

"Education for Knowledge, Science, and Culture"

- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur
(Autonomous)



KOLHAPUR (AUTONOMOUS)

Department of Botany

Annual Teaching Plan

2023-2024



"Education for Knowledge, Science, and Culture"

- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur
(Autonomous)



KOLHAPUR (AUTONOMOUS)

Department of Botany

Annual Teaching Plan

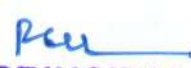
2023-2024

INDEX

Sr. No.	Name of Faculty	Page No.
1	Dr. B. T. Dangat	01-10
2	Dr. A. R. Kasarkar	11-14
3	Dr. J. M. Gorule	15-17
4	Dr. A. R. Alvikar	18-19
5	Dr. P. D. Patil	20-22
6	Dr. L. A. Kagale	23-24
7	Dr. M. N. Desai	25-27
8	Dr. S. B. Koparde	28-29
9	Dr. P. P. Jadhav	30
10	Dr. S. S. Wadkar	31-32
11	Mrs. P. B. Shelar	33-34
12	Dr. U. A. Desai	35-36


Head
Department of Botany
Vivekanand College
Kolhapur




Principal
Vivekanand College
Kolhapur.

Annual Teaching Plan (2023-24)

Department of Botany

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Bhaurav Tukaram Dangat**

Programme: **B.Sc. I**

Semester: **I**

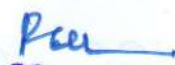
Subject: **Botany**

Paper No.: **DSC03BOT12**

Course Title: **"Plant Morphology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit. I: General organization of plant body	1a: Root System- introduction, types and modification of root with one example each
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit. I: General organization of plant body	1b: Shoot System- introduction, types and modification of stem with one example each
04	04	08		
Month: October			Module/Unit:	Sub-units planned
04	04	08	Unit. I: General organization of plant body	1c: Leaf- introduction, types- simple and complex, phyllotaxy, leaf venation and modification of stem with one example each
Practical's (Plant Morphology + OE (Agri based microenterprises)				

Name and Signature of Teacher


Principal
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Bhaurav Tukaram Dangat**

Programme: **B.Sc. II**

Semester: **III**

Subject: **Botany**

Paper: **DSC 1007 C**

Course Title: **"Taxonomy, Embryology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit IV: Plant Families	Morphological, floral distinguishing characters and economic importance of following families i) Annonaceae ii) Meliaceae
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit IV: Plant Families	Morphological, floral distinguishing characters and economic importance of following families iii) Apocynaceae iv) Lamiaceae
04	04	08		
Month: October			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit IV: Plant Families	Morphological, floral distinguishing characters and economic importance of following families v) Amaranthaceae vi) Orchidaceae
04	04	08		

Name and Signature of Teacher


Principal
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Bhaurav Tukaram Dangat**

Programme: **B.Sc. II**

Semester: **III**

Subject: **Plant Protection**

Paper: **DSC-1012 C2**

Course Title: **"General Agriculture and Plant pathology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit I: Crop Diseases	1a: Introduction and importance of Plant Pathology. 1b: Definition and concept of disease, Terminologies used in Plant Pathology: Host, Pathogen, Inoculum, Virulence, Pathogenecity, Pathogenesis, Prediposition, Symptoms, Infection, Incubation period, Etiology, Disease cycle, Resistance, Susceptibility, Immunity, Hypersensitivity, Cross protection, Phytoalexins, Siderophores , Inoculum potential, Dissemination , Virus, Mycoplasma, Viroid.
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit I: Crop Diseases	1c: Classification of plant diseases – Based on a) Pathogens, b) Symptoms, c) Severity, spread and occurrence of disease d) transmission of pathogens through e) Host f) Cause (Biotic, Abiotic and Mesobiotic) g) epidemiology 1d. Symptoms and signs of plant diseases (Chlorosis, Necrosis, Mildew, Rust and Smuts)
04	04	08		

Month: October			Module/Unit:	Sub-units planned
04	04	08	Unit I: Crop Diseases	1e: Methods of studying plant pathogens and Koch's Postulates a) Isolation of Fungi and Bacteria b) Methods of purification of Fungi and Bacteria c) Koch's Postulates

Name and Signature of Teacher

P. S. S.
PRINCIPAL
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: 2023-2024

Name of the teacher: **Dr. Bhaurav Tukaram Dangat**

Programme: **B.Sc. III**

Semester: **V**

Subject: **Botany**

Paper No.: **VI**

Course Title: **"Taxonomy, Embryology and Plant Physiology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Section - II Unit: II System of Classification:	2a: Phylogeny of Angiosperms, The general account of origin of Angiosperms(with reference to Gnetalean theory)
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit: II System of Classification:	2b: Classification system of Takhtajan, Brief reference of Angiosperm Phylogeny Group (APG-III) classification (2009)
04	04	08		
Month: October			Module/Unit:	Sub-units planned
04	04	08	Unit: II System of Classification:	2c: Ranks of IUCN and methods of Conservation.

