Academic Year 2018-19

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

Department Name	**BOTANY**
Program Name	**B.Sc.(UG)**

Program Outcomes(PO)

PO1	Knowledge and understanding of the range of plant diversity in terms of structure, function and environmental relationships. The role of plants in the functioning of the ecosystem. A selection of more specialized, optional topics. Statistics as applied to biological data.
PO2	Intellectual skills – able to think logically and organize tasks into a structured form. Assimilate knowledge and ideas based on wide reading and through the internet.
PO3	Practical skills: Students learn to carry out practical work, in the field and in the laboratory, with minimal risk.
PO4	Scientific Knowledge: Apply the knowledge of basic science, life sciences and fundamental process of plants to study and analyze any plant form.
PO5	Problem analysis: Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany.
PO6	Design/development of solutions: Design solutions from medicinal plants for health problems, disorders and disease of human beings and estimate the phytochemical content of plants which meet the specified needs to appropriate consideration for the public health
PO7	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern instruments and equipments for Biochemical estimation, Molecular Biology, Biotechnology, Plant Tissue culture experiments, cellular and physiological activities of plants with an understanding of the application and limitations.
PO8	Environment and sustainability: Understand the impact of the plant diversity in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO9	Ethics: Apply ethical principles and commit to environmental ethics and responsibilities and norms of the biodiversity conservation.
PO10	
PO11	
PO12	

Program Specific Outcome(PSO)

PSO1	Knowledge and understanding of the range of plant diversity
PSO2	Assimilate knowledge and ideas based on wide reading and through the internet.
PSO3	Understand the impact of the plant diversity in societal and environmental contexts.

Academic Year :	**2018-19**

Class	F.Y.B.Sc.
Subject Code	71410
Subject Name	Botany I-Plant Diversity
Semester No	1
Teacher Name	Dr. Nisha H. Godse
Course Outcomes	
CO1	Basic Idea of Plant Kingdom
CO2	knowledge of Classification of Plants
CO3	difference between Lower and Higher
CO4	Cryptogams
CO5	Life cycle and examples of Plant Kingdom

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	3	2	3	2	1	3	2	3	3	1	2	3
CO2	2	3	2	3	2	2	3	2	3	2	2	2
CO3	1	1	2	2	3	2	2	2	2	2	1	2
CO4	2	2	2	2	2	1	1	2	2	2	0	1
CO5	2	3	1	1	2	2	2	2	2	0	2	1
Average	2.00	2.20	2.00	2.00	2.00	2.00	2.00	2.20	2.40	1.40	1.40	1.80

Class	F.Y.B.Sc.
Subject Code	71420
Subject Name	Industrial Botany I
Semester No	I
Teacher Name	Sudhir Bale
Course Outcomes	
CO1	Ability to understand concept of industrial Botany
CO2	Ability to understand floriculture industry.
CO3	Ability to understand plant tissue culture industry, agri industry
CO4	Ability to understand Mushroom industry
CO5	Ability to understand nursery industry

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	2	3	3	2	3	2	3	3	3	2	3	1
CO2	3	2	3	2	1	1	3	1	3	2	2	3
CO3	1	2	2	1	2	2	3	1	2	3	2	2
CO4	2	1	2	2	3	3	2	3	2	2	1	2
CO5	3	3	2	3	2	2	2	3	3	2	2	1
Average	2.20	2.20	2.40	2.00	2.20	2.00	2.60	2.20	2.60	2.20	2.00	1.80

Class	F.Y.B.Sc.
Subject Code	71410
Subject Name	Morphology and Anatomy
Semester No	2
Teacher Name	Dr. Nisha H. Godse
Course Outcomes	
CO1	Students will understand the difference between external and
CO2	internal structure of plants
CO3	Students will able to know the anatomy of different parts
CO4	of the plant.
CO5	Students will understand the different types of plant tissues.

