

"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** 2021-2022

Annual Teaching Plan 2021-2022



Department of Botany



### **Department of Botany**

### Annual Teaching Plan 2021-2022

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Department of Botany
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Vivekanand College, Kolhapur
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#### **Annual Teaching Plan**

Academic Year: 2021-2022

Name of the teacher: Dr.BhauravTukaramDangat

Programme: B.Sc. I

Semester: II

Subject: Botany

Course Title: "Angiosperms Taxonomy"

Mor	nth: Novemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
04	04	08	Unit 1. Angiosperms Taxonomy	1a. Salient features of Angiosperms.
Month: December			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		1b. Taxonomy –
04	04	08	Unit.1: "Angiosperms Taxonomy"	Introduction, Function ( Identification, Nomenclature and Classification), Importance.
Month: January			Module/Unit:	Sub-units planned
04	04	08	Unit.1: "Angiosperms Taxonomy"	1c. Salient features of International Code of Botanical Nomenclature (ICBN).

Name and Signature of Teacher

Name and Signature Department of Botany Vivekanand College Kolhapur

#### **Annual Teaching Plan**

Academic Year: 2021-2022

Name of the teacher: Dr.BhauravTukaramDangat

Programme: B.Sc. ISemester: 1

Subject:Botany

Course Title: "Biodiversity in Microbes, Algae and Fungi"

Month: N	ovember		Module/Unit:	Sub-units planned
Lectures 04	Practicals 04	Total 08	Unit.2: Algae and Fungi	2b. Fungi: General Characters, Classification (As per Ainsworth) up to class with characters and suitable example, Economic importance.
Month:December			Module/Unit:	Sub-units planned
Lectures 04	Practicals 04	Total 08	Unit.2: Algae and Fungi	A. Morphology and Life Cycles (Excluding developmental stages) of 1. Zygomycotina- Mucor 2.Ascomycotina- Penicillium
M	onth: Januar	y	Module/Unit:	Sub-units planned
04	04	08	Unit.2: Algae and Fungi	2c. Lichen: Definition, structure of thallus, types, reproduction & economic importance

Name and Signature of Teacher

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Name and Signature of HoD

Vivekanand College Kolhapur

Academic Year: 2021-2022

**Annual Teaching Plan** 

Name of the teacher: Dr.BhauravTukaramDangat

Programme: B.Sc. IISemester: III

Subject: Botany

Course Title: "Taxonomy, Embryology and Plant Physiology"

Mo	nth: Novembe	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		1a: Concept of flower as a modified shoot, structure
04	04	08	Unit: I Organization of flower :	of typical flower.  1b: Structure of typical stamen, microsporogensis, Pollen germination and development of male gametophyte.
Month:December		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit: I Organization of flower :	In Structure of tunical
04	04	08		1c: Structure of typical gynoecium, structure of a typical ovule, types of ovules.
	Month:Januar	v	Module/Unit:	Sub-units planned
04	04	08	Unit: I Organization of flower :	1d: Megasporogenesis, structure of embryo sac: Monosporic (Polygonum) ,Bisporic (Allium) and Tetrasporic (Pepromia) and development of female gametophyte.

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Vivekanand College Kolhapur

Academic Year: 2021-2022

**Annual Teaching Plan** 

Name of the teacher: Dr.BhauravTukaramDangat

Programme: B.Sc. IISemester: IV

Subject: Botany

Course Title: "Plant Anatomy and Plant Metabolism"

M	onth: March		Module/Unit:	Sub-units planned
Lectures 04	Practicals 04	Total 08	"Plant Anatomy"  Unit: 1.  Organization of flower:	1a: Plant organs (Introductory)
	Mont:April		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
04	04	08	Unit: I. Organization of flower:	1b: Development of plant body (Seedling development)
	Month: May	y	Module/Unit:	Sub-units planned
04	04	08	Unit: I. Organization of flower:	1c: Internal organization

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Academic Year: 2021-2022

**Annual Teaching Plan** 

Name of the teacher: Dr.BhauravTukaramDangat

Programme: B.Sc. IIISemester: V

Subject:Botany

Course Title: "Plant Biochemistry and Stress Physiology""

Mor	nth: Novemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit : I	Carbohydrate metabolism.  1a: Introduction and  classification of Carbohydrates  1b: Properties of
02	04		Plant Biochemistry	1b: Properties of Monosaccharide's, Oligosaccharide's, Polysaccharide's
Month:December		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		1c: Significance
03	04		Unit : I Plant Biochemistry	Protein metabolism.  1d: Introduction, properties and characters of amino acids
N	Month:Januar	У	Module/Unit:	Sub-units planned
03	04		Unit : I Plant Biochemistry	1e: Protein- structure and classification 1f: Protein synthesis

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Academic Year: 2021-2022

Annual Teaching Plan

Name of the teacher: Dr.BhauravTukaramDangat

Programme: B.Sc. IIISemester: VI

Subject: Botany

Course Title: "Molecular Biology and Biotechnology"

M	lonth: March		Module/Unit:	Sub-units planned
Lectures 02	Practicals	Total	Section 1 Unit : 2 Recombinant DNA Technology	2a: Introduction and Principle
	Month:April		Module Unit:	Sub-units planned
Lectures 03	Practicals	Total	Recombinant DNA Technology	2b: Enzymes involved in recombinant DNA technology
	Month: May		Module/Unit:	Sub-units planned
03	Nomin. Sany		Recombinant DNA Technology	2c: Cloning Vectors (Plasmid, Bacteriophage and Cosmids) 2d: Gene Amplification: PCR techniques

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Academic Year: 2021-2022

**Annual Teaching Plan** 

Name of the teacher: Dr.BhauravTukaramDangat

Programme: B.Sc. IISemester: VI

Subject: Plant Protection

Course Title: "Weed Science and Insect Pest"

M	onth: March		Module/Unit:	Sub-units planned
Lectures			Section : I "Weed Science"	Unit II. Study of following weeds with reference to a) Gross morphology b) Reproduction c) Ecology d) Dispersal
04	04			e) Management  Sub-units planned
	Month: April		Module/Unit:	
Lectures 04	Practicals 04	Total	Section : I "Weed Science"	Argemone Mexicana     Portulacaoleracea     Partheniumhysterophorus 4     Eupatorium species
	Month: May		Module/Unit:	Sub-units planned
	Month. May			5. Alternantherasessilis
04	04		Section: I "Weed Science"	6. Amaranthusspinosus 7. Cassia tora
04				S. Cyperusrotundus     Cynodondactylon

Name and Signature of Teacher

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Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme - B. Sc. I

Semester- I

Subject: Botany

Course Title: "Biodiversity in Microbes, Algae and Fungi."

Month - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper -I Section - I Unit II.	General Character
04	-	04	Algae	Classification of Algae
Mor	nth - Decemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals Tot	Total	Algae	Economic Importance of
05	05 -	05		Algae
				Study of Nostoc
Month- January		у	Module/Unit:	Sub-units planned
03	1.5	03	Algae	Study of Spirogyra
			Study of Diatoms	
				Study of Algal Biofertilizer
				and Its Importance

Name and Signature of Teacher

(Dr. H. R. Kasaskas)

Name and Signature of HoD

Head



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme - B. Sc. II

Semester- III

Subject: Botany

Course Title: "Taxonomic Literature and Plant Families."

th - Novemb	er	Module/Unit:	Sub-units planned
Practicals	Total	Paper -III Section - I Unit III.	Flora, Monograph, Revisions, Manuals, Journals,
	04	Taxonomic Literature	Reference Books
nth - Decemb	er	Module/Unit:	Sub-units planned
ectures Practicals Total		Taxonomic Literature &	Research Papers, Websites and
· ·	05	Plant Families	Catalogues Study of family Amaranthaceae
Month- January		Module/Unit:	Sub-units planned
-	04	Plant Families	Study of family Orchidaceae, Liliaceae
	Practicals  th - December	- 04  hth - December  Practicals Total - 05  onth- January	Practicals Total Paper –III Section – I Unit III.  Taxonomic Literature  Module/Unit:  Practicals Total Taxonomic Literature & Plant Families  onth- January Module/Unit:

Name and Signature of Teacher

(Dr. A. R. Kasaskar)

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(Dr. B. T./ Dangat)

Head



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme - B. Sc. II

Semester- III

Subject: Plant Protection

Course Title: "General Agriculture and Plant Pathology."