Name and Signature of Teacher


Principal
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Bhaurav Tukaram Dangat**

Programme: **B.Sc. I**

Semester: **I**

Subject: **Botany**

Paper No.: **DSC03BOT12**

Course Title: **"Plant Morphology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit. I: General organization of plant body	1a: Root System- introduction, types and modification of root with one example each
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit. I: General organization of plant body	1b: Shoot System- introduction, types and modification of stem with one example each
04	04	08		
Month: October			Module/Unit:	Sub-units planned
04	04	08	Unit. I: General organization of plant body	1c: Leaf- introduction, types-simple and complex, phyllotaxy, leaf venation and modification of stem with one example each
	Practical's (Plant Morphology + OE (Agri based microenterprises)			

Name and Signature of Teacher


PRINCIPAL
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Bhaurav Tukaram Dangat**

Programme: **B.Sc. II**

Semester: **III**

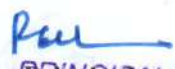
Subject: **Botany**

Paper: **DSC 1007 C**

Course Title: **"Taxonomy, Embryology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit IV: Plant Families	Morphological, floral distinguishing characters and economic importance of following families i) Annonaceae ii) Meliaceae
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit IV: Plant Families	Morphological, floral distinguishing characters and economic importance of following families iii) Apocynaceae iv) Lamiaceae
04	04	08		
Month: October			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit IV: Plant Families	Morphological, floral distinguishing characters and economic importance of following families v) Amaranthaceae vi) Orchidaceae
04	04	08		

Name and Signature of Teacher


Principal
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Bhaurav Tukaram Dangat**

Programme: **B.Sc. II**

Semester: **III**

Subject: **Plant Protection**

Paper: **DSC-1012 C2**

Course Title: **"General Agriculture and Plant pathology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit I: Crop Diseases	1a: Introduction and importance of Plant Pathology. 1b: Definition and concept of disease, Terminologies used in Plant Pathology: Host, Pathogen, Inoculum, Virulence, Pathogenecity, Pathogenesis, Prediposition, Symptoms, Infection, Incubation period, Etiology, Disease cycle, Resistance, Susceptibility, Immunity, Hypersensitivity, Cross protection, Phytoalexins, Siderophores, Inoculum potential, Dissemination, Virus, Mycoplasma, Viroid.
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit I: Crop Diseases	1c: Classification of plant diseases – Based on a) Pathogens, b) Symptoms, c) Severity, spread and occurrence of disease d) transmission of pathogens through e) Host f) Cause (Biotic, Abiotic and Mesobiotic) g) epidemiology 1d. Symptoms and signs of plant diseases (Chlorosis, Necrosis, Mildew, Rust and Smuts)
04	04	08		

Month: October			Module/Unit:	Sub-units planned
04	04	08	Unit I: Crop Diseases	1e: Methods of studying plant pathogens and Koch's Postulates a) Isolation of Fungi and Bacteria b) Methods of purification of Fungi and Bacteria c) Koch's Postulates

Name and Signature of Teacher

Principal
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Bhaurav Tukaram Dangat**

Programme: **B.Sc. III**

Semester: **V**

Subject: **Botany**

Paper No.: **VI**

Course Title: **"Taxonomy, Embryology and Plant Physiology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Section - II Unit: II System of Classification:	2a: Phylogeny of Angiosperms, The general account of origin of Aniosperms(with reference to Gnetalean theory)
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit: II System of Classification:	2b: Classification system of Takhtajan, Brief reference of Angiosperm Phylogeny Group (APG-III) classification (2009)
04	04	08		
Month: October			Module/Unit:	Sub-units planned
04	04	08	Unit: II System of Classification:	2c: Ranks of IUCN and methods of Conservation.