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	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	FYBSc
Subject Code	71420
Subject Name	Industrial Botany II
Semester No	II
Teacher Name	Sudhir Bale
Course Outcomes	
CO1	Ability to understand Biofuel industry
CO2	Ability to understand Biopesticide industry
CO3	Ability to understand Industrial Mycology
CO4	Ability to understand Biofertilizer industry
CO5	Ability to understand Fruit processing and pharmaceutical industry

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	3	3	2	3	2	2	2	3	3	2	1	3
CO2	2	3	1	3	2	3	2	3	3	3	2	2
CO3	3	2	2	3	2	3	3	2	2	2	2	2
CO4	2	3	3	2	3	2	3	3	3	2	3	1
CO5	2	1	3	2	3	1	3	2	1	1	2	1
Average	2.40	2.40	2.20	2.60	2.40	2.20	2.60	2.60	2.40	2.00	2.00	1.80

Class	FYBSc
Subject Code	71430
Subject Name	BO:113: Practical Paper III
Semester No	Annual

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	2	3	3	3	2	2	2	3	3	2	1	3
CO2	2	3	2	2	2	3	2	3	3	3	2	2

Teacher Name		Sudhir Bale	CO3	3	2	2	3	2	3	3	2	2	2	2	2
Course Outcomes			CO4	2	3	3	2	3	2	3	3	3	2	3	1
	CO1	Able to understands Modifications of root and stem, types of leafs, inflorescence, etc.	CO5	2	1	3	2	3	1	3	2	1	1	2	1
	CO2	Able to understands flower and its whorls, types of fruits.	Average	2.20	2.40	2.60	2.40	2.40	2.20	2.60	2.60	2.40	2.00	2.00	1.80
	CO3	Able to understands internal structure of root, stem and leaf of dicot and monocot.													
	CO4	Able to understands *Spirogyra, Albugo, Riccia, Nepholepis* and *Cycas*													
	CO5	Able to understands, plant resource industry, Plant propogation, tissue culture , Mushroom cultivation etc.													

Academic Year :	2018-19

Class	SYBSc
Subject Code	81411
Subject Name	Angiosperm Taxonomy & Plant Community
Semester No	III
Teacher Name	Prof. Abhijit Kulkarni
Course Outcomes	
CO1	Students should know the concept of taxonomy and systematics
CO2	Classification systems, Bionomial Nomenclature and taxonomic tools
CO3	Study of plant families from Polypetalae, Gamopetalae ,Achlamydae and monocots
CO4	Students should get the knowlwdge of Computers in taxonomy
CO5	Students should know the concept of ecological grouping of plants

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	2	2	2	2	3	3	3
CO2	3	3	3	3	3	2	2	3	2	3	3	3
CO3	3	3	3	3	3	3	1	1	1	2	2	3
CO4	3	3	3	3	3	3	3	3	2	2	3	3
CO5	3	3	3	3	3	2	2	3	1	2	2	3
Average	3.00	3.00	3.00	3.00	3.00	2.40	2.00	2.40	1.60	2.40	2.60	3.00

Class	SYBSc
Subject Code	81421
Subject Name	Plant Physiology
Semester No	III
Teacher Name	Mr.Sagar Bawake
Course Outcomes	
CO1	Students will comprehend how vascular plants obtain water from the environment, concept of transpiration for absorption of water.

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

	CO2	Students will comprehend how plants acquire mineral nutrients from the soil, various plant growth regulators and plant growth mapping using arc auxonometer, etc.	Average	2.60	2.40	2.60	2.60	2.80	2.20	2.80	2.80	2.00	2.40	2.60	3.00
	CO3	Students will understands that how plants acquire nitrogen through their symbiosis with soil bacteria.													
	CO4	will understands that, seed dormancy, its impact on seed germination and overall production from crop plants.													
	CO5	Students will comprehend how plants are flowers by using various phytoharmones and concept of vernalization.													

Class	SYBSc	Course Outcomes	Program Outcomes									PSOs		
Subject Code	81412		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	Plant Anatomy and Embryology	CO1	3	3	3	3	2	2	3	2	2	3	3	3
Semester No	IV	CO2	3	3	3	3	3	3	2	2	2	3	3	3
Teacher Name	Prof. Abhijit Kulkarni	CO3	3	3	2	3	3	2	2	2	1	2	2	3
Course Outcomes		CO4	3	3	3	3	3	3	3	1	3	2	3	3
CO1	Students will learn the scope of anatomy and various tissue systems in plant body	CO5	3	3	3	3	3	2	3	3	2	2	2	3
CO2	Students will aquire knowledge about role of each tissue system in plant body	Average	3.00	3.00	2.80	3.00	2.80	2.40	2.60	2.00	2.00	2.40	2.60	3.00
CO3	Students will aquire knowledge about why plants grow to become big sized tree													
CO4	students will gain knowledge about development of male and female reproductive parts , production of gametes, fertilization and embryogenesis													
CO5	Students will learn about significance of double fertilization and triple fusion and various tyoes of endosperms													