Mon	th - Novemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper –I Section – I Unit IV.	Chemical Methods
04	08	12	Methods of Plant Protection Part  –II	
Month - December		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Methods of Plant Protection Part	Biological Methods
05	08	13	-II	Legal Methods
Month- January		у	Module/Unit:	Sub-units planned
04	08	12	Methods of Plant Protection Part	Legal Methods
			-11	Crop Resistance

Name and Signature of Teacher

(Dr.A. R. Kasaskar)

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(Dr. B. T. Dangat)

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Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme - B. Sc. III

Semester- V

Subject: Botany

Course Title: "Cytological and Research Technique in Life Science."

Month - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper -IX Section - I Unit III.	Principle of Microscopy- Light
04	•	04	Analytical Techniques in Plant Sciences	Microscopy, Electron Microscopy
Month - December		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Analytical Techniques in Plant	Fluorescence Microscopy,
05		05	Sciences	Chromatography, Micrometery
Month- January		ry	Module/Unit:	Sub-units planned
03		03	Analytical Techniques in Plant Sciences	Microphotography, Electrophoresis

Name and Signature of Teacher

(Dr. A. R. Kasastar)

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Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme - B.Sc. 1

Semester- II

Subject: Botany

Course Title: " Angiosperms Taxonomy ."

Mo	Month - March		Module/Unit:	Sub-units planned
Lectures 05	Practicals -	Total 05	Paper –IV Section – I Unit I.  Angiosperms Taxonomy	Salient Features of Angiosperms, Taxonomy- Introduction, Function, Importance
N	1onth – Apri	L	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		ICBN,
04	-	04	Angiosperms Taxonomy	Bentham and Hookers System of Classification
Month- May			Module/Unit:	Sub-units planned
04	-	04	Angiosperms Taxonomy	Family Malvaceae, Solanaceae, Nyctaginaceae, Amaryllidaceae

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Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme - B. Sc. II

Semester- IV

Subject: Botany

Course Title: " Plant Anatomy and Plant Metabolism ."

Month - March			Module/Unit:	Sub-units planned	
Lectures Practicals Total			Paper –IV Section – II Unit IV Seed Dormancy and Germination	Concept of Dormany, Causes	
05		05	Seed Dormancy and Communication	and types of seed dormancy	
N	Ionth – Apri		Module/Unit:	Sub-units planned	
Lectures	Practicals	Total		Methods of breaking ofseed	
03	3	03	Seed Dormancy and Germination	dormancy. Seed Germination	
Month- May			Module/Unit:	Sub-units planned	
04		04	Seed Dormancy and Germination	Types of Seed Germination, Factors affecting on seed germination	

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(Dr. A. R. Kasaskar)

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( Dr. B. T. Dangat



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme - B. Sc. II

Semester- IV

Subject: Plant Protection

Course Title: "Weed Science and Insect Pest."

Month - March			Module/Unit:	Sub-units planned	
Lectures	Lectures Practicals Total		Paper -II Section -1 Unit III	Mechanical methods	
04	08	12	Methods of Weed Management	Biological methods	
M	lonth – Apri		Module/Unit:	Sub-units planned	
Lectures	Practicals	Total		Chemical methods	
05	08	13	Methods of Weed Management	Study of weedicides:	
				Glyphosate, Gramoxane	
	Month- May		Module/Unit:	Sub-units planned	
04	08	12		Study of weedicides :	
		Methods of	Methods of Weed Management	Oxyfluorfen.	
				Study of House Hold Pest	
Month- June			Module/Unit:	Sub-units planned	
04	-	04	Unit IV :	Study of Rat	
			Study of House Hold Pest	Study of House hold pest -	
				Drosophila, House fly, Mosquito	

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(Dr. A. R. Kasarkar)

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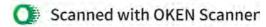
Name and Signature of HoD

( Dr. B. Head angat)

Department of Botany

Vivekanand College

Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme - B. Sc. III

Semester- VI

Subject: Botany

Course Title: "Horticulture, Forestery and Herbal Technology."

onth - March	1	Module/Unit:	Sub-units planned
ectures Practicals Total		Paper -XVI Section - II	Introduction and Importance
-	04	Unit I	Methods of Propagation :
		Horticulture	Asexual
1onth – Apri	ı	Module/Unit:	Sub-units planned
Practicals	Total	Horticulture	Methods of Propagation : Sexual
05 -		1	Plant Nursery : Introduction,
			Types of Nursery.
Month- May		Module/Unit:	Sub-units planned
-	04	Horticulture	Infrastructure and requirement,
			Fertilizers and pesticides
			Commercial importance
	Practicals  fonth – Apri  Practicals	- 04  Inth - April  Practicals Total - 05  Month- May	Practicals Total Paper –XVI Section – II  - 04 Unit I Horticulture  Module/Unit:  Practicals Total Horticulture  - 05  Month- May Module/Unit:

Name and Signature of Teacher

(Dr. A. R. Kasaskar)

Name and Signature of HoD



Academic Year: 2021-2022

Name of the teacher: Dr. Jyoti Mahadev Gorule

Programme: B. Sc. I Semester: I

Subject: Botany

Course Title: "Biodiversity in cryptogams and Gymnosperms"

Month: November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II	General characters,
03	04	05	Unit. 3: Bryophytes and Pteridophytes	Adaptation to land habit, Classification (As per G. M. Smith) upto class, Alternation o Generation, Economic importance.
Month: December			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II	Morphology, Anatomy
04	05	09	Unit. 3: Bryophytes and Pteridophytes	and Life Cycle (Excluding developmental stages) Hepaticopsida - Riccia
Month: January		iry	Module/Unit:	Sub-units planned
03	04	06	Section II Unit. 3: Bryophytes and Pteridophytes	Morphology, Anatomy and Life Cycle (Excluding developmental stages) Anthocerotopsida- Anthoceros

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Name and Signature of Teacher

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Name and Significator HoD
Department of Bolany
Vivekanand College
Kolhapur

Academic Year: 2021-2022

Name of the teacher: Dr. Jyoti Mahadev Gorule

Programme: B. Sc. II

Semester: III

Subject: Botany

Course Title: "Plant Anatomy and Plant Metabolism"

Mor	nth: Novemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals-	Total		-
12	04	04		
Month: December			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	-6	
-	04	04		
Month: January			Module/Unit:	Sub-units planned
4	04	04	2	

Name and Signature of Teacher

[ Do Jyoti M. Georgle]

Name and Signance of HoD Department of Botany Vivokanand College Kolhapur



Academic Year: 2021-2022

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: November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section I: 2 b: Advanced Agricultural	A)Organic Farming B) Transgenic
02	-	02	practices with reference to concept and applications	methods ( Agrobacterium   mediated gene   transfer ) , Examples   of Transgenic crops.
Month: December		ber	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit. 111. Methods of Plant Protection part	3a: Cultural methods – Tillage, crop rotation,
03	-	03	-I .	trap crops, fertilizer applications 3b: Mechanical methods – Field sanitation, Hand picking, Destruction of infected plants / plant parts
Month: January		ry	Module/Unit:	Sub-units planned
03		03	Unit. III.  Methods of Plant Protection part -I.	3b. Destruction of egg masses, light traps, use of sticky bands, bagging for the pests. 3c: Physical methods – Heat and soil solarisation

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[Do Jyoti M. Gensule]

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Kolhapur

Academic Year: 2021-2022

Name of the teacher: Dr. Jyoti Mahadev Gorule

Programme: B. Sc. III Semester: V

Subject: Botany

Course Title: "Microbiology, Plant Pathology and Biofertilizers"

Month: November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II:	la: Methods in
04	04	08	Unit I Microbiology	Microbiology
Month: December		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II:	1b: Micro-organisms in
04	04	08	Unit I Microbiology	Biological world
Month: January		у	Module/Unit:	Sub-units planned
02	03	05	Section II: Unit I Microbiology	1c: Scope of Microbes in Industry and Environment