Name and Signature of Teacher

Pee
Principal
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur. (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Abhijeet Rajaram Kasarkar**

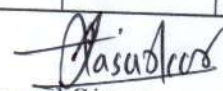
Programme: **B. Sc. I**

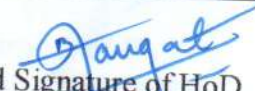
Semester: **I**

Subject: **Botany**

Course Title: **"Plant Morphology"**

Month: July			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Study of Flower Practical I and II	3a. Definition and parts of a typical flower 3b. Symmetry and insertion of floral whorls.
03	04	07		
Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Study of Flower Practical I and II	3a. Definition and parts of a typical flower 3b. Symmetry and insertion of floral whorls.
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Study of Flower Practical I and II	3c. Calyx and corolla-forms, aestivation 3d. Perianth - types
Month: October			Module/Unit:	Sub-units planned
03	04	07	Unit III: Study of Flower Practical I and II	3e. Androecium- parts and types 3f. Gynoecium -parts, arrangement and types of placentation.
Month: November			Module/Unit:	Sub-units planned
02	02	04	Unit IV: Study of Fruit Practical I and II	4a. Introduction. 4b. Types with one example of each


 Name and Signature of Teacher
 (Dr. A. R. Kasarkar)


 Name and Signature of HoD
 Head
 Department of Botany
 Vivekanand College
 Kolhapur

Vivekanand College, Kolhapur. (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Abhijeet Rajaram Kasarkar**

Programme: **B. Sc. II**

Semester: **III**

Subject: **Botany**

Course Title: **"Taxonomy, Embryology and Plant Physiology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section : I Unit III: Taxonomic Literature Practical I and II	3a. Study of flora, Monograph.
03	04	07		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Taxonomic Literature Practical I and II	3a. Study of Revisions, Mannunals, Journals.
04	04	08		
Month: October			Module/Unit:	Sub-units planned
03	04	07	Unit III: Taxonomic Literature Practical I and II	3a. Study of Periodicals, Reference Books, Research Paper.
Month: November			Module/Unit:	Sub-units planned
02	02	04	Unit III: Taxonomic Literature Practical I and II	3a. Study of, Websites and Catalogue's.

Name and Signature of Teacher
 (Dr. A. R. Kasarkar)

Name and Signature of HoD
 Head
 Department of Botany
 Vivekanand College
 Kolhapur

Vivekanand College, Kolhapur. (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Abhijeet Rajaram Kasarkar**

Programme: **B. Sc. II**

Semester: **III**

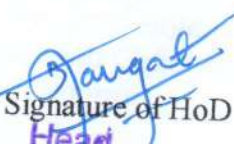
Subject: **Plant Protection**

Course Title: **"General Agriculture and Plant Pathology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section : I Unit IV: Methods of Plant Protection - II Practical I	4a. Study of chemical methods of plant protection- Bactericides, Fungicides, Nematicides, Acaricides.
03	04	07		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Methods of Plant Protection - II Practical I	4a. Study of chemical methods of plant protection- Molluscicides, Rodenticides. 4b. Biological methods- Use of Fungi , Bacteria
04	04	08		
Month: October			Module/Unit:	Sub-units planned
04	04	08	Unit IV: Methods of Plant Protection - II Practical I	4b. Biological methods- Use of Insect and Virus 4c. Legal Methods.
Month: November			Module/Unit:	Sub-units planned
02	02	04	Unit IV: Methods of Plant Protection - II Practical I	4d. Crop resistance.



Name and Signature of Teacher
 (Dr. A. R. Kasarkar)


 Name and Signature of HoD
 Head
 Department of Botany
 Vivekanand College
 Kolhapur

Vivekanand College, Kolhapur. (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Abhijeet Rajaram Kasarkar**

Programme: **B. Sc. III**

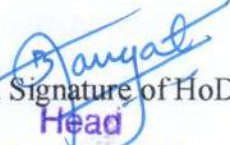
Semester: **V**

Subject: **Botany**

Course Title: **"Plant Systematics and Paleobotany"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section : II Unit III: Plant Families Practical II	3a. Study of plant families : Anacardiaceae, Fabaceae
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Plant Families Practical II	3b. Study of plant families : Apiaceae, Rubiaceae
04	04	08		
Month: October			Module/Unit:	Sub-units planned
05	04	09	Unit III: Plant Families Practical II	3b. Study of plant families : Acanthaceae, Euphorbiaceae
Month: November			Module/Unit:	Sub-units planned
04	02	06	Unit III: Plant Families Practical II	3b. Study of plant families : Poaceae


