO5	2	2	2	2	2	2	2	2	2	2	2	1
CO2	Ability to understand concepts of Linkage and recombination and mutation	Average	1.80	1.80	2.00	1.80	2.20	2.00	1.80	2.00	2.20	2.20	2.00	1.40
CO3	Ability to understand Microbial genetics, cytogenetics viz; karyotyping, chromosomal anomalies etc													
CO4	Students will comprehend the core concepts of microbial genetics													
CO5	students will learn the basic concepts of plant breeding													

Class	M.Sc. I		Program Outcomes	PSOs

Subject Code		40114P	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name		BODT 114: Pomoculture and Fruit Processing Tech.	CO1	3	3	3	3	3	3	3	3	3	3	3	3
Semester No		I	CO2	3	3	3	3	3	3	3	3	3	3	3	3
Teacher Name		Prof. A.A.Kulkarni	CO3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes			CO4	3	3	3	3	3	2	3	2	2	3	3	3
	CO1	Students will get the knowledge of Fruittrees and its market status at national snd Internationsl level	CO5	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Students will learn different techniques of propagation of plants , its training and pruning methods	Average	3.00	3.00	3.00	3.00	3.00	2.67	3.00	2.67	2.67	3.00	3.00	3.00
	CO3	Students will get aquinted with fruit maturity indices, preservation and its marketing													
	CO4	Students will learn different methods of fruit preservation													
	CO5	Studnets will get the knowledge of preparation of various fruit processing industry													

Class		M.Sc. I	Course Outcomes	Program Outcomes									PSOs		
Subject Code		40114 T (B)		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name		BODP 114: Botany practical paper based on BODT 114	CO1	3	3	3	3	3	3	3	3	3	3	3	3
Semester No		I	CO2	3	3	3	3	3	3	3	3	3	3	3	3
Teacher Name		Prof. A.A.Kulkarni	CO3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes			CO4	3	3	3	3	3	2	3	2	2	3	3	3
	CO1	Students will get practical knowledge of Fruittrees and its market status at national snd Internationsl level	CO5	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Students will get hands on training on different techniques of propagation of plants , its training and pruning methods	Average	3.00	3.00	3.00	3.00	3.00	2.67	3.00	2.67	2.67	3.00	3.00	3.00
	CO3	Students will undestand practically the fruit maturity indices, preservation and its marketing													
	CO4	Students will practically carry out different methods of fruit preservation													

	CO5	Studnets will get the knowledge and perform preparation of various fruit processing industry

Class	M.Sc. I	Course Outcomes	Program Outcomes									PSOs		
Subject Code	40115		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BOUP 115: Botany practical paper based on BOUT 111, 112 &113	CO1	3	3	3	2	3	3	2	1	2	3	3	3
Semester No	I	CO2	2	2	3	2	3	3	3	1	1	2	2	2
Teacher Name	Dr. Prasad Y. Lamrood, Mr. Sagar Bawake, Dr Sudhir Suryawanshi, Dr. Nisha Godse	CO3	2	3	2	3	2	3	1	2	2	2	2	3
Course Outcomes		CO4	2	2	2	2	2	2	2	2	2	2	2	2
CO1	Students will learn fungal members from each sub division	CO5	2	3	2	1	2	1	2	1	3	2	3	2
CO2	Getting idea and hands on training to isolate mitochondria and lysosome to check its acttivity.	Average	2.00	2.50	2.00	1.50	2.00	1.50	2.00	1.50	2.50	2.00	2.50	2.00
CO3	Hands on experiance of studying meiosis and mitosis.													
CO4	comprehend the anatomical and reproductive structures froam each class of bryophytes													
CO5	Hands on experiance of isolation of Chloroplast.													