Name and Signature of Teacher

[DS Jyoti M. Groule]

Name and Signature of HoD Department of Botany Vivekanand College Kolhapur



Academic Year: 2021-2022

Name of the teacher: Dr. Jyoti Mahadev Gorule

Programme: B. Sc. I Semester: II

Subject: Botany

Course Title: "Plant Ecology and Taxonomy"

onth: March	9.1	Module/Unit:	Sub-units planned
Practicals- II	Total	Section II Unit 4. Morphology and	4a. Morphology and
04	04	modifications in Angiosperms	modification of Root.
lonth: April		Module/Unit:	Sub-units planned
Practicals	Total	Section II Unit 4. Morphology and	4b. Morphology and
05	09	modifications in Angiosperms	modification of Stem
Month: May		Module/Unit:	Sub-units planned
04	04	Section II Unit 4. Morphology and modifications in Angiosperms	4c. Morphology and modification of Leaf.
	Practicals- II  04  Ionth: April  Practicals  05  Month: May	II Total  04 04  Ionth: April  Practicals Total  05 09  Month: May	Practicals- II Total Unit 4. Morphology and modifications in Angiosperms    O4

Name and Signature of Teacher

[DO - Jyoti M. Groule]



Name and Signature of HoD
Department of Botany
Vivokanand College
Kolhapur

Academic Year: 2021-2022

Name of the teacher: Dr. Jyoti Mahadev Gorule

Programme: B. Sc. II

Semester: IV

Subject: Botany

Course Title: "Plant Anatomy and Plant Metabolism"

M	onth: March		Module/Unit:	Sub-units planned
Lectures	Practicals- II	Total		-
-	04	04		
Month: April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	4:	-
1.	04	04		
Month: May			Module/Unit:	Sub-units planned
	03	03	•	-

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Name and Signature of Teacher

[00- Jyoti M. Georgle]

Name and Signified of HoD
Department of Botany
Vivekanand College
Kolhapur



Academic Year: 2021-2022

Name of the teacher: Dr. Jyoti Mahadev Gorule

Programme: B. Sc. II

Semester: IV

Subject: Plant Protection

Course Title: "Weed Science and Insect Pest"

onth: March	1	Module/Unit:	Sub-units planned
Practicals	Total	Section II: Unit . II. Study of insect pests	Jowar – Stem borer
-	04		Sugarcane – White grub Gram – Pod borer
Month: April		Module/Unit:	Sub-units planned
Practicals	Total	Section II: Unit . II. Study of insect pests	Mango – Hoppers
	04		Brinjal – Fruit borer Rose – Bud borer
Month: May		Module/Unit:	Sub-units planned
	04	Section II: Unit . II. Study of insect pests	Rice Weevil Pulse beetle
	Practicals Ionth: April Practicals	04  Ionth: April  Practicals Total  04  Ionth: May	Practicals Total Unit . II. Study of insect pests  04  Ionth: April Module/Unit:  Practicals Total Section II: Unit . II. Study of insect pests  04  Ionth: May Module/Unit:  Section II: Section II: Unit . II. Study of insect pests  04  Section II: Section II:

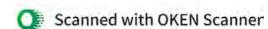
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Name and Signature of Teacher

[Do. Justi M. Cosule]

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





Academic Year: 2021-2022

Name of the teacher: Dr. Jyoti Mahadev Gorule

Programme: B. Sc. III Semester: VI

Subject: Botany

Course Title: "Horticulture, Forestery and Herbal Technology"

Mo	onth: March		Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II: Unit III Forestery	3a: Introduction, Forest types of India
04	04	08		3b: Wild life and Biosphere reserves
Month: April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II: Unit III Forestery	3c: Social and Agricultural Forestry 3d: Forest research
04	04	08		3d: Forest research education and Training institutions
Month: May			Module/Unit:	Sub-units planned
04	03	07	Section II: Unit III Forestery	3e: Forest Acts 3f: Different Plant as a forest products

Name and Signature of Teacher

[Bo-Juph M. Gosule]

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Department of Botany
Vivekanand College
Kolhapur

Academic Year: 2021-2022

Name of the teacher: Ms. Snehal Sanjay Wadkar

Programme: B. Sc. I Semester: I

Subject: Botany

Course Title: "Biodiversity in cryptogams and Gymnosperms"

Month: November			Module/Unit:	Sub-units planned
Lectures				
-	08	08		
Mont	h: Decem	ber	Module/Unit:	Sub-units planned
Lectures				
	08	08		
Mon	th: Janua	iry	Module/Unit:	Sub-units planned
	07	07		
				11,

Name and Signature of Teacher

(Ms. Snehal S. Wadkar)

Name and Signature of HOD

Vivekanand College Kolhapur



Academic Year: 2021-2022

Name of the teacher: Ms. Snehal Sanjay Wadkar

Programme: B. Sc. II

Semester: III

Subject: Botany

Course Title: "Plant Anatomy and Plant Metabolism"

Mon	Month: November		Module/Unit:	Sub-units planned
Lectures	Practicals- II	Total	-	-
	08	08		
Month: December		Module/Unit:	Sub-units planned	
Lectures	Practicals	Total	160	-
	08	08		
Month: January		Module/Unit:	Sub-units planned	
-	08	08		•

Name and Signature of Teacher

(Ms. Snehal S. Wadkar)

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(Dr. Bita Dangat) **cepartment** of Boto

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Kolhapur



Academic Year: 2021-2022

Name of the teacher: Ms. Snehal Sanjay Wadkar

Programme: B. Sc. III

Subject: Botany

Course Title: "Microbiology, Plant Pathology and Biofertilizers"

th: Novemb	er	Module/Unit:	Sub-units planned
Practicals	Total	Section II:	la: Microbes in
-	04	Unit IV- Biofertilizer	agriculture : Biological nitrogen fixation, Mycorrhizae
th: Decemb	er	Module/Unit:	Sub-units planned
Practicals	Total	Section II:	Ib: Organic
	04	Unit IV- Biofertilizer	farming:Introduction and concept, scope
nth: Januar	у	Module/Unit:	Sub-units planned
-	02	Section II: Unit IV- Biofertilizer	Ic: Green Manuring Id: Bicompost making methods
	Practicals  th: December	- 04  Practicals Total  - 04  onth: January	Practicals Total Section II: Unit IV- Biofertilizer  This December Module/Unit:  Practicals Total Section II: Unit IV- Biofertilizer  Fracticals Total Section II: Unit IV- Biofertilizer  Module/Unit:  This December Module/Unit:  Section II: Unit IV- Biofertilizer  Section II: Unit IV- Biofertilizer

Name and Signature of Teacher

(Ms. Snehal S. Wadkar)



Name and Signature of HOD

(Daling T. Dangat)

Semester: V

Academic Year: 2021-2022

Name of the teacher: Ms. Snehal Sanjay Wadkar

Programme: B. Sc. 1

Semester: II

Subject: Botany

Course Title: "Plant Ecology and Taxonomy"

Month: March		h	Module/Unit:	Sub-units planned
Lectures				
2-	08	08		
Mo	onth: Apri	1	Module/Unit:	Sub-units planned
Lectures				
-	08	08		
M	onth: May	y	Module/Unit:	Sub-units planned
-	08	08		

Name and Signature of Teacher

(Ms. Snehal S. Wadkar)

Name and Signature of HOD

(Dr. Brad Dangat)

rivekanand College



Academic Year: 2021-2022

Name of the teacher: Ms.Snehal Sanjay Wadkar

Programme: B. Sc. II Semester: IV

Subject: Botany

Course Title: "Plant Anatomy and Plant Metabolism"

Month: March			Module/Unit:	Sub-units planned
Lectures	Practicals- II	Total	-	-
-	08	08		
Month: April		Module/Unit:	Sub-units planned	
Lectures	Practicals	Total	4	
1	08	08		
Month: May			Module/Unit:	Sub-units planned
-	08	08	•	•

Name and Signature of Teacher

(Ms. Snebal 5. Wadkar)

Name and Signature of HOD

(Ds. Bottl Dangat)