 Name and Signature of Teacher
 (Dr. A. R. Kasarkar)


 Name and Signature of HoD
 Head
 Department of Botany
 Vivekanand College
 Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Jyoti Mahadev Gorule**

Programme: **B. Sc. II** Semester: **III**

Subject: **Botany**

Course Title: **"Taxonomy, Embryology and Plant Physiology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section : I Unit II: Pollination and Fertilization Practical I and II	2a. Definition, Types and mechanism in Anemophily (<i>Zea mays</i>), Entomophily (<i>Calotropis</i>) and Hydrophily (<i>Vallisneria</i>), Mimicry (Orchid).
03	04	07		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit II: Pollination and Fertilization Practical I and II	2b. Fertilization: Entry of pollen tube, double fertilization and triple fusion. Significance of double fertilization.
04	04	08		
Month: October			Module/Unit:	Sub-units planned
03	04	07	Unit II: Pollination and Fertilization Practical I and II	2c. Structure and development of embryo in Monocotyledons.
Month: November			Module/Unit:	Sub-units planned
02	02	04	Unit II: Pollination and Fertilization Practical I and II	2d. Structure and development of embryo in Dicotyledons.

Name and Signature of Teacher

[Dr. Jyoti M. Gorule]

Name and Signature of HoD

[Signature]
 Department of Botany
 Vivekanand College
 Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Jyoti Mahadev Gorule**

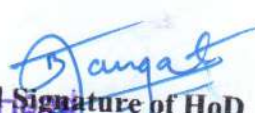
Programme: **B. Sc. II** Semester: **III**

Subject: **Plant Protection**

Course Title: **"General Agriculture and Plant Pathology"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section : I Unit I: Introduction of agriculture and study of major crops Practical I and II	1a. Introduction and importance of agriculture. 1b. Study of following crops of Maharashtra A. Cereal – Rice
03	04	07		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit I: Introduction of agriculture and study of major crops Practical I and II	B. Oil seed crop – Soybean C. Pulse crop – Gram
04	04	08		
Month: October			Module/Unit:	Sub-units planned
04	04	08	Unit I: Introduction of agriculture and study of major crops Section : II Unit IV: Phytopathological skills Practical I and II	D. Cash crop - Sugarcane 4a. Principles of plant disease management
Month: November			Module/Unit:	Sub-units planned
02	02	04	Unit IV: Phytopathological skills Practical I and II	4b. Classification of fungicides based on chemical nature and Mode of action.


 Name and Signature of Teacher
[Dr. Jyoti M. Gorule]


 Name and Signature of HoD
 Department of Botany
 Vivekanand College
 Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Jyoti Mahadev Gorule**

Programme: **B. Sc. III**

Semester: **V**

Subject: **Botany**

Course Title: **"Cytology and Research Techniques in LifeSciences & Microbiology, Plant Pathology and Bio fertilizers" And "Plant Biochemistry and Stress Physiology& Plants Systematics and Paleobotany"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section : II Unit II: Plant Pathology Practical	2a:Classification of plant diseases based on Pathogens, Crops and Symptoms.
04	04	08		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section : II Unit II: Plant Pathology Practical	2b:Study of Mechanism of Infection in Disease development(Biochemical changes),prevention and control of Plant Diseases. Role of Quarantine, Significance Of Plant Pathology.
04	04	08		
Month: October			Module/Unit:	Sub-units planned
05	04	09	Section : I Unit III: Stress physiology. Practical	3a:Defining Plant stress. 3b:Types of stress:-Water stress-Salinity strees, light stress,
Month: November			Module/Unit:	Sub-units planned
04	02	06	Section : I Unit III: Stress physiology. Practical	Temperature stress. 3c: Stress sensing mechanisms in plants, Calcium Signaling, Phospho lipid signaling

Name and Signature of Teacher

[Dr. Jyoti M. Gorule]

Name and Signature of HoD

Department of Botany
 Vivekanand College
 Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Annapurna Ram Alvikar**

Programme: **B. Sc. III**

Semester: **V**

Subject: **Botany**

Course Title: **"Cytology and Research Techniques in life sciences and Microbiology, Plant Pathology and Bio fertilizers"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section II: Unit I: Microbiology	Introduction, Methods in microbiology.
03	03	06		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit I: Microbiology	Methods in microbiology, Micro-organisms in biological world.
04	04	08		
Month: October			Module/Unit:	Sub-units planned
04	04	08	Unit I: Microbiology. Paper VI, Section I, Unit IV Senescence and Aging	Scope of Microbes in Industry and Environment. Introduction, Patterns of senescence.
Month: November			Module/Unit:	Sub-units planned
04	04	08	Unit IV- Senescence and Aging	Physical changes during senescence, Control of senescence.