Class	M.Sc. I	Course Outcomes	Program Outcomes									PSOs		
Subject Code	40211		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BOUT 121: Botany Theory Paper I- Plant Systamatics -II	CO1	2	2	2	2	2	2	2	2	2	2	2	2
Semester No	I	CO2	2	2	2	2	2	2	2	2	2	2	2	2
Teacher Name	Prof. B.M. Gaykar & Dr. Nisha Godse	CO3	2	2	2	2	2	2	2	2	2	2	2	2
Course Outcomes		CO4	2	2	2	2	2	2	2	2	2	2	2	2
CO1	Ability to understand the basic concepts of Angiosperms	CO5	2	2	2	2	2	2	2	2	2	2	2	2
CO2	abilty to understand the classification of Angiospermic plants	Average	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00

	CO3	Ability to comprehend the core concepts of Gymnosperms
	CO4	ability to understand the classification and life cycle of gymnosperms
	CO5	abilty to comprehend the morphology , anatomy and reproductive structures of each order of gymnosperms

Class	M.Sc. I	Course Outcomes	Program Outcomes								PSOs		
Subject Code	40212		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BOUT 122: Botany Theory Paper II- Molecular Biology	CO1	3	3	3	1	2	2	3	3	3	3	3	3
Semester No	II	CO2	2	3	2	2	3	3	2	3	3	3	3	2
Teacher Name	Mr. Sagar Bawake	CO3	3	3	2	2	3	2	3	3	3	3	2	3
Course Outcomes		CO4	2	2	3	3	2	3	2	2	3	3	2	2
CO1	Students will able to learns various enzymes, various minor and major equipments used in molecular biology.	CO5	3	2	1	1	3	2	2	2	3	3	2	2
CO2	Understands the DNA structure, genome packaging, DNA replication, DNA damage.	Average	2.60	2.60	2.20	1.80	2.60	2.40	2.40	2.60	3.00	3.00	2.40	2.40
CO3	Able to understands Gene structure, Transcription, translation and chaperon etc.													
CO4	Understands the gene regulation as well as transposable elments in plants.													
CO5	Able to learns genomics and proteomics with human genome projects.													

Class	M.Sc. I	Course Outcomes	Program Outcomes								PSOs		
Subject Code	40213		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BOUT 123: Botany Theory Paper III- Biochemistry	CO1	2	3	2	3	2	2	2	2	2	2	2	3
Semester No	II	CO2	2	2	2	2	2	3	2	3	2	3	2	2
Teacher Name	Dr. Prasad Y. Lamrood	CO3	3	2	3	2	2	2	2	2	2	2	3	2
Course Outcomes		CO4	2	2	2	2	3	2	2	2	2	2	2	2

	CO1	Students will get to know about fundamental aspects	CO5	2	2	2	2	3	2	2	2	2	2	2	2
	CO2	They will also get introduced to carbohydrates, lipid, nucleic acid biochemistry	Average	2.20	2.20	2.20	2.20	2.40	2.20	2.00	2.20	2.00	2.20	2.20	2.20
	CO3	Students will learn about Protein biochemistry													
	CO4	Students will learn about enzymology and nitrogen metabolism													
	CO5	Primary, secondary metabolites, extraction, synthesis pthways will be studies.													

Class	M.Sc. I	Course Outcomes	Program Outcomes									PSOs		
Subject Code	40214 P		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BODT 124 : Botany Theory Paper -IV Mushroom Cultivation and Biopesticide	CO1	3	3	3	3	3	3	3	3	3	3	3	2
Semester No	II	CO2	3	3	3	3	3	3	3	3	3	3	3	3
Teacher Name	Prof. A.A.Kulkarni	CO3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes		CO4	3	3	3	2	3	2	3	2	3	3	3	3
	CO1	Students will get the knowledge of different types of mushrooms and it s nutritional value	CO5	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Students will learn various methods of preparation of spawn (seed) of various mushrooms	Average	3.00	3.00	3.00	2.80	3.00	2.80	3.00	2.80	3.00	3.00	3.00	2.80
	CO3	Students will get aquinted with the production technology of variuos mushrooms													
	CO4	Students will get the knowlege of different types of biopesticides													
	CO5	Commercialization of Biopesticides													

Class	M.Sc. I	Course Outcomes	Program Outcomes									PSOs		
Subject Code	40214 T (B)		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3