.tepartment of Botan

Vivekanand College

Kolhapur



Academic Year: 2021-2022

Name of the teacher; Ms. Snehal Sanjay Wadkar

Programme: B. Sc. III Semester: VI

Subject: Botany

Course Title: "Biostatistics, Economic Botany and Ethnobotany"

Mo	onth: March	1	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II: Unit III Economic Botany II	3a: Beverages- Tea and Coffee
04	-	04		3b: Fiber Yielding Plants - Cotton and Hibiscus canabinis
N	Ionth: April		Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II: Unit III Economic Botany II	3c: Oil yielding – Pongamia pinnata and
04		04		Sunflower 3d: Dye : Bixa and Lawsonia
1	Month: May		Module/Unit:	Sub-units planned
04	7.2	04	Section II: Unit III Economic Botany II	Tests on sub points mentioned as above

Name and Signature of Teacher

(Ms. Snehal 5. Wadkar

Name and Signature of HOD

(Dr. B. Headangat

Vivekanand College Kolhapur



Department of Botany Annual Teaching Plan

Academic Year: 2021-2022

Name of the teacher: Dr. Annapurna Ram Alvikar

Programme: B.Sc I Semester: I

Subject: Botany Course Title: "Bryophytes, Pteridophytes and Gymnosperms"

Month:	November		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
03	04	07	Section II: Unit I – 1b: Pteridophytes	Ib: Introduction, General characters, Classification (As per G. M. Smith) upto class A: Morphology, Anatomy of Selaginella
Month:	December		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
04	04	08	Section II : Unit I – 1b: Pteridophytes	A: Anatomy of Selaginella  Morphology and Anatomy of Pteris
Month:	January		Module/Unit:	Sub-units planned
03	04	08	Section II : Unit I – 1b: Pteridophytes	A: Anatomy of <i>Pteris</i> B: Heterospory and Seed habit in Pteridophytes
			1	

Name and Signature of Teacher

(Dr. Annapurna. R. Alvikar)



Name and Signature of HoD

Department of Botan

Vivekanand College

Kolhapur

Academic Year: 2021-2022

Name of the teacher: Dr. Annapurna Ram Alvikar

Programme: B.Sc II Semester: III

Subject: Botany Course Title: "Plant Physiology"

Month : N	November		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
-	04	04		
Month:	December		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
-	04	04		-
Month :	January		Module/Unit:	Sub-units planned
-	04	04		

Name and Signature of Teacher

(Dr. Annapurna. R. Alvikar)



Name and Signature of HoD

Department of Bolanv

Vivekanand College

Kolhapur

Annual Teaching Plan

Academic Year: 2021-2022

Name of the teacher: Dr. Annapurna Ram Alvikar

Programme: B.Sc III Semester: V

Subject: Botany Course Title: "Plant Biochemistry and Stress Physiology"

Month:	November		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
04	04	08	Section I: Unit III – Stress Physiology	3a: Introduction, Defining Plant Stress
Month:	December		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
04	04	08	Section I: Unit III – Stress Physiology	3b: Types of Stress - Water Stress, Salinity Stress, High light Stress
Month:	January		Module/Unit:	Sub-units planned
04	04	08	Section I : Unit III – Stress Physiology	3b: High light Stress, Temperature Stress, Calcium Modulation, Phospholipid signalling

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

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Name and Signal freebf HoD

Open ment of Botany
Vivekanand GollegKolhapur

Department of Botany Annual Teaching Plan

Academic Year: 2021-2022

Name of the teacher: Dr. Annapurna Ram Alvikar

Programme: B.Sc 1 Semester: II

Subject: Botany Course Title: "Plant Ecology"

Month: N	March		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
05	05	08	Section I: Unit I – Ecological factors and Plant Communities	1a: Introduction, Definition of Ecology 1b: Ecological Factors: i: Edaphic factors: Soil: Origin and Formation. ii: Climatic factors
Month:	April		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		iii: Ecological
05	04	09	Section I: Unit I – Ecological factors and Plant Communities	adaptations iv: Soil pollution
Month:	May		Module/Unit:	Sub-units planned
05	04	09	Section I: Unit I – Ecological factors and Plant Communities	1c: Ecological Succession 1d: Ecological Interaction

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

ESTO JUNE 1964

Name and Signature of HoD
Department of Bolany
Vivekanand College
Kolhapur

#### **Annual Teaching Plan**

Academic Year: 2021-2022

Name of the teacher: Dr. Annapurna Ram Alvikar

Programme: B.Sc II Semester: IV

Subject: Botany Course Title: "Plant Anatomy and Plant Metabolism"

Month: N	March		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
-	04	04		
Month:	April		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
-	04	04		
Month:	May		Module/Unit:	Sub-units planned
-	04	04		

Name and Signature of Teacher

(Dr. Annapurna, R. Alvikar)

Name and Signature of HoD
Department of Botany
Vivokanand College
Kolhapur



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

Academic Year: 2021-2022

Name of the teacher: Dr. Annapurna Ram Alvikar

Programme : B.Sc III Semester: VI

Subject: Botany Course Title: "Molecular Biology and Biotechnology"

Month : N	March		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
04	04	08	Section I: Unit I – Genetic Material	1a: Introduction, Nucleic acids (DNA RNA).
Month:	April		Module/Unit:	Sub-units planned
Lectures	Practicals	Total		1b: Griffth's and Avery's
05	04	09	Section I : Unit I – Genetic Material	transformation experiment, Harshey- Chase bacteriophage experiment 1c: DNA structure
Month:	May		Module/Unit:	Sub-units planned
03	04	07	Section I : Unit I – Genetic Material	1c: Types of DNA 1d: DNA replication 1e: Types of RNA

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



Name and Superinte of HoD Department of Bolany Vivekanand College Kolhapur

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

Academic Year: 2021-2022

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. I

Semester: I

Subject: Botany

Course Title: "Biodiversity in cryptogams and Gymnosperms"

Month: November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
-	04	02	-	-
Month: December		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
-	04	04	<del>-</del>	-
Month: January		У	Module/Unit:	Sub-units planned
-	04	04		
			-	-

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: 2021-2022

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. 11 Semester: III

Subject: Botany

Course Title: "Taxonomy, Embryology and Plant Physiology"

Moi	nth: Novemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals-	Total	Section II:	Introduction, Definition,
04	03	05	Unit 2: Pollination and Fertilization	Types of pollination  Mechanism of Anemophily, Entomophily and Hydrophily
Mo	nth: Decemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 2: Pollination and	Mimicry in orchids
04	04	07	Fertilization	Fertilization: Entry of pollen tube, Double Fertilization and triple fusion
M	onth: Januar	У	Module/Unit:	Sub-units planned
05	04	08	Unit 2: Pollination and Fertilization	Structure and development of monocot and dicot embryo
				Development of endosperm, Types of endosperm-Nuclear, Helobial and cellular

Name and Signature of Teacher

(Dr. Priya D. Patil)



Name and Signature of HoD

Department of Boter Vivekanand College Kolhapur



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

Academic Year: 2021-2022

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. II Semester: III

Subject: Plant Protection

Course Title: "General Agriculture and Plant Pathology"

Mo	onth: Octobe	r	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II:	Introduction and
03	-	03	Unit 1: Crop Diseases	importance of plant pathology, Concept of disease, Terminologies involved in plant protection, Phytoalexins and siderophores.
Mo	nth: Noveml	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: Crop Diseases	Classification of plant diseases based on
04	-	04		pathogens, symptoms, severity.  Classification of plant diseases based on spread, occurrence of disease.
Mo	onth: Decem	ber	Module/Unit:	Sub-units planned
04	-	04	Unit 1: Crop Diseases	Classification of plant diseases based on transmission of pathogens
			Unit 2: Mechanism of plant infection	through, host and cause.  Mechanism of infection in fungi
N	lonth: Janua	ıry	Module/Unit:	Sub-units planned
04	-	04	Unit 2: Mechanism of plant infection	Mechanism of infection in bacteria and virus.
				Factors affecting infection

Name and Signature of Teacher
(Dr. Priya D. Patil)