Name and Signature of Teacher
(Dr. Annapurna R. Alvikar)

Name and Signature of HoD
Head
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Annapurna Ram Alvikar**

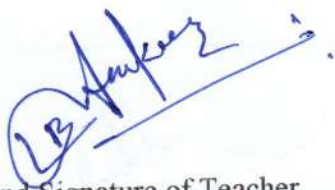
Programme: **B. Sc. II**

Semester: **III**

Subject: **Botany**

Course Title: - **"Plant Physiology"**

Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practical I and II	Practical I and II
--	04	04		
Month: October			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practical I and II	Practical I and II
--	04	04		
Month: November			Module/Unit:	Sub-units planned
--	04	04	Practical I and II	Practical I and II


Name and Signature of Teacher
(Dr. Annapurna R. Alvikar)


Name and Signature of HoD
Head
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Priya Digambar Patil**

Programme: **B. Sc. III**

Semester: **V**

Subject: **Botany**

Course Title: **"Cytology and Research Techniques in life sciences and Microbiology, Plant Pathology and Biofertilizers"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section I: Unit I1: Cell Organelles	Introduction, Eukaryotic cell components-Nucleus
02	--	02		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit I1: Cell Organelles	Eukaryotic cell components- Endoplasmic reticulum, Golgi complex
04	--	04		
Month: October			Module/Unit:	Sub-units planned
04	--	04	Unit I1: Cell Organelles	Glyoxisomes, Peroxisomes and Lysosomes- Structure, composition and functions Specialized cell organelle- Ribosome

Name and Signature of Teacher

(*Dr. Priya D. Patil*)

Name and Signature of HoD

D. Jangale
Head
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Priya Digambar Patil**

Programme: **B. Sc. II**

Semester: **III**

Subject: **Plant Protection**

Course Title: **"General Agriculture and Plant Pathology"**

Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II: Unit III: Study of crop diseases with reference to pathogen, symptoms, disease cycle and their management	Diseases caused by phytoplasma- Little leaf of Brinjal
04	--	04		Diseases caused by viruses- Tobacco mosaic virus
Month: October			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Study of crop diseases with reference to pathogen, symptoms, disease cycle and their management	Diseases caused by Bacteria- Oily spot of pomegranate
04	--	04		Diseases caused by Fungi- Rust of Soybean
Month: November			Module/Unit:	Sub-units planned
04	--	04	Unit III: Study of crop diseases with reference to pathogen, symptoms, disease cycle and their management	Diseases caused by Fungi- White rust of crucifers, Grain smut of Jowar, Tikka Disease of Groundnut

Name and Signature of Teacher

(Dr. Priya D. Patil)

Name and Signature of HoD

Head
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: 2023-2024

Name of the teacher: **Dr. Priya Digambar Patil**

Programme: **B. Sc. I**

Semester: **I**

Subject: **Botany**

Course Title: **"Basics in Botany"**

Month: July			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit II: General outline of plant kingdom	Study of characters of plant kingdom
02	--	02		
Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit II: General outline of plant kingdom	Study of classification of plant kingdom
04	--	04		
Month: September			Module/Unit:	Sub-units planned
02	--	02	Unit II: General outline of plant kingdom	Study of five divisions with respect to characters and economic importance
03		03	Unit IV: Organization of higher plant body	Plant organs (Root, Stem and Leaf) Development of plant body
Month: October			Module/Unit:	Sub-units planned
02	--	02	Unit IV: Organization of higher plant body	Internal organization
03		03		Study of tissue systems- Meristematic tissue, simple and complex tissue

Name and Signature of Teacher

(Dr. Priya D. Patil)

Name and Signature of HoD

Head
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Lubdha Abhijeet Kagale**

Programme: **B. Sc. III**

Semester: **V**

Subject: **Botany**

Course Title: **"Cytology and Research Techniques in life sciences and Microbiology, Plant Pathology and Biofertilizers"**