Subject Name		BODT 124 : Practical Paper -IV Mushroom Cultivation and Biopesticide	CO1	3	3	3	3	3	3	3	3	3	3	3	3
Semester No		II	CO2	3	3	3	3	3	3	3	3	3	3	3	3
Teacher Name		Prof. A.A.Kulkarni	CO3	3	3	3	3	3	3	3	3	2	3	2	3
Course Outcomes			CO4	3	3	3	2	3	3	3	3	3	2	3	2
	CO1	Students will get the practical knowledge of different types of mushrooms and it s nutritional value	CO5	3	3	3	3	3	2	3	3	3	3	3	3
	CO2	Students will get hands on training on various methods of preparation of spawn (seed) of various mushrooms	Average	3.00	3.00	3.00	2.80	3.00	2.80	3.00	3.00	2.80	2.80	2.80	2.80
	CO3	Students will individually perform the production technology of variuos mushrooms													
	CO4	Students will get practical knowlege of different types of biopesticides													
	CO5	Learn methods Commercialization of Biopesticides by visiting Biopesticide industry													

Class		M.Sc. I	Course Outcomes	Program Outcomes									PSOs		
Subject Code		40215		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name		BOUP :125 Practical Based on BOUT 121,122 &123	CO1	3	1	3	3	3	3	2	3	2	3	2	3
Semester No		II	CO2	2	2	3	2	3	3	3	1	1	2	2	2
Teacher Name		Dr. P.Y.Lamrood. Mr. Sagar Bawake, Dr. Nisha Godse	CO3	2	3	2	3	2	3	1	2	2	2	2	3
Course Outcomes			CO4	3	1	3	3	3	3	2	3	2	2	3	3
	CO1	students will understand the basic techniques of genetic experiments	CO5	3	3	2	3	2	3	3	2	3	3	2	3
	CO2	Checking Effect of temperature and alkali on absorption of DNA: hyperchromicity	Average	2.60	2.00	2.60	2.80	2.60	3.00	2.20	2.20	2.00	2.40	2.20	2.80
	CO3	Hands on traing on SDS PAGE to separate seed storage protein, Isolation, estimation, dialysis, seperation of proteins is what they will learn													
	CO4	Students will learn the basic practicals of karyotypes													

	CO5	Students wil learn to make different solutions, TLC, Spectrophotometric analysis

Academic Year :	2020-21

Class	M.Sc. II	Course Outcomes	Program Outcomes									PSOs		
Subject Code	40321		PO1	3	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BOUT 231: Computational Botany	CO1	3	2	3	3	3	3	3	3	3	3	3	3
Semester No	III	CO2	2	3	2	2	2	2	2	2	2	2	2	2
Teacher Name	Prof. A.A.Kulkarni & Dr. Prasad Y. Lamrood	CO3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes		CO4	3	3	3	3	3	3	3	3	3	3	3	3
CO1	Students will understand the concept of statistics and its u	CO5	3	2.80	3	3	3	3	3	3	3	3	3	3
CO2	Students will learn various statistical tests using Statistics	Average	2.80	2.76	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
CO3	Studnets will learn various methods of scientific writting													
CO4	students will understand the concept of Scientific communication and its use in writting review article ,thesis etc.													
CO5	Students will get the knowledge of various analyticsl methods and its use in bology													

Class	M.Sc. II	Course Outcomes	Program Outcomes									PSOs		
Subject Code	40322		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BOUT 232 Developmental Botany	CO1	2	3	2	2	2	2	2	2	2	3	3	3
Semester No	III	CO2	2	2	2	2	3	2	3	2	2	2	1	2
Teacher Name	Dr. Prasad Y. Lamrood	CO3	3	2	3	2	2	2	2	2	3	3	3	1
Course Outcomes		CO4	2	2	2	2	2	2	2	2	2	1	2	3
CO1	Students will learn basic processes involved in Developm	CO5	3	2	3	2	2	2	2	2	3	3	3	1
CO2	They will also learn about development of embryo, endos	Average	2.40	2.20	2.40	2.00	2.20	2.00	2.20	2.00	2.40	2.40	2.40	2.00
CO3	They will also learn about development and deviation from normal emdryogenesis													
CO4	Students will get to know about physiological aspects of vegetative plant development													
CO5	Students will get to know about molecular aspects of reproductive plant development													

Class	M.Sc. II	Course Outcomes	Program Outcomes									PSOs		
Subject Code	40323		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BOUT 233 :Plant Physiology	CO1	3	2	3	3	3	2	3	3	3	3	3	3