Class	SYBSc	Course Outcomes	Program Outcomes									PSOs		
Subject Code	81422		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	Plant Biotechnolgy	CO1	3	2	3	3	2	1	3	3	2	3	3	3
Semester No	IV	CO2	2	2	2	2	3	2	3	3	1	3	3	3
Teacher Name	Mr. Sagar Bawake	CO3	3	3	3	3	3	2	2	3	2	2	2	3

Course Outcomes			CO4	3	2	2	2	3	3	3	2	3	2	3	3
	CO1	will provide an overview of the key enzymes like amylase, protease, lipase currently used in large scale industrial processes for food or other purposes as well as students will comprehend what is single cell protein and their application in day today life and there need to mankind	CO5	2	3	3	3	3	3	3	3	2	2	2	3
	CO2	understanding fermentation technolgy for production of various beverages, fermented food, how to do fermentation process etc.	Average	2.60	2.40	2.60	2.60	2.80	2.20	2.80	2.80	2.00	2.40	2.60	3.00
	CO3	learning about plant genetic engineering, there methods and application for plants better life free from diseses.													
	CO4	will provide knowledge about the environmental pollution, how to remediate that pollution from environment by using various plants.													
	CO5	students will well comprehense the nanotechnolgy and there application in agriculture.													

Class	SYBSc	Course Outcomes	Program Outcomes									PSOs		
Subject Code	81432		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	Practicals based on Theory courses (Paper I and II)	CO1	3	2	3	2	0	2	3	3	1	0	2	1
Semester No	Annual	CO2	2	3	2	3	3	2	3	3	2	1	1	3
Teacher Name	Prof. Abhijit Kulkarni	CO3	3	2	3	2	2	2	3	3	3	3	3	2
Course Outcomes		CO4	2	1	3	1	3	2	3	3	3	3	3	3
	CO1	Students have gained knowledge about various taxonomy terms and the tools used in taxonomy			3	2	2	2	3	3	2	2	2	2
	CO2	students have studied various plants belonging to various families			2.80	2.00	2.00	2.00	3.00	3.00	2.20	1.80	2.20	2.20
	CO3	Developed Ability to understands and interpretation of tetra sporangiate anther, various types of ovules and Study of dicot and monocot embryo.												
	CO4	Hands on training of instruments and learning process of plants tissue culture.												

	CO5	Hands on traing on Preparation & sterilization of MS medium, Surface sterilization and Inoculation of nodal sector, leaf, anther and maize embryo

Academic Year :	2018-19

Class		TYBSc
Subject Code		91413
Subject Name		Cryptogamic Botany
Semester No		III
Teacher Name		Prof. Nisha Godse
Course Outcomes		
	CO1	comprehension of introduction of cryptogams and its types
	CO2	Able to understand the core concept of thallophyta with examples
	CO3	Able to understand the basic concepts, characteristics,life cycle of Algae
	CO4	Able to understand the general concepts and thallus organization of fungi
	CO5	Able to understand the difference between Lower and Higher Cryptogmaic Plants

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	2	1	2	2	2	3	1	2	3	2	3	1
CO2	2	2	1	2	3	2	2	2	2	1	2	1
CO3	2	3	3	3	3	1	3	2	1	3	2	3
CO4	3	3	3	3	3	2	3	2	1	3	3	3
CO5	3	2	2	3	3	3	3	2	2	2	2	2
Average	2.40	2.20	2.20	2.60	2.80	2.20	2.40	2.00	1.80	2.20	2.40	2.00

Class		TYBSc Botany
Subject Code		91423
Subject Name		Cell and Molecular Biology
Semester No		III
Teacher Name		Sudhir Bale
Course Outcomes		
	CO1	Ability to understand basics of Cell Biology: Structure and functions of cell organells
	CO2	Ability to understand structure and function of nucleus and chromosomes
	CO3	Ability to understand molecular basis of life
	CO4	Ability to understand structure, replication, alterations in the genetic material