"Biochemistry and Plant Physiology and Plant Systematics and Paleobotany"

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Paper DSE7E1 Section I: Unit III: Analytical techniques in plant sciences	Principles of Microscopy, Light Microscopy, Fluorence Microscopy, Electron Microscopy (TEM and SEM) Chromatography- Principles- Paper chromatography, TLC and HPLC
07	--	07		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit III: Analytical techniques in plant sciences Paper DSE7E2 Section II: Plant Systematics and Paleobotany Unit- I: Importance of Plant Systematics	Micrometry, Microphotography, Electrophoresis Introduction, Evidences, Cytology, Phytochemistry and molecular data
07	--	07		
Month: October			Module/Unit:	Sub-units planned
07	--	07	Unit- I: Importance of Plant Systematics	Field inventory, Functions of Herbarium, Important Herbaria and Batanical gardens of the world and India

Name and Signature of Teacher

(Dr. Lubdha Abhijeet Kagale)

Name and Signature of HOD

(Dr. B. T. Dangat)

Head
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Lubdha Abhijeet Kagale**

Programme: **B. Sc. II**

Semester: **III**

Subject: **Plant Protection**

Course Title: **"General Agriculture and Plant Pathology"**

Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper: DSC 1012C2 General Agriculture and Plant Pathology Section I: Unit III: Methods of Plant Protection Part 1	Cultural methods- crop rotation, Tillage, trap crops, fertilizer applications, land fallowing, timely sowing, proper soil selection Mechanical Methods- Field sanitation, hand picking
04	--	04		
Month: October			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Methods of Plant Protection Part 1	Destruction of infected plants, egg masses, light traps, use of sticky bands, bagging for the pests, pheromone traps Physical methods: Heat and Solarization methods
04	--	04		
Month: November			Module/Unit:	Sub-units planned
03	--	03	Section II Plant Pathology Unit: II Mechanism of Plant Protection	Mechanism of infections (Fungi, Bacteria and viruses) Factors affecting infections

Name and Signature of Teacher

(Dr. Lubdha Abhijeet Kagale)

Name and Signature of HOD

(Dr. B. T. Dangat)
Head

Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Mrunalini Nilesh Desai**

Programme: **B. Sc. III**

Semester: **V**

Subject: **Botany**

Course Title: **"Cytology and Research Techniques in life sciences and Microbiology, Plant Pathology and Biofertilizers"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section II: Unit III: Study of Plant Diseases	Introduction, Cereals: Rust of Wheat
02	--	02		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit III: Study of Plant Diseases	Cashcrop: Red Rot of Sugarcane Legume: Wilt of Gram Spices: Leaf spot of Black Peeper
04	--	04		
Month: October			Module/Unit:	Sub-units planned
03	--	03	Unit III: Study of Plant Diseases	Vegetable: Onion Smut Fruit: Apple Scab



Name and Signature of Teacher

(Dr. Mrunalini N. Desai)



Name and Signature of HoD

Head
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: 2023-2024

Name of the teacher: **Dr. Mrunalini Nilesh Desai**

Programme: **B. Sc. II**

Semester: **III**

Subject: **Botany**

Course Title: **"Plant Physiology"**

Month: July			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit I: Plant Water Relationship	Introduction, Physiological importance of water
02	--	02		
Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit I: Plant Water Relationship	Water transport process: Mechanism of water absorption: Active and passive absorption theories Water transport through xylem and tracheids
02	--	02		
Month: September			Module/Unit:	Sub-units planned
02		02	Unit I: Plant Water Relationship	Transpiration: Definition, Types, Mechanism of stomatal movement, Starch sugar hypothesis
Month: October			Module/Unit:	Sub-units planned
02		02	Unit I: Plant Water Relationship	Factors affecting transpiration, Significance of transpiration Anti transpirants

Name and Signature of Teacher

(Dr. Mrunalini N. Desai)

Name and Signature of HoD

Head
 Department of Botany
 Vivekanand College
 Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Mrunalini Nilesh Desai**