Name and Signature of HoD

Name and Signature of HoD

Head

Department of Botany Vivekanand College Kolhanur



Department of Botany Annual Teaching Plan

Academic Year: 2021-2022

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"

Mon	th: Novemb	er	Module/Unit:	Sub-units planned
Lectures 04	Practicals	Total 04	Section II: Unit 2: Plant Pathology	Introduction, Classification of plant diseases based on pathogens, crops and symptoms. Study of mechanism of infection in disease development
Mo	nth: Decemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	U-142 Di-4 Dath barr	Prevention & control of plant diseases.
05	02	06	Unit 2: Plant Pathology	Introduction to plant Quarantine Role of Plant Quarantine Functions & Significance of Plant Pathology
M	lonth: Janua	iry	Module/Unit:	Sub-units planned
05	04	08	Section I: Unit 4: Radiation Biology	Radioactive isotopes, Introduction & examples  Effect of radiations on Biological systems  Beneficial effects of radiations

Name and Signature of Teacher

Dr. Priya D. Patil)

ESTD. FOR 1964

Name and Stynature of HoD

Head
Department of Botany
Vivekanand College
Kolhapur



Department of Botany **Annual Teaching Plan** 

Academic Year: 2021-2022

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. I

Semester: II

Subject: Botany

Course Title: "Plant Ecology and Taxonomy"

/Unit: Sub-units planned
-
e/Unit: Sub-units planned
-

Name and Signature of Teacher
(Dr. Priya D. Patil)

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





Department of Botany **Annual Teaching Plan** 

Academic Year: 2021-2022

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. II

Semester: IV

Subject: Botany

Course Title: "Taxonomy, Embryology and Plant Physiology"

onth: March		Module/Unit:	Sub-units planned
Practicals-	Total	Cer	7- 77-
03	02		
Month: April		Module/Unit:	Sub-units planned
Practicals	Total	Unit 4: Plant adaptations	Mangroves & their adaptions
02	03		addpirens
Month: May		Module/Unit:	Sub-units planned
02	02	44	
	Practicals- II  03  Month: April  Practicals  02  Month: May	Practicals- II Total  03 02  Month: April  Practicals Total  02 03  Month: May	Practicals- II

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: 2021-2022

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. 11

Semester: IV

Subject: Plant Protection

Course Title: "Weed Science and Insect Pest"

Mo	onth: March		Module/Unit:	Sub-units planned
Lectures 04	Practicals	Total 04	Section II: Unit 1: Introduction to insect pests	Definition and losses caused by insect pests  Causes for insects to assume pest status
N	Ionth: April		Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: Introduction to insect	Classification of insect pest
04	-	04	pests	a) Occurrence of pest b) Intensity of pest c) Level of infestation d) Food requirement
	Month: May	7	Module/Unit:	Sub-units planned
05		05	Unit 4: Recent trends in pest management	Introduction a) Attractants b) Repellents c) Antifeedants d) Pheromones e) Chemosterilants  Precautionary measures used during pesticides

Pringated

Name and Signature of Teacher

(Dr. Priya D. Partil)

Name and Signature of HoD

Head Department of Botany Vivekanand College Kolhapur



Department of Botany **Annual Teaching Plan** 

Academic Year: 2021-2022

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. III

Semester: VI

Subject: Botany

Course Title: "Molecular Biology and Biotechnology and Horticulture, Forestry and Herbal

Technology"

Month: March		2 1	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section I:	Principle and Totipotency Components of culture
04	03	08	Unit 4: Plant Tissue Culture	media, Sterilization techniques
N	Ionth: Apri		Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 4: Plant Tissue Culture	Different techniques in tissue culture.
04	04	08		Organogenesis and Embryology
	Month: May		Module/Unit:	Sub-units planned
03	02	05	Unit 4: Plant Tissue Culture	Anther culture  Applications of tissue culture

Name and Signature of Teacher

(Dr. Priya D. Patil)

Name and Signature of HoD

Head Department of Botani Vivekanand College Kolhapur

Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Priyanka Pravin Jadhav

Programme - B. Sc. II

Semester- IV

Subject: Botany

Course Title: "Plant Anatomy and Plant Metabolism."

Mo	nth - March		Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper - IV Section - I Unit	Primary structure of
05	08	13	III Primary and secondary structure of plant body	Monocotyledon and Dicotyledon root, Stem and Leaf
Month - April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Primary and secondary	Normal secondary growth of
03	08	11	structure of plant body	dicotyledon root and stem,  Anomalous secondary growth  of Bignonia and Dracaena
	Month- May		Module/Unit:	Sub-units planned
02	04	06	Primary and secondary structure of plant body	Periderm and lenticel

Name and Signature of Teacher

Name and Signature of HOD

Head

Department of Botany Vivekanand College Kolhapur





Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Priyanka Pravin Jadhav

Programme - B. Sc. III

Semester- VI

Subject: Botany

Course Title- 1. Genetics and Plant Breeding 2. Horticulture, Forestery and Herbal Technology

nth - March		Module/Unit:	Sub-units planned
Practicals	Total 04	Paper – DSC 7 G Section – I Unit - II Linkage and Crossing over	Linkage concept and History, types of Linkage, Crossing over: Concept
onth – <b>Apri</b>		Module/Unit:	Sub-units planned
Practicals	Total 05	Linkage and Crossing over	Significance, Cytological proof of crossing over, Linkage Maps
Month- May		Module/Unit:	Sub-units planned
-	04	Paper -XVI Section - II Unit II Gardening and Ornamental plants	Definition Objective, Types of Gardening importance and landscape garden
	Practicals onth – Apri Practicals	- 04  onth - April  Practicals Total  - 05  Month- May	Practicals Total Paper – DSC 7 G Section – I Unit - II Linkage and Crossing over onth – April Module/Unit:  Practicals Total - 05 Linkage and Crossing over  Month- May Module/Unit:  - 04 Paper – XVI Section – II Unit II Gardening and

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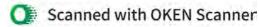
Name and Signature of Teacher

ESTD. FOR 1964

Name and Signature of HOD
Tioud
Department of Botany
Vivekanand College

Kolhapur





Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Priyanka Pravin Jadhav

Programme - B. Sc. II

Semester- V

Subject: Botany

Course Title: "Plant Anatomy and Plant Metabolism."

onth - March		Module/Unit:	Sub-units planned
Practicals	Total	Plant Anatomy and Plant	
08	08	Metabolism	
Month - April		Module/Unit:	Sub-units planned
Practicals	Total	Plant Anatomy and Plant	
08	08	Metabolism	
Month- May		Module/Unit:	Sub-units planned
04	04	Plant Anatomy and Plant Metabolism	
	Practicals  08  Ionth – Apri  Practicals  08  Month- May	08 08  Ionth – April  Practicals Total  08 08  Month- May	Practicals Total Plant Anatomy and Plant  08 08 Metabolism  Module/Unit:  Practicals Total Plant Anatomy and Plant  08 08 Metabolism  Month- May Module/Unit:  04 04 Plant Anatomy and Plant  Plant Anatomy and Plant  Module/Unit:

Name and Signature of Teacher

Name and Signature of HOD

Head

Department of Botan. Vivekanand Collect Kolhabur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Priyanka Pravin Jadhav

Programme - B. Sc. III

Semester- V

Subject: Botany

Course Title: "Plant Biochemistry and stress Physiology"

Month - November			Module/Unit:	Sub-units planned
Lectures	ectures Practicals Total		Paper - DSC 7 E 2 Section -	Introduction, properties and
03	•	03	I Unit – I Protein metabolism	Characters of amino acids.
Month - December		er	Module/Unit:	Sub-units planned
Lectures Practicals Total		Total	Unit – I Protein metabolism	Protein structure and
04		04		Classification
Month- January		у	Module/Unit:	Sub-units planned
-02	-	02	Unit – I Protein metabolism	Protein Synthesis

Name and Signature of Teacher

Name and Signature of HOD

Department of Botary Vivekanand College, Kolleger



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Shital B. Koparde

Programme - B.Sc. I

Semester- I

Subject: Botany

Course Title: Biodiversity in Cryptogams and Gymnosperms

Month - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		٤.
	04	04	Biodiversity in Cryptogams and Gymnosperms	
Month - December		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Diadinasity is Contact	1113
	04	04	Biodiversity in Cryptogams and Gymnosperms	
Month- January		ту	Module/Unit:	Sub-units planned
1	06	06	Biodiversity in Cryptogams and Gymnosperms	·

Dr. shital B. Koparole

Name and Signature of Teacher

Name and Signature of HOD

(Dr. BIT. Dargat

Head

Department of Ba-Vivekanand College Kelhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Shital B. Koparde

Programme - B.Sc. I

Semester- II

Subject: Botany

Course Title: Biodiversity in Cryptogams and Gymnosperms

Me	onth - March	1	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
	05	05	Biodiversity in Cryptogams and Gymnosperms	
Month - April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Name of the last o	-
•	05	05	Biodiversity in Cryptogams and Gymnosperms	
Month- May			Module/Unit:	Sub-units planned
•	02	02	Biodiversity in Cryptogams and Gymnosperms	12

Name and Signature of Teacher

(Dr. shital B. Icoparde)

Name and Signature of HOD

(Dr. B.J. Dassaf.