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	2	1	2	2	2	3	1	2	3	2	3	1
CO2	2	2	1	2	3	2	2	2	2	1	2	1
CO3	2	3	3	2	3	1	3	2	1	3	2	3
CO4	3	3	3	3	3	2	3	2	1	3	3	3
CO5	3	2	2	3	3	3	3	2	2	2	2	2
Average	2.25	2.25	2.25	2.25	2.80	2.20	2.40	2.00	1.80	2.20	2.40	2.00

	CO5	Ability to understand gene organization, transcription, translation and regulation of gene expression

Class		TYBSc
Subject Code		91433
Subject Name		Genetics and Evolution
Semester No		III
Teacher Name		Prof. Abhijit Kulkarni
Course Outcomes		
	CO1	Students will learn introduction to genetics and gert aquinted with various branches of genetics
	CO2	Problem solving related to Mendel's experiments will help students to learn applications of statistical tools
	CO3	Topics related to Cytogenetics will help students to know about chromosomal mutations and iits effects
	CO4	Students will get the knowlwdge of how earth originated and the events of evolution
	CO5	Knowledge of theories of organic evolution and formation of fossils will help them to study phylogenetic relationship

Course Outcome	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	1	1	1
CO2	3	3	3	3	3	2	3	2	2	1	2	1
CO3	3	3	3	3	3	3	3	3	3	2	2	2
CO4	3	3	3	3	3	3	3	3	3	2	2	1
CO5	3	3	3	2	3	3	3	2	3	1	2	2
Average	3.00	3.00	3.00	2.80	3.00	2.80	3.00	2.60	2.80	1.40	1.80	1.40

Class		TYBSc
Subject Code		91443
Subject Name		Spermatophyta and Palaeobotany
Semester No		III
Teacher Name		Prof. B. M. Gaykar
Course Outcomes		
	CO1	Origin of angiospermic plants and the various systems of classification will be understood by students.
	CO2	Students will learn characters & economic importance of families, thus, they will be able to identify plants on field & also learn techniques of preservation.
	CO3	Students will gain knowledge about classification, distribution, characters & life cycle of gymnosperms.
	CO4	Formation process and different types of fossils will be understood by students.
	CO5	

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	2	3	2	3	2	2	2	2	1	2	3	2
CO2	2	3	1	2	3	1	2	1	2	3	2	3
CO3	1	2	3	2	3	2	3	2	3	3	2	3
CO4	2	3	2	3	2	3	2	3	1	1	2	3
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	TYBSc
Subject Code	91453
Subject Name	Horticulture and Floriculture
Semester No	III
Teacher Name	Prof. Abhijit Kulkarni

Course Outcomes		
	CO1	Students will get the knowledge about horticultural plants, its marketing
	CO2	students will get aquinted with methods of propagation of horticultural plants
	CO3	students will get the knowledge about how pruning and traning of horticultural crops
	CO4	production of dry flowers , cut flowers for market
	CO5	concept of ornamental plants, vegetable and fruit gardening

Course Outcome	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	2	2	2	3	3	3	2	1	2	2	2	2
CO2	3	2	2	2	2	3	2	2	2	2	2	3
CO3	2	3	3	3	2	3	2	3	3	3	3	2
CO4	2	2	3	2	2	2	2	2	2	3	3	2
CO5	2	2	3	2	2	2	2	2	2	3	3	2
Average	2.20	2.20	2.60	2.40	2.20	2.60	2.00	2.00	2.20	2.60	2.60	2.20

Class	TYBSc
Subject Code	91463
Subject Name	Computational Botany
Semester No	III
Teacher Name	Dr. Prasad Lamrood

Course Outcomes		
	CO1	Students will get introduced with Biostatistics, various terms, sample and methods
	CO2	Students will know about sampling the data and representation of data
	CO3	Central tendancy and Various measures , measures of dispersion
	CO4	Concept of probability, types, statistical tests to compare mean, correlation and regression
	CO5	Various seed testing, plant growth indices, vegetation data analysis, satellite data analysis and indices

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	2	2	2	3	3	3	2	1	2	2	2	2
CO2	3	2	2	2	2	3	2	2	2	2	2	3
CO3	2	3	3	3	2	3	2	3	3	3	3	2
CO4	2	2	3	2	2	2	2	2	2	3	3	2
CO5	2	2	3	2	2	2	2	2	2	3	3	2
Average	2.20	2.20	2.60	2.40	2.20	2.60	2.00	2.00	2.20	2.60	2.60	2.20