Programme: **B. Sc. II**

Semester: **III**

Subject: **Plant Protection**

Course Title: **"General Agriculture and Plant Pathology"**

Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section I:	
04	--	04	Unit II: Study of crops with reference gross morphology, economic importance, soil, field preparation, cultivars, seed sowing, interculture operations, fertilizers, irrigation, intercropping, yield, major diseases and pests.	Fruit Crop: Mango Vegetable crop: Brinjal
Month: October			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit II: Study of crops with reference gross morphology, economic importance, soil, field preparation, cultivars, seed sowing, interculture operations, fertilizers, irrigation, intercropping, yield, major diseases and pests.	Spice: Turmeric Floriculture: Rose
Month: November			Module/Unit:	Sub-units planned
02	--	02	Section II Plant Pathology Unit IV: Phytopathological Skills	Principles of plant disease management Classification of fungicides based on chemical nature and Mode of action



Name and Signature of Teacher

(Dr. Mrunalini N. Desai)

Name and Signature of HoD

Head
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Shital B. Koparde**

Programme: **B. Sc. III**

Semester: **V**

Subject: **Botany**

Course Title: **"Plant Biochemistry and Stress Physiology and Plant systematic and Paleobotany"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section I: Unit II: Lipid metabolism and Fatty acid metabolism	Introduction and classification of lipids.
03	2	05		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit II: Lipid metabolism and Fatty acid metabolism	Properties of fatty acids and unsaturated fatty acids. Beta oxidation
05	4	09		
Month: October			Module/Unit:	Sub-units planned
04	5	09	Unit II: Lipid metabolism and Fatty acid metabolism	Gluconeogenesis and role in mobilization of fatty acids during germination. Significance of lipids

Name and Signature of Teacher

(Dr. Shital B. Koparde)

Name and Signature of Head

(Dr. B. T. Dangat)
Head

Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Shital B. Koparde**

Programme: **B. Sc. II**

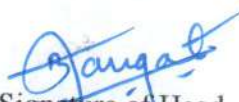
Semester: **III**

Subject: **Botany**

Course Title: **"Plant Physiology"**

Month: July			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Photosynthesis	Introduction: Ultrastructure of photosynthetic apparatus
02	02	04		
Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Photosynthesis	Photosynthetic pigments (Chlorophylls, carotenoids, phycobilins)
02	04	06		
Month: September			Module/Unit:	Sub-units planned
02	04	06	Unit III: Photosynthesis	Mechanism of photosynthesis: a) Light reactions b) Dark reactions
Month: October			Module/Unit:	Sub-units planned
02	04	06	Unit III: Photosynthesis	Adaptive pathway of photosynthesis C ₄ pathway and CAM Pathway. Significance of photosynthesis


 Name and Signature of Teacher
 (Dr. Shital B. Koparde)


 Name and Signature of Head
 (Dr. B. T. Dongat)
 Head
 Department of Botany
 Vivekanand College
 Kolhapur

Vivekanand College, Kolhapur (Autonomous)

**Department of Botany
Annual Teaching Plan**

Academic Year: **2023-2024**

Name of the teacher: **Dr. Priyanka Pravin Jadhav**

Programme: **B. Sc. III**

Semester: **V**

Subject: **Botany**

Course Title: **"Plant Biochemistry and Stress Physiology & Plant Systematics
& Paleobotany"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section I: Unit 1: Carbohydrate Metabolism	Introduction, and Classification of Carbohydrates
02	--	02		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit I: Carbohydrate Metabolism	Properties of Monosaccharides, Oligosaccharides, Polysaccharides, Significance of Carbohydrates
04	--	04		
Month: October			Module/Unit:	Sub-units planned
04	--	04	Unit 1: Carbohydrate Metabolism	Introduction properties and Characters of aminoacids. Protein structure and classification protein synthesis

Madhu

Name and Signature of Teacher

(Dr. Priyanka P. Jadhav)

Gangab
Name and Signature of HOD
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Snehal Sanjay Wadkar**

Programme: **B. Sc. II** Semester: **III**

Subject: **Botany**

Course Title: "**Taxonomy, Embryology and Plant Physiology**"

Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II: Unit IV: Respiration Practical I and II	Introduction Types of respiration
02	04	06		
Month: October			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Respiration Practical I and II	Glycolysis Formation of Acetyl Co A TCA cycle
03	04	07		
Month: November			Module/Unit:	Sub-units planned
03	04	07	Unit IV: Respiration Practical I and II	ETS in mitochondria Significance of respiration Factors affecting respiration

Name and Signature of Teacher

(Dr. S. S. Wadkar)

Name and Signature of HoD

Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching PlanAcademic Year: **2023-2024**Name of the teacher: **Dr. Snehal Sanjay Wadkar**Programme: **B. Sc. III**Semester: **V**Subject: **Botany**Course Title: **"Plant Biochemistry and Stress Physiology & Plants Systematics and Paleobotany"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section II: Unit IV: Paleobotany.	General account types of fossils, Geological time scale
02	04	06		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit IV: Paleobotany.	Study of following form genera with reference to systematic position, external morphology and affinities – <i>Lyginopteris</i> and <i>Enigmocarpon</i>
03	04	07		
Month: October			Module/Unit:	Sub-units planned
03	04	07	Unit IV: Paleobotany.	Applications of Paleobotany-Role of microfossils in oil and coal exploration.