Semester No	III		CO2	3	3	3	3	3	3	3	3	3	3	3	3
Teacher Name	Mr. Sagar Bawake		CO3	3	3	3	3	3	2	3	3	2	2	3	3
Course Outcomes			CO4	2	3	3	3	2	3	3	2	3	2	3	3
	CO1	Students will understands the Soil formation, its types, its	CO5	3	2	3	3	2	2	3	3	2	2	3	3
	CO2	Able to understands various parts of photosynthesis, C3,	Average	2.80	2.60	3.00	3.00	2.60	2.40	3.00	2.80	2.60	2.40	3.00	3.00
	CO3	Able to learns about Respiration process and lipid ,mechanism in plants.													
	CO4	Able to understands solute transport in plants, seed dormancy, physiology of flowering.													
	CO5	Able to learns about the stress physiology, plant growth regulators and secondary metabolites pathways.													

Class	MScII	Course Outcomes	Program Outcomes									PSOs		
Subject Code	40324 D		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BOTD 234 Plant Biotechnology	CO1	2	1	2	3	2	2	1	3	2	1	3	2
Semester No	III	CO2	2	3	1	1	3	2	3	2	3	2	1	2
Teacher Name	Prof. A.A. Kulkarni & Dr. Sudhir Bale	CO3	2	2	2	1	2	1	2	1	2	2	2	3
Course Outcomes		CO4	3	3	3	3	3	3	3	3	3	3	3	3
CO1	Ability to understand concepts of Plant Genetic Engineeri	CO5	3	3	3	3	3	3	3	3	3	3	3	3
CO2	Ability to understand a detailed account of different vecto	Average	2.40	2.40	2.20	2.20	2.60	2.20	2.40	2.40	2.60	2.20	2.40	2.60
CO3	Ability to understand Agrobacterium mediated gene transfer and applications of Genetic engineering													
CO4	Students will learn about the Scope and Importance and different methods of plant tissue culture													
CO5	Students will learn about different methods measurement of pollution and pollution management													

Class	M.Sc. II	Course Outcomes	Program Outcomes									PSOs		
Subject Code	40325		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	BODP 234 Practical Based on BODT 234	CO1	3	3	3	3	3	3	3	3	3	3	3	3
Semester No	III	CO2	3	3	3	3	3	3	3	3	3	3	3	3
Teacher Name	Prof. A.A.Kulkarni	CO3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes		CO4	3	3	3	3	3	3	3	3	3	3	3	3
CO1	Hands on experience of Isolation and separation of genomic DNA		3	3	3	3	3	3	3	3	3	3	3	3
CO2	Isolation and screening of protoplasts		3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
CO3	Physico chemical properties of waste water													
CO4	Students will get the information about various transgenic plants													
CO5	Students will visit various research institutes, Tissue culture lab, Waste water treatment plant													

Class	M.Sc. II	Course	Program Outcomes	PSOs

Subject Code	40326
Subject Name	BOUP 235 based on BOUT 231, 232 & 233
Semester No	III
Teacher Name	Dr. Prasad Lamrood, Mr. Sagar Bawake & Dr. Nisha Goc

Course Outcomes		
	CO1	Students will learn to perform various statistical tests usi
	CO2	Hands on training on Preparation of standard solutions(%
	CO3	Hands on training on detection of amino acids/sugars from the phloem sap using paper chromatography.
	CO4	Able to isolate and estimate chl-a and chl-b from C3&C4 plants, Soluble protein from seeds by lowery and bradford methods.
	CO5	students will learn to perform various slides of microsorogenesis and megasporogenesis

Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	3	2	3	3	3	2	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	2	3	3	2	2	3	3
CO4	2	3	3	3	2	3	3	2	3	2	3	3
CO5	3	2	3	3	2	2	3	3	2	2	3	3
Average	2.80	2.60	3.00	3.00	2.60	2.40	3.00	2.80	2.60	2.40	3.00	3.00

Class	M.Sc.II
Subject Code	40421
Subject Name	BOUT 241 (Botany Theory Paper 1- Botanical Technique
Semester No	IV
Teacher Name	Dr.P.Y. Lamrood (Credit I and III) S.R.Bale (Credit II &

Course Outcomes		
	CO1	Students will learn about basics of microscopy and variou
	CO2	They will also learn about basics of spectroscopy, principle and various
	CO3	Ability to understand various chromatographic techniques
	CO4	Ability to understand electrophoretic techniques like nativ
	CO5	Ability to understand centrifugation technique, immunological techniques & electrochemical techniques