Class	TYBSc
Subject Code	91414
Subject Name	Plant Physiology and Biochemistry

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	2	2	3	2	3	1	2	3	1	2	2	3

Semester No	IV	CO2	1	3	2	3	1	2	3	2	3	1	2	3
Teacher Name	Prof. B. M. Gaykar	CO3	3	2	1	1	2	3	2	3	1	2	1	2
Course Outcomes		CO4	2	3	2	1	2	3	2	1	2	2	3	2
CO1	Different mineral elements utilized by plants for their growth and the amount in which they are utilized will be understood by students.	CO5	2	3	2	2	2	2	3	1	2	2	2	3
CO2	Students will learn about different metabolic cycles used by plants in different conditions and their significance.	Average	2.00	2.60	2.00	1.80	2.00	2.20	2.40	2.00	1.80	1.80	2.00	2.60
CO3	Students will learn about the process of translocation of food within the plant body.													
CO4	Types of plant growth regulators													
CO5	Plant growth's role and the concept of photomorphogenesis will be understood by students.													

Class	TYBSc	Course Outcomes	Program Outcomes									PSOs		
Subject Code	91424		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	Plant Ecology and Biodiversity	CO1	2	2	3	2	3	3	1	3	2	3	3	2
Semester No	VI	CO2	2	2	3	3	2	2	2	2	2	2	2	3
Teacher Name	Dr. Nisha Godse	CO3	3	3	2	3	2	2	2	2	2	2	2	3
Course Outcomes		CO4	3	2	2	2	2	2	1	2	1	3	2	2
CO1	Students will understand the core concepts of Plant Ecology	CO5	3	2	3	2	1	2	2	1	2	1	2	2
CO2	will able to understand the basic concepts of Biodiversity	Average	2.60	2.20	2.60	2.40	2.00	2.20	1.60	2.00	1.80	2.20	2.20	2.40
CO3	Will able to understand the types of Pollution and its control measures													
CO4	will able to understand the Biodiversity variation at the genetic,Species and ecosystem level													
CO5	Will able to understand differecnce Between Ex-Situ and In-situ Conservation													

Class	TYBSc	Course Outcomes	Program Outcomes									PSOs		
Subject Code	91434		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
Subject Name	Plant Pathology	CO1	3	2	3	2	3	2	2	2	2	2	2	2
Semester No	IV	CO2	2	2	2	3	3	3	2	2	3	2	3	2
Teacher Name	Prasad Y. Lamrood	CO3	2	3	2	2	2	2	3	3	2	3	2	3
Course Outcomes		CO4	2	2	3	2	2	2	2	2	2	3	3	2

	CO1	Students learnt about fundamentals of Plant pathology, basic terminologies, COntributions of Scients and Indian Institutes
	CO2	Concept of disease development and various defense stratgies exerted by the plant
	CO3	Various parasitic Plant diseases and method for studying them.
	CO4	Concept and types of non-parasitic diseases
	CO5	Vaious method of plant disease control.

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO5	2	2	3	2	2	2	2	2	2	3	3	2
Average	2.20	2.20	2.60	2.20	2.40	2.20	2.20	2.20	2.20	2.60	2.60	2.20

Class	T.Y.B.Sc.
Subject Code	91444
Subject Name	Medicinal and Economic Botany
Semester No	IV
Teacher Name	Mr. Sagar Bawake

Course Outcomes

	CO1	Students will understands the concept of Pharmacognosy, classification of drugs.
	CO2	Ability to understands Tridosha Concept as well as ayurvedic principles, and Ayurvrdic formulations.
	CO3	Ability to understands Drug adulteration,Methods of extraction, Methods of drug evaluation.
	CO4	Ability to understands medicinally important drugs.
	CO5	Ability to understands Ethnobotany, Concept of Economic Botany.