Head Department of Botar Vivekanand Collec-Kolhapur



Department of Botany Academic Year, 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Shital B. Koparde

Programme - B. Sc. II

Semester- III

Subject: Botany

Course Title: " Plant Anatomy and Plant Metabolism ."

Mor	th - Novemb	per	Module/Unit:	Sub-units planned	
Lectures	Practicals	Total	Plant Anatomy and Plant		
150	05	05	Metabolism		
Month - December		per	Module/Unit:	Sub-units planned	
Lectures	Practicals	Total	Plant Anatomy and Plant	•	
20	04	04	Metabolism		
Month- January		у	Module/Unit:	Sub-units planned	
•	04	04	Plant Anatomy and Plant Metabolism	•	

Name and Signature of Teacher

(Dr. Shital B. Kopassle)

Name and Signature of HOD

Department of Burning Vivekanand College Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Shital B. Koparde

Programme - B. Sc. II

Semester- IV

Subject: Botany

Course Title: " Plant Anatomy and Plant Metabolism ."

Mo	onth - March	h	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper -IV Section - II Unit III	Defination and Phases of
05	05	10	Growth and Development	Growth, Plant growth regulators  Auxin, Cytokinin, Gibberellins,  ABA
Month - April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		Photoperiodism and floreign
03	04	07	Growth and Development	concept
Month- May			Module/Unit:	Sub-units planned
02	02	04	Growth and Development	Vernalization concept and Significance

Name and Signature of Teacher

(D) Shital B. Koposle)

Name and Signature of HOD

(Dr. B. T. Danget)

Head Department of Botany Vivekanand College Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Shital B. Koparde

Programme - B. Sc. III

Semester- V

Subject: Botany

Course Title: "Plant Biochemistry and stress Physiology"

Month - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		Patterns of Senescence,
03	•	03	Paper – DSC 7 E 2 Section – I Unit - IV Senescence and Aging	Physical Changes During Senescence
Month - December		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
02	•	02	Senescence and Aging	Control of Senescence
Month- January		у	Module/Unit:	Sub-units planned
3.5	03	03		

Name and Signature of Teacher

(Dr. shital B. Kaparde)

Name and Signature of HOI

s. B. Healargat)

Department of Botan S Vivekanand College Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Shital B. Koparde

Programme - B. Sc. III

Semester- VI

Subject: Botany

Course Title- Genetics and Plant Breeding

Mo	onth - March		Module/Unit	Sub-units planned
Lectures	Practicals	Total	Paper – DSC 7 G Section – I Unit - IV	Introduction and objectives,
05		05	Plant Breeding	Plant genetic resources,  Centers of Origin and domestication of crop plants
Month - April		1	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
05		05	Plant Breeding	Methods of Plant breeding
Month- May			Module/Unit:	Sub-units planned
04		04		
			Plant Breeding	Mutation breeding

Name and Signature of Teacher

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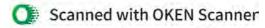
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Name and Signature of HOD

To B.T. Dangat

Department of trule Vivakanand College Kolhapur





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

Academic Year: 2021-2022

Name of the teacher: Dr. Bhairu Nathaji Shinde

Programme: B. Sc. I

Semester: I

Subject: Botany

Course Title: "Biodiversity in cryptogams and Gymnosperms"

Mor	nth: Novemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
-	04	04		
Month: December			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
	04	04		7
М	onth: Januar	ry	Module/Unit:	Sub-units planned
	04	04		
			-	-

Dr. Bhairy N. Shinde Name and Signature of Teacher

> ESTD. JUNE 1964 F

Name and Signature of HoD repartment of Bolany rivekanand College Kolhapur

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

Academic Year: 2021-2022

Name of the teacher: Dr. Bhairu Nathaji Shinde

Programme: B. Sc. II

Semester: III

Subject: Botany

Course Title: "Taxonomy, Embryology and Plant Physiology"

Mor	nth: Novemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals-	Total	-	1
77	07	07		
Month: December		er	Module/Unit:	Sub-units planned
Lectures	Practicals- I, II	Total		
-	08	08		
Month: January		Module/Unit:	Sub-units planned	
Lectures	Practicals- I, II	Total	-	
-	07	07		

Dr. B.N. Shinde Name and Signature of Teacher Dr. B. T. Dangal-Name and Signature of HoD Department of Bokan Vivokarand College Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Bhairu Nathaji Shinde

Programme - B. Sc.

Semester- V

Subject: Botany

Course Title: Cytology and Research Techniques in life sciences and

Microbiology, Plant Pathology and Bioferilizers

Month -August			Module/Unit:	Sub-units planned
Lectures   I	Practicals	Total	Study of Plant Diseases	Introduction- Plant
02		02		Diseases, Spices
Month - September		per	Module/Unit:	Sub-units planned
Lectures	ectures Practicals Total		Study of Plant Diseases	Vegetable - White rust of
04		04		Ammaranthus
Mont	th- Octomb	er	Module/Unit:	Sub-units planned
04		04	Study of Plant families	Family- Introduction
Mont	th- Novemb	er	Module/Unit:	Sub-units planned
02		02	Study of Plant families	Anacardiaceae
Month- December		er	Module/Unit:	Sub-units planned
02		02	Study of Plant families	Fabaceae

Dr. B. N. Shird Feacher

ESTD. GE. JUNE 1964

Department of Bolany Vivekanand College Kolhapur

Note: In the above format, for each month for each teacher.

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

Academic Year: 2021-2022

Name of the teacher: Dr. Bhairu Nathaji Shinde

Programme: B. Sc. I Semester: II

Subject: Botany

Course Title: "Biodiversity in cryptogams and Gymnosperms"

M	onth: March	1	Module/Unit:	Sub-units planned
Lectures	Practicals- II	Total	<del>-</del>	1-1
	04	04		
N	ionth: April		Module/Unit:	Sub-units planned
Lectures	Practicals	Total	-	-
-	04	04		
	Month: May		Module/Unit:	Sub-units planned
-	04	04	-	-
-	04	04	-	-

Dr. B.N. Shirde Name and Signature of Teacher

Name and Sprikture of HoD Department of Botany Vivekanand College Kolhapur



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

Academic Year: 2021-2022

Name of the teacher: Dr. Bhairu Nathaji Shinde

Programme: B. Sc. II Semester: IV

Subject: Botany

Course Title: "Plant anatomy and Plant metabolism"

M	onth: March		Module/Unit:	Sub-units planned
Lectures	Practicals- I,II	Total	Unit 4: Plant adaptations	Xeric adaptations
02	04	06		
Month: April			Module/Unit:	Sub-units planned
Lectures	Practicals- I,II	Total	Unit 4: Plant adaptations	Carnivorous adaptions
02	04	06		
1	Month: May		Module/Unit:	Sub-units planned
Lectures	Practicals- I,II	Total	Unit 4: Plant adaptations	P. D. V. J. P. V.
02	04	06	2000	Epiphytic and Parasitic plant

Dr. B. N. Shinde Name and Signature of Teacher Dr. B. Helder Mame and Signature of Hop Vivoletiment Gollege Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Bhairu Nathaji Shinde

Programme - B. Sc. III

Semester- VI

Subject: Botany

Course Title: Genetics and Plant Breeding and Biostatistics, Economic

Botany and Ethanobotany

Month - March			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Biostatistics	Introduction, statistical terms,
02		02		Sampling- Sampling methods
Month - April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Biostatistics	Collection and representation
04		04		data, Measures of central
				tendency- Mean, Mode and
				Median
Month- May			Module/Unit:	Sub-units planned
04		04	Biostatistics	Variances and standard
				deviation, coefficient of
				variation, Test of significance,
				Chi- square test

Name and Signature of Teacher

Dr. B. N. Shinde

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Note: In the above format, for each month for each teacher.