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3	3	3
CO2	2	2	2	2	2	1	3	2	2	2	1	2
CO3	3	3	3	3	3	3	3	3	3	3	3	3
CO4	2	3	2	3	3	3	2	2	2	2	2	3
CO5	2	3	2	3	2	1	1	2	3	1	2	1
Average	2.40	2.80	2.40	2.80	2.60	2.20	2.40	2.40	2.60	2.20	2.20	2.40

Class	M.Sc. II
Subject Code	40422
Subject Name	BOUT 242: Advanced Plant Ecology
Semester No	IV
Teacher Name	Dr.Nisha Godse & Mr. Sagar Bawake

Course Outcomes		
	CO1	Students will comprehend the core concepts of plant ecol
	CO2	Ability to understand the enviormental isseus and their control measure
	CO3	Students will understands the ecophysiology, Plants interction, Environmental ethics and restoration ecology.
	CO4	They will able to understands Variuos environmental laws in India.
	CO5	They will able to understands Environmental Impact Assessment,Procedure for reviewing EIA,Human impact on ecosystem & Bio-indicators of environmental degradation.

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	3	3	3	3	2	2	2	2	2	3	3	2
CO2	2	2	2	2	2	2	2	2	3	2	2	2
CO3	3	3	3	3	3	2	3	3	2	2	3	3
CO4	2	3	3	3	2	3	3	2	3	2	3	3
CO5	3	2	3	3	2	2	3	3	2	2	3	3
Average	2.60	2.60	2.80	2.80	2.20	2.20	2.60	2.40	2.40	2.20	2.80	2.60

Class	M.Sc. II

Course	Program Outcomes	PSOs

			Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Code		40423 D	CO1	3	3	3	3	3	3	3	3	3	3	3	3
Subject Name		BODT 243 : Industrial Biotechnology	CO2	3	3	3	3	3	3	3	3	3	3	3	3
Semester No		IV	CO3	3	3	3	3	3	3	3	3	3	3	3	3
Teacher Name		Prof. A.A.Kulkarni	CO4	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes			CO5	3	3	3	3	3	3	3	3	3	3	3	3
	CO1	Students will learn about the scope and importance of Ind		3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
	CO2	Stuednts will get the knowledge of ferentation technology and producti													
	CO3	Students will learn about enzymes and Biosensors and its applications													
	CO4	Scope and importance of Bioremediation													
	CO5	Scope and importance and production of Bioplastics													

			Course Outcomes	Program Outcomes									PSOs		
Class		M.Sc. II		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Code		40425 B	CO1	2	2	2	2	2	2	2	2	2	3	3	3
Subject Name		BODT 244 b: Herbal Technology	CO2	2	3	2	3	2	3	2	3	2	3	3	3
Semester No		IV	CO3	3	2	3	1	2	1	2	3	2	3	3	3
Teacher Name		Prof. B.M.Gaykar	CO4	2	2	2	2	2	2	2	2	2	2	3	2
Course Outcomes			CO5	2	2	2	2	2	2	2	2	2	3	3	3
	CO1	understand raw material as source of herbal drugs from cultiva		2.20	2.20	2.20	2.00	2.00	2.00	2.00	2.40	2.00	2.80	3.00	2.80
	CO2	know the WHO and ICH guidelines for evaluation of herbal drugs													
	CO3	know the herbal cosmetics, natural sweeteners, nutraceuticals													
	CO4	appreciate patenting of herbal drugs, GMP													
	CO5														

			Course Outcomes	Program Outcomes									PSOs		
Class		M.Sc. II		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Code		40525 B	CO1	3	3	3	3	3	3	3	3	3	3	3	3
Subject Name		Practical Based on BODT 243 : Industrial Biotechno	CO2	3	3	3	3	3	3	3	3	3	3	3	3
Semester No		IV	CO3	3	3	2	3	3	3	3	3	3	3	3	3
Teacher Name		Prof. A.A.Kulkarni	CO4	3	3	2	3	2	2	3	2	3	2	3	2
Course Outcomes			CO5	3	3	3	3	3	3	3	3	3	3	3	3
	CO1	Hands on experience of isolation of Soil organism and its		3.00	3.00	2.60	3.00	2.80	2.80	3.00	2.80	3.00	2.80	3.00	2.80
	CO2	Hands on training of use of spectrophotometer in estimation of citric ac													
	CO3	Practical on Alcohol production													
	CO4	Demonstartion of Biosensors and Biochip													
	CO5	Visit to Industry related to fermentation and various products													