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	2	1	3	3	2	3	3	3	3	2	3	2
CO2	3	3	3	3	3	2	3	3	3	3	3	3
CO3	3	3	3	3	2	2	3	3	2	3	3	2
CO4	2	2	3	3	3	2	3	3	3	3	3	3
CO5	2	3	3	3	2	2	2	2	2	3	2	3
Average	2.40	2.40	3.00	3.00	2.40	2.20	2.80	2.80	2.60	2.80	2.80	2.60

Class	TYBSc
Subject Code	91454
Subject Name	Plant Biotechnology
Semester No	VI
Teacher Name	Sudhir Bale

Course Outcomes

	CO1	Ability to understand Plant tissue culture technique
	CO2	Ability to understand concept of germplasm conservation & preservation
	CO3	Ability to understand concept of transgenic plants as bioreactors

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	3	2	1	1	3	2	2	2	1	1	2	3
CO2	1	3	2	2	2	1	3	2	3	2	3	2
CO3	2	1	2	3	1	3	2	1	2	3	1	2
CO4	2	2	3	2	2	2	2	3	2	3	3	3
CO5	2	2	2	2	2	2	2	2	3	2	2	1
Average	2.00	2.00	2.00	2.00	2.00	2.00	2.20	2.00	2.20	2.20	2.20	2.20

	CO4	Ability to understand biotechnology of Biological nitrogen fixation
	CO5	Ability of understand biotechnology & Society and Bioinformatics etc

Class	TYBSc
Subject Code	91464
Subject Name	Plant Breeding and Seed Technology
Semester No	IV
Teacher Name	Prof. Abhijit Kulkarni

Course Outcomes		
	CO1	Students will get the knowledge about objectives, scope and methods of plant improvement
	CO2	Students will get the knowledge about origin and production of polyploids and aneuploids for developing new varieties
	CO3	Students will get aquinted with seed technology, scope and marketing of seeds
	CO4	they will get the knowledge about seed certification, seed testing and seed production
	CO5	Study of seed pathology and occurance of seed pests and diseases will help them to identify and select healthy seed

Course Outcome	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	3	3	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	2	3	2	2	3	2
CO5	3	3	3	3	3	2	3	3	3	3	3	3
Average	3.00	3.00	3.00	3.00	3.00	2.80	2.80	3.00	2.80	2.80	3.00	2.80

Class	TYBSc
Subject Code	91474
Subject Name	Botany Practical on BO331, BO 332, BO 341, BO 345
Semester No	V
Teacher Name	Prof. Abhijit Kulkarni

Course Outcomes		
	CO1	Students will get practical knowledge of diversity in cryptogams
	CO2	Students will learn the technique to study chromosome morphology & Karyotype analysis
	CO3	Students will get hands on training in isolation and estimation of DNA and RNA

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	3	3	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3	3	3
CO4	2	2	2	2	2	2	2	2	2	2	2	2
CO5	3	3	3	3	3	3	3	3	3	3	3	3
Average	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80

	CO4	Studnets will learn techniues to study plant tissues in detail
	CO5	Stuents will get aquinted with how cell cycle operates and its significance in reproductive biology

Class		TYBSc
Subject Code		91484
Subject Name		Practical II Based on BO 333,334,335
Semester No		IV
Teacher Name		Sudhir Bale
Course Outcomes		
	CO1	Ability to understand problems on genetics, Polytene chromosomes, translocation studies
	CO2	Ability to understand anatomy of gymnosperms, fossile specimens
	CO3	Ability to understand BOD, physiochemical properties of water, pH etc
	CO4	Ability to understand ecological data with the help of GPS and geographical maps
	CO5	Ability to understand Hybridization techniques, mutation breeding,seed processing etc.

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	3	2	1	1	3	2	2	2	1	1	2	3
CO2	1	3	2	2	2	1	3	2	3	2	3	2
CO3	2	1	2	3	1	3	2	1	2	3	1	2
CO4	2	2	3	2	2	2	2	3	2	3	3	3
CO5	2	2	2	2	2	2	2	2	3	2	2	1
Average	2	2	2	2	2	2	2.2	2	2.2	2.2	2.2	2.2

Class		TYBSc
Subject Code		91494
Subject Name		BO 349: Botany Practical on BO 335, BO 336, BO 343, BO 344
Semester No		VI
Teacher Name		Prasad Y. Lamrood
Course Outcomes		
	CO1	Students will learn to isolate and culture the pathogene
	CO2	Will learn about various plant diseases by macro and micromorphology.
	CO3	Will learn to prepare Bordeaux mixture and paste, Jivamrut, Learn about Koch's postulate