Kolhapur

Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Mrunalini N. Desai

Programme - B. Sc. III

Semester- V

Subject. Botany

Course Title: "Plant Systematic and Paleobotany"

Month - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper - DSC 7 E 2 Section - II	Types of fosils, Geological time scale
03	•	03	Unit - IV Paleobotany	time scale
Month - December		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
03		03	Paleobotany	Enigmocarpon, Lyngiopteris
Month- January			Module/Unit:	Sub-units planned
02	-	02		Application and role of
			Paleobotany	microfossils

Name and Signature of Teacher

(Dr. Mrunalini N. Desai)

Name and Supplier of HOD

Department of Botan

Vivekanand College

Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Mrunalini N. Desai

Programme - B. Sc. III

Semester- VI

Subject: Botany

Course Title- Biostatistics, Economic Botany and Ethanobotany

Month - March			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper – DSC 1007 G Section – II Unit - II	Cereals, legumes
03	-	03	Economic botany	
Month – April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
03	-	03	Economic botany	Vegetables
Month- May			Module/Unit:	Sub-units planned
03		03		
			Economic botany	Spices

Name and Signature of Teacher

(Dr. Mrunalini N. Desai)

Name and Signification HOD Department of Botani Vivekanand College



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Mrunalini N. Desai

Programme - B.Sc. II

Semester- III

Subject: Plant Protection

Course Title: General Agriculture and Plant pathology

Mon	th - Novemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper – DSC 1012C2 Section – I Unit - I	Cereals and oil seed crop
03	•	03	Introduction of Agriculture and study of major crops	
Mor	Month - December		Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Introduction of Agriculture and study of major crops	Pulse crop
03	100	03	- chay of major drops	
Month- January		ry	Module/Unit:	Sub-units planned
01		01	Introduction of Agriculture and study of major crops	Cash crops

Name and Signature of Teacher

Dr. Mrunalini N. Desai)

Name and Signature of HOD Department of Botany Vivekanand College Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Mrunalini N. Desai

Programme - B.Sc. II

Semester- IV

Subject: Plant Protection

Course Title: Weed Science and Insect pest

Month - March			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper – DSC 1011D2 Section – I Unit - IV	Nematodes Birds
02	-	02	Non Insect Pest and house hold pest	Bilds
M	ionth – Apri	ı	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Non Insect Pest and house hold	Rats
02		02	pest pest	Snails
Month- May			Module/Unit:	Sub-units planned
02		02	Non Insect Pest and house hold pest	Drosophila Housefly Mosquito

Name and Signature of Teacher

[Dr. Mrunalin' N. Desai)

Name and Department of Bota? Vivekanand College Kolhnour



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Mrunalini N. Desai

Programme - B. Sc. II

Semester- III

Subject: Botany

Course Title: " Plant Anatomy and Plant Metabolism ."

th - Novemb	er	Module/Unit:	Sub-units planned
Practicals	Total		
10	10	Plant Anatomy and Plant Metabolism	
nth – Decemb	per	Module/Unit:	Sub-units planned
Practicals	Total	Plant Anatomy and Plant	
10	10	Metabolism	
onth- Januar	у	Module/Unit:	Sub-units planned
08	08	Plant Anatomy and Plant Metabolism	
	Practicals  10  Practicals  Practicals  10  onth- Januar	10 10  nth – December  Practicals Total  10 10  onth- January	Practicals Total  10 10 Metabolism  hth – December Module/Unit:  Practicals Total Plant Anatomy and Plant Metabolism  10 10 Module/Unit:  10 10 Module/Unit:  08 08 Plant Anatomy and Plant Module/Unit:

Name and Signature of Teacher

Dr. Mrunalini N. Desai)

Name and Heritage of HOD
Department of Botant
Vivekanand College
Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Mrunalini N. Desai

Programme - B. Sc. II

Semester- IV

Subject: Botany

Course Title: " Plant Anatomy and Plant Metabolism ."

Mo	onth - March	1	Module/Unit:	Sub-units planned
Lectures 05	Practicals Total 07 12		Paper – IV Section – I Unit – II  Tissue and tissue system	Meristem Apical cell theory Histogen Theory
N	10nth – Apri		Module/Unit:	Tunica corpus theory  Sub-units planned
Lectures	Practicals	Total	Tissue and tissue system	Permenent tissue
05	07	12		Types of vascular bundle
Month- May			Module/Unit:	Sub-units planned
02	06	08	Tissue and tissue system	Epidermal, Secretory and mechanical tissue system

Name and Signature of Teacher

(Dr. Mrunalini N. Desai)

Name and Supposed HOD

Department of Botany

Vivekanand College

Kolhapur



Department of Botany Academic Year: 2021-2022 **Annual Teaching Plan** 

Name of the teacher: Dr. Dr. Mrunalini N. Desai

Programme - B. Sc. I

Semester- I

Subject: Botany

Course Title: "Biodiversity in cryptogams and Gymnosperms"

onth - March	1	Module/Unit:	Sub-units planned
Practicals	Total	Paper –I	
04	04	Biodiversity in cryptogams and Gymnosperms	
onth – April		Module/Unit:	Sub-units planned
Practicals	Total	Biodiversity in cryptogams and	
04	04	Gymnosperms	
Month- May		Module/Unit:	Sub-units planned
05	05	Biodiversity in cryptogams and Gymnosperms	
	Practicals  04  onth – Apri  Practicals  04  Month- May	Practicals Total  04 04  onth – April  Practicals Total  04 04  Month- May	Practicals Total Paper –I  O4 O4 Biodiversity in cryptogams and Gymnosperms  Onth – April Module/Unit:  Practicals Total Biodiversity in cryptogams and Gymnosperms  Month- May Module/Unit:  O5 O5 Biodiversity in cryptogams and

Name and Signature of Teacher
(Dr. Mrunalini N. Desai)

Name and Si Departme Vivekapand College Kolhanur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Dr. Mrunalini N. Desai

Programme - B. Sc. I

Semester- II

Subject: Botany

Course Title: "Biodiversity in cryptogams and Gymnosperms"

onth - March	1	Module/Unit:	Sub-units planned
Practicals	Total	Paper –I	
04	04	Biodiversity in cryptogams and Gymnosperms	
l Ionth – <b>Apri</b>	ı	Module/Unit:	Sub-units planned
Practicals	Total	Biodiversity in cryptogams and	
04	04	Gymnosperms	
Month- May		Module/Unit:	Sub-units planned
05	05	Biodiversity in cryptogams and Gymnosperms	
	Practicals  04  Onth – Apri  Practicals  04  Month- May	Practicals Total  04 04  Ionth – April  Practicals Total  04 04  Month- May	Practicals Total Paper –I  O4 O4 Biodiversity in cryptogams and Gymnosperms  Module/Unit:  Practicals Total Biodiversity in cryptogams and Gymnosperms  O4 O4 O4 Gymnosperms  Month- May Module/Unit:  O5 O5 Biodiversity in cryptogams and

Name and Signature of Teacher

(Dr. Mrunalini N. Desai)

Name and Sidding of HOD Department of Botan Wivekayland College Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Lubdha Abhijeet Kagale

Programme - B. Sc. III

Semester- V

Subject: Botany

Course Title: "Microbiology, Plant Pathology and Biofertilizers/

Plant Systematic and Paleobotany"