		Course Outcomes	Program Outcomes									PSOs		
Class	M.Sc.II		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Code	40426													

Subject Name		BOUP 245 based on BOUT 241 and BOUT 242	CO1	3	3	2	2	3	3	2	3	1	2	3	3
Semester No		IV	CO2	2	2	3	3	2	2	3	2	2	3	2	3
Teacher Name		Dr.P.Y. Lamrood & Dr. Nisha Godse	CO3	3	2	3	3	2	3	2	3	3	2	2	2
Course Outcomes			CO4	2	3	3	2	3	3	3	2	2	3	3	2
	CO1	Students will learn basic techniques like micrometry, mic	CO5	2	2	2	2	2	2	2	2	2	2	2	2
	CO2	They will learn to measure pH, electrical conductivity, Cl	Average	2.40	2.40	2.60	2.40	2.40	2.60	2.40	2.40	2.00	2.40	2.40	2.40
	CO3	Immunological, enzyme related and cytochemical techniques will also be acquired													
	CO4	Database searching, retriving, sequence alignment will also be taught													
	CO5	hands on traning of various parameters of water and soil testing													

CO-PO Mapping

			Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
		1	40111	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
		2	40112	2.60	2.60	2.00	2.20	2.40	2.20	2.40	2.40	2.80
		3	40113	1.80	1.80	2.00	1.80	2.20	2.00	1.80	2.00	2.20
		4	40114P	3.00	3.00	3.00	3.00	3.00	2.67	3.00	2.67	2.67
		5	40114 T (B)	3.00	3.00	3.00	3.00	3.00	2.67	3.00	2.67	2.67
		6	40115	2.00	2.50	2.00	1.50	2.00	1.50	2.00	1.50	2.50
		7	40211	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
		8	40212	2.60	2.60	2.20	1.80	2.60	2.40	2.40	2.60	3.00
		9	40213	2.20	2.20	2.20	2.20	2.40	2.20	2.00	2.20	2.00
		10	40214 P	3.00	3.00	3.00	2.80	3.00	2.80	3.00	2.80	3.00
		11	40214 T (B)	3.00	3.00	3.00	2.80	3.00	2.80	3.00	3.00	2.80
FY	FY	12	40215	2.60	2.00	2.60	2.80	2.60	3.00	2.20	2.20	2.00
		1	40321	2.80	2.76	2.80	2.80	2.80	2.80	2.80	2.80	2.80
		2	40322	2.40	2.20	2.40	2.00	2.20	2.00	2.20	2.00	2.40
		3	40323	2.80	2.60	3.00	3.00	2.60	2.40	3.00	2.80	2.60
		4	40324 D	2.40	2.40	2.20	2.20	2.60	2.20	2.40	2.40	2.60
		5	40325	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
		6	40326	2.80	2.60	3.00	3.00	2.60	2.40	3.00	2.80	2.60
		7	40421	2.40	2.80	2.40	2.80	2.60	2.20	2.40	2.40	2.60
		8	40422	2.60	2.60	2.80	2.80	2.20	2.20	2.60	2.40	2.40
		9	40423 D	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
		10	40425 B	2.20	2.20	2.20	2.00	2.00	2.00	2.00	2.40	2.00
		11	40525 B	3.00	3.00	2.60	3.00	2.80	2.80	3.00	2.80	3.00
SY	SY	12	40426	2.40	2.40	2.60	2.40	2.40	2.60	2.40	2.40	2.00

CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
2	2	2	2	2	2	2	2	2
1.352	1.352	1.04	1.144	1.248	1.144	1.248	1.248	1.456
1.224	1.224	1.36	1.224	1.496	1.36	1.224	1.36	1.496
3	3	3	3	3	2.666667	3	2.666667	2.666667
3	3	3	3	3	2.666667	3	2.666667	2.666667
2	2.5	2	1.5	2	1.5	2	1.5	2.5
2	2	2	2	2	2	2	2	2
2.6	2.6	2.2	1.8	2.6	2.4	2.4	2.6	3
2.2	2.2	2.2	2.2	2.4	2.2	2	2.2	2
3	3	3	2.8	3	2.8	3	2.8	3
3	3	3	2.8	3	2.8	3	3	2.8
2.6	2	2.6	2.8	2.6	3	2.2	2.2	2
2.352	2.3184	2.352	2.352	2.352	2.352	2.352	2.352	2.352
1.632	1.496	1.632	1.36	1.496	1.36	1.496	1.36	1.632
2.8	2.6	3	3	2.6	2.4	3	2.8	2.6
2.4	2.4	2.2	2.2	2.6	2.2	2.4	2.4	2.6
3	3	3	3	3	3	3	3	3
2.8	2.6	3	3	2.6	2.4	3	2.8	2.6
2.4	2.8	2.4	2.8	2.6	2.2	2.4	2.4	2.6
2.6	2.6	2.8	2.8	2.2	2.2	2.6	2.4	2.4
3	3	3	3	3	3	3	3	3
2.2	2.2	2.2	2	2	2	2	2.4	2
3	3	2.6	3	2.8	2.8	3	2.8	3
2.4	2.4	2.6	2.4	2.4	2.6	2.4	2.4	2

Percentage CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
100	100	100	100	100	100	100	100	100
52	52	52	52	52	52	52	52	52
68	68	68	68	68	68	68	68	68
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
84	84	84	84	84	84	84	84	84
68	68	68	68	68	68	68	68	68
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100

CO-PSO MAPPING

		Course	PSO1	PSO2	PSO3
FY	1	40111	2.00	2.00	2.00
	2	40112	3.00	3.00	3.00
	3	40113	2.20	2.00	1.40
	4	40114P	3.00	3.00	3.00
	5	40114 T (B	3.00	3.00	3.00
	6	40115	2.00	2.50	2.00
	7	40211	2.00	2.00	2.00
	8	40212	3.00	2.40	2.40
	9	40213	2.20	2.20	2.20
	10	40214 P	3.00	3.00	2.80
	11	40214 T (B	2.80	2.80	2.80
	12	40215	2.40	2.20	2.80
SY	1	40321	2.80	2.80	2.80
	2	40322	2.40	2.40	2.00
	3	40323	2.40	3.00	3.00
	4	40324 D	2.20	2.40	2.60
	5	40325	3.00	3.00	3.00
	6	40326	2.40	3.00	3.00
	7	40421	2.20	2.20	2.40
	8	40422	2.20	2.80	2.60
	9	40423 D	3.00	3.00	3.00
	10	40425 B	2.80	3.00	2.80
	11	40525 B	2.80	3.00	2.80
	12	40426	2.40	2.40	2.40

CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
40111	2	2	2
40112	1.56	1.56	1.56
40113	1.496	1.36	0.952
40114P	3	3	3
40114 T (B)	3	3	3
40115	2	2.5	2
40211	2	2	2
40212	3	2.4	2.4
40213	2.2	2.2	2.2
40214 P	3	3	2.8
40214 T (B)	2.8	2.8	2.8
40215	2.4	2.2	2.8
40321	2.352	2.352	2.352
40322	1.632	1.632	1.36
40323	2.4	3	3
40324 D	2.2	2.4	2.6
40325	3	3	3
40326	2.4	3	3
40421	2.2	2.2	2.4
40422	2.2	2.8	2.6
40423 D	3	3	3
40425 B	2.8	3	2.8
40525 B	2.8	3	2.8
40426	2.4	2.4	2.4

Percentage CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
40111	100	100	100
40112	52	52	52
40113	68	68	68
40114P	100	100	100
40114 T (B	100	100	100
40115	100	100	100
40211	100	100	100
40212	100	100	100
40213	100	100	100
40214 P	100	100	100
40214 T (B	100	100	100
40215	100	100	100
40321	84	84	84
40322	68	68	68
40323	100	100	100
40324 D	100	100	100
40325	100	100	100
40326	100	100	100
40421	100	100	100
40422	100	100	100
40423 D	100	100	100
40425 B	100	100	100
40525 B	100	100	100
40426	100	100	100