Name and Signature of Teacher

(Dr. S. S. Wadkar)

Name and Signature of HoD

Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Miss. Pradnya Baban Shelar**

Programme: **B. Sc. III**

Semester: **V**

Subject: **Botany**

Course Title: **"Cytology and Research Techniques in life sciences and Microbiology, Plant Pathology and Biofertilizers"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section I: Unit I1: Cell as a unit of life	The cell theory, prokaryotic and Eukaryotic cells, Cell Size and shape
02	--	02		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit I1: Cell as a unit of life	Cell membrane and cell wall Models of membrane structure
04	--	04		
Month: October			Module/Unit:	Sub-units planned
04	--	04	Unit I1: Cell as a unit of life	The functions of membranes Cell cycle Apoptosis

Name and Signature of Teacher

(*Ms. Pradnya B. Shelar*)

Name and Signature of HoD

Gangadhar
Head
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Miss. Pradnya Baban Shelar**

Programme: **B. Sc. I**

Semester: **I**

Subject: **Botany**

Course Title: **"Basics in Botany"**

Month: July			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit I: Importance of plant	Role of plants in human welfare (Direct/Indirect)
02	--	02		Role of plants in ecological services
Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit I: Importance of plant	Role of plants in ecological services
02	--	02	Unit III: Study of following example with reference to occurrence, plant body and life cycle	Evolutionary history of plants
01	--	01		Study of Algae: <i>Nostoc</i>
Month: September			Module/Unit:	Sub-units planned
02	--	02	Unit III: Study of following example with reference to occurrence, plant body and life cycle	Study of Fungi: <i>Mucor</i>
03	--	03		Study of Bryophyte: <i>Moss</i> Study of Pteridophyte: <i>Pteris</i>
Month: October			Module/Unit:	Sub-units planned
02	--	02	Unit III: Study of following example with reference to occurrence, plant body and life cycle	Study of Gymnosperms: <i>Cycas</i>
02	--	02		

Name and Signature of Teacher

(Ms. Pradnya B. Shelar)

Name and Signature of HoD

Head
 Department of Botany
 Vivekanand College
 Kolhapur

Vivekanand College, Kolhapur (Autonomous)
Department of Botany
Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Desai Udaysingh Arjun**

Programme: **B. Sc. II**

Semester: **IV**

Subject: **Botany**

Course Title: **"Plant Anatomy and Plant Metabolism"**

Month: July			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit : I. Organization of higher plant body	Introduction to plant organs
02	--	02		
Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit : I. Organization of higher plant body	Development of plant body (Seedling development)
01	--	01		
Month: September			Module/Unit:	Sub-units planned
02	--	02	Unit : I. Organization of higher plant body	Internal organization

Dr. U. A. Desai

Name and Signature of Teacher

Name and Signature of HoD

Head
Department of Botany
Vivekanand College
Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Botany

Annual Teaching Plan

Academic Year: **2023-2024**

Name of the teacher: **Dr. Desai Udaysingh Arjun**

Program: **B. Sc. III**

Semester: **V**

Subject: **Botany**

Course Title: **"Cytology and Research Techniques in life sciences and Microbiology, Plant Pathology and Biofertilizers"**

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section I: Unit IV: Radiation Biology	Introduction to Radioactive Isotopes Types of Radioactive Isotopes
02	--	02		
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit IV: Radiation Biology	Need of Radiations on Biological Systems. Effect of Radiations on Biological Systems. Beneficial Effect of Radiations
05	--	05		
Month: October			Module/Unit:	Sub-units planned
05	--	05	Unit IV: Radiation Biology	Autoradiography Technique, Geiger-Muller Experiment /Liquid Scintillation Counter, Precautionary measures

Dr. U. A. Desai

Name and Signature of Teacher

P. Gangal
Name and Signature of HoD

Head
Department of Botany
Vivekanand College
Kolhapur