Month - November			Module/Unit:	Sub-units planned
Lectures 06	Practicals	Total 06	Paper - DSC 7 E 2 Section - II Unit - I Microbiology	Patterns of Senescence, Methods and Microorganisms in biological world
Month - December			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
06		06	Microbiology and Importance of Plant Systematics	Scope of microbes in industry,  Plant systematics introduction, Herbarium
Month- January			Module/Unit:	Sub-units planned
08	•	08	Importance of Plant Systematic	Functions of botanical garden, Evidences from Palynology, Cytology, Molecular data and phytochemistry

Name and Signature of Teacher

Dr. Lubdha A. Kagale



Name and Nicetairs of HOD
Department of Botany
Vivekanand College
Kolhapur

Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Lubdha Abhijeet Kagale

Programme - B. Sc. III

Semester- VI

Subject: Botany

Course Title- Biostatistics, Economic Botany and Ethnobotany

Month - March			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper – DSC 1007 G Section – II Unit - IV	Introduction and objectives, Data collection, Herbarium,
04		04	Ethnobotany	Field work,
Month – April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
04		04	Ethnobotany	Role of ethanobotany in modern medicine, Ancient literature, Sacred groves
Month- May			Module/Unit:	Sub-units planned
05	•	05	Ethanobotany and Herbal technology	Archaeological findings, Pharmacognosy, Phytochemicals

Name and Signature of Teacher

Dr. Lubdha A. Kagale

Department of Botany Vivekanand College Kolhapur

Name and



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

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 - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper – DSC 1012C2 Section – II Unit - I	Isolation, Inoculation and pure
03	04	07	Crop diseases	culture of fungi and Bacteria
Month - December			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section – II Unit - IV  Management of crop diseases	Principles, Classification of
03	04	07	and Pathophysiological skills	fungicides on chemical nature,  Mode of action
Month- January			Module/Unit:	Sub-units planned
03	05	08	Management of crop diseases and Pathophysiological skills	Fungicide formulation, mode of action, Chemical nature and properties of Carbendazim and COC

Name and Signature of Teacher

Dr. Lubdha - A. Kagale

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Name and Thomas of HOD

Department of Bokant

Vivekapand College

Kolhapur

Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Lubdha Abhijeet Kagale

Programme - B.Sc. II

Semester- IV

Subject: Plant Protection

Course Title: Weed Science and Insect pest

onth - Marc	h	Module/Unit:	Sub-units planned
Practicals	Total	Paper – DSC 1011D2 Section –	Principal of insect pest control,
05	05 09	Management of Insect Pest	classification best on of entry
lonth – Apri		Module/Unit:	Sub-units planned
Practicals	Total		Systemic insecticide and
05	09	Management of Insect Pest	fumigants, mode of action and chemical nature
Month- May		Module/Unit:	Sub-units planned
.04	06	Management of Insect Pest	Plant origin insecticides, Nature of formulations
	Practicals  05  Onth - Apri  Practicals  05  Month- May	05 09  Ionth – April  Practicals Total  05 09  Month- May	Practicals Total Paper – DSC 1011D2 Section – II Unit - III Management of Insect Pest  Module/Unit:  Practicals Total  O5 09  Management of Insect Pest  Management of Insect Pest  Management of Insect Pest  Module/Unit:  Module/Unit:

Name and Signature of Teacher

Dr. Lubdha A. Kagale

Name and Special Portage
Department of Botany
Vivokanand College
Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Lubdha Abhijeet Kagale

Programme - B. Sc. II

Semester- III

Subject: Botany

Course Title: " Plant Anatomy and Plant Metabolism"

th - Novemb	er	Module/Unit	Sub-units planned
Practicals	Total	Paper -III Section - II Unit II	Criteria of essentiality, Macro
05	05	Mineral Nutrition	and Micro elements
Month - December		Module/Unit:	Sub-units planned
Practicals	Total		Active and Passive uptake
04	04	Mineral Nutrition	
Month- January		Module/Unit:	Sub-units planned
04	04	Mineral Nutrition	Role and deficiency of mineral elements
	Practicals  05  th – December Practicals  04  onth- Januar	05 05 th – December  Practicals Total 04 04 onth- January	Practicals Total Paper -III Section - II Unit II  05 05 Mineral Nutrition  th - December Module/Unit:  Practicals Total Mineral Nutrition  04 04 Mineral Nutrition  mth- January Module/Unit:

Name and Signature of Teacher

Dr. Lubdha A. Kogale

Department of Botan Vivekanard College Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Lubdha Abhijeet Kagale

Programme - B. Sc. II

Semester- IV

Subject: Botany

Course Title: " Plant Anatomy and Plant Metabolism "

Month - March			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper –IV Section – II Unit III	
-5	04	04	Plant Anatomy	
Month – April		l.	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
-	04	04	Plant Anatomy	
Month- May			Module/Unit:	Sub-units planned
	02	02		
			Plant Anatomy	

Name and Signature of Teacher

Dr. Lubdha A. Kagale

Name and Signature of HOD

Department of Botant

Vivekanand College

Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Lubdha Abhijeet Kagale

Programme - B. Sc. I

Semester- I

Subject: Botany

Course Title: "Biodiversity in cryptogams and Gymnosperms"

onth - March	1	Module/Unit:	Sub-units planned
Practicals	Total	Paper –I	
04	04	Biodiversity in cryptogams and Gymnosperms	
Month – April		Module/Unit:	Sub-units planned
Practicals	Total	Biodiversity in cryptogams and	
04	04	Gymnosperms	
Month- May		Module/Unit:	Sub-units planned
02	02	Biodiversity in cryptogams and Gymnosperms	
	Practicals  04  Ionth – Apri  Practicals  04  Month- May	04 04  Ionth – April  Practicals Total  04 04  Month- May	Practicals Total Paper –I  O4 O4 Biodiversity in cryptogams and Gymnosperms  Module/Unit:  Practicals Total Biodiversity in cryptogams and Gymnosperms  Month- May Module/Unit:  O2 O2 Biodiversity in cryptogams and

Name and Signature of Teacher

Dr. Lubdha A. Kagale

Name and Signant of HOD Department of Botany Vivekanand Colleus Kolhapur



Department of Botany Academic Year: 2021-2022 **Annual Teaching Plan** 

Name of the teacher: Dr. Sarika Dipak Patil

Programme - B. Sc. III

Semester- V

Subject: Botany

Course Title: "Plant Biochemistry and Stress physiology"

Month - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper - DSC 7 E 2 Section - I	Definition of plant stress,  Types of stress
03	-0	03	Unit - III Stress physiology	Types of sitess
Month - December			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
03		03	Stress physiology	Water and salinity stress, light and temperature stress
M	onth- Januar	у	Module/Unit:	Sub-units planned
02		02	Stress physiology	Stress sensing mechanism, calcium modulation and signaling

Dr. Sarika D. Patil.)

Name and Signature of Teacher

Name and Signal Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Sarika Dipak Patil

Programme - B. Sc. III

Semester- VI

Subject: Botany

Course Title- Genetics and Plant breeding

Month - March			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper – DSC 1007 G Section – I Unit - I	Introduction and Terminologies
03		03	Heridity	
Month – April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
03		03	Heridity	Laws of inheritance
Month- May			Module/Unit:	Sub-units planned
03		03		
			Heridity	Multiple allelism

( Dr. Sarika D. Patil.) Name and Signature of Teacher

Name and Signature of HOD

Name and Signature of HOD

Head

Dr. Blead

Department Botany

Vivekanand College

Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Sarika Dipak Patil

Programme - B.Sc. II

Semester- III

Subject: Plant Protection

Course Title: General Agriculture and Plant pathology

Month - November			Module/Unit:	Sub-units planned	
Lectures	Practicals	Total	Paper - DSC 1012C2 Section -	Phytoplasmal diseases Viral diseases	
04		04	II Unit - III Plant diseases		
Month – December		oer	Module/Unit:	Sub-units planned	
Lectures	Practicals	Total		Bacterial diseases	
04	1-1	04	Plant diseases		
Month- January		у	Module/Unit:	Sub-units planned	
04 - 04		04	Plant diseases	Fungal diseases	

(Dr. Sorika D. Patil.) Name and Signature of Teacher

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Department of Botany Academic Year: 2021-2022 **Annual