Course Outcomes	Program Outcomes									PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CO1	3	2	3	1	2	2	2	3	2	2	1	2
CO2	2	3	2	2	2	2	3	2	3	2	2	3
CO3	2	2	2	3	3	3	2	1	2	2	2	2
CO4	2	2	3	3	2	2	2	3	2	3	3	2
CO5	2	2	2	2	2	2	2	2	3	2	2	3
Average	2.20	2.20	2.40	2.20	2.20	2.20	2.20	2.20	2.40	2.20	2.00	2.40

	CO4	Learn about geological time scale and various fossile tupes, Organic evolution
	CO5	Numerical problems on Population genetics

CO-PO Mapping

			Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
		1	71410	2.00	2.20	2.00	2.00	2.00	2.00	2.00	2.20	2.40
		2	71420	2.20	2.20	2.40	2.00	2.20	2.00	2.60	2.20	2.60
		3	71410	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
		4	71420	2.40	2.40	2.20	2.60	2.40	2.20	2.60	2.60	2.40
FY	FY	5	71430	2.20	2.40	2.60	2.40	2.40	2.20	2.60	2.60	2.40
		1	81411	3.00	3.00	3.00	3.00	3.00	2.40	2.00	2.40	1.60
		2	81421	2.60	2.40	2.60	2.60	2.80	2.20	2.80	2.80	2.00
		3	81412	3.00	3.00	2.80	3.00	2.80	2.40	2.60	2.00	2.00
		4	81422	2.60	2.40	2.60	2.60	2.80	2.20	2.80	2.80	2.00
SY	SY	5	81432	0.00	0.00	2.80	2.00	2.00	2.00	3.00	3.00	2.20
		1	91413	2.40	2.20	2.20	2.60	2.80	2.20	2.40	2.00	1.80
		2	91423	2.25	2.25	2.25	2.25	2.80	2.20	2.40	2.00	1.80
		3	91433	3.00	3.00	3.00	2.80	3.00	2.80	3.00	2.60	2.80
		4	91443	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
		5	91453	2.20	2.20	2.60	2.40	2.20	2.60	2.00	2.00	2.20
		6	91463	2.20	2.20	2.60	2.40	2.20	2.60	2.00	2.00	2.20
		7	91414	2.00	2.60	2.00	1.80	2.00	2.20	2.40	2.00	1.80
		8	91424	2.60	2.20	2.60	2.40	2.00	2.20	1.60	2.00	1.80
		9	91434	2.20	2.20	2.60	2.20	2.40	2.20	2.20	2.20	2.20
		10	91444	2.40	2.40	3.00	3.00	2.40	2.20	2.80	2.80	2.60
		11	91454	2.00	2.00	2.00	2.00	2.00	2.00	2.20	2.00	2.20
		12	91464	3.00	3.00	3.00	3.00	3.00	2.80	2.80	3.00	2.80
		13	91474	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
		14	91484	2.00	2.00	2.00	2.00	2.00	2.00	2.20	2.00	2.20
TY	TY	15	91494	2.20	2.20	2.40	2.20	2.20	2.20	2.20	2.20	2.40

CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
0.826667	0.909333	0.826667	0.826666667	0.826667	0.826667	0.826667	0.909333	0.992
1.144	1.144	1.248	1.04	1.144	1.04	1.352	1.144	1.352
0.826667	0.826667	0.826667	0.826666667	0.826667	0.826667	0.826667	0.826667	0.826667
1.248	1.248	1.144	1.352	1.248	1.144	1.352	1.352	1.248
1.144	1.248	1.352	1.248	1.248	1.144	1.352	1.352	1.248
3	3	3	3	3	2.4	2	2.4	1.6
1.352	1.248	1.352	1.352	1.456	1.144	1.456	1.456	1.04
3	3	2.8	3	2.8	2.4	2.6	2	2
1.074667	0.992	1.074667	1.074666667	1.157333	0.909333	1.157333	1.157333	0.826667
0	0	2.8	2	2	2	3	3	2.2
1.248	1.144	1.144	1.352	1.456	1.144	1.248	1.04	0.936
1.17	1.17	1.17	1.17	1.456	1.144	1.248	1.04	0.936
3	3	3	2.8	3	2.8	3	2.6	2.8
2	2	2	2	2	2	2	2	2
2.2	2.2	2.6	2.4	2.2	2.6	2	2	2.2
2.2	2.2	2.6	2.4	2.2	2.6	2	2	2.2
1.04	1.352	1.04	0.936	1.04	1.144	1.248	1.04	0.936
1.352	1.144	1.352	1.248	1.04	1.144	0.832	1.04	0.936
1.848	1.848	2.184	1.848	2.016	1.848	1.848	1.848	1.848
1.248	1.248	1.56	1.56	1.248	1.144	1.456	1.456	1.352
1.04	1.04	1.04	1.04	1.04	1.04	1.144	1.04	1.144
1.56	1.56	1.56	1.56	1.56	1.456	1.456	1.56	1.456
2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
1.68	1.68	1.68	1.68	1.68	1.68	1.848	1.68	1.848
2.2	2.2	2.4	2.2	2.2	2.2	2.2	2.2	2.4

Percentage CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
52	52	52	52	52	52	52	52	52
41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52
100	100	100	100	100	100	100	100	100
52	52	52	52	52	52	52	52	52
100	100	100	100	100	100	100	100	100
41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
#DIV/0!	#DIV/0!	100	100	100	100	100	100	100
52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52
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
52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52
84	84	84	84	84	84	84	84	84
52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52
100	100	100	100	100	100	100	100	100
84	84	84	84	84	84	84	84	84
100	100	100	100	100	100	100	100	100

CO-PSO MAPPING

		Course	PSO1	PSO2	PSO3
FY	1	71410	1.40	1.40	1.80
	2	71420	2.20	2.00	1.80
	3	71410	2.00	2.00	2.00
	4	71420	2.00	2.00	1.80
	5	71430	2.00	2.00	1.80
SY	1	81411	2.40	2.60	3.00
	2	81421	2.40	2.60	3.00
	3	81412	2.40	2.60	3.00
	4	81422	2.40	2.60	3.00
	5	81432	1.80	2.20	2.20
TY	1	91413	2.20	2.40	2.00
	2	91423	2.20	2.40	2.00
	3	91433	1.40	1.80	1.40
	4	91443	2.00	2.00	2.00
	5	91453	2.60	2.60	2.20
	6	91463	2.60	2.60	2.20
	7	91414	1.80	2.00	2.60
	8	91424	2.20	2.20	2.40
	9	91434	2.60	2.60	2.20
	10	91444	2.80	2.80	2.60
	11	91454	2.20	2.20	2.20
	12	91464	2.80	3.00	2.80
	13	91474	2.80	2.80	2.80
	14	91484	2.20	2.20	2.20
	15	91494	2.20	2.00	2.40

CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
71410	0.578667	0.578667	0.744
71420	1.144	1.04	0.936
71410	0.826667	0.826667	0.826667
71420	1.04	1.04	0.936
71430	1.04	1.04	0.936
81411	2.4	2.6	3
81421	1.248	1.352	1.56
81412	2.4	2.6	3
81422	0.992	1.074667	1.24
81432	1.8	2.2	2.2
91413	1.144	1.248	1.04
91423	1.144	1.248	1.04
91433	1.4	1.8	1.4
91443	2	2	2
91453	2.6	2.6	2.2
91463	2.6	2.6	2.2
91414	0.936	1.04	1.352
91424	1.144	1.144	1.248
91434	2.184	2.184	1.848
91444	1.456	1.456	1.352
91454	1.144	1.144	1.144
91464	1.456	1.56	1.456
91474	2.8	2.8	2.8
91484	1.848	1.848	1.848
91494	2.2	2	2.4

Percentage CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
71410	41.33333	41.33333	41.33333
71420	52	52	52
71410	41.33333	41.33333	41.33333
71420	52	52	52
71430	52	52	52
81411	100	100	100
81421	52	52	52
81412	100	100	100
81422	41.33333	41.33333	41.33333
81432	100	100	100
91413	52	52	52
91423	52	52	52
91433	100	100	100
91443	100	100	100
91453	100	100	100
91463	100	100	100
91414	52	52	52
91424	52	52	52
91434	84	84	84
91444	52	52	52
91454	52	52	52
91464	52	52	52
91474	100	100	100
91484	84	84	84
91494	100	100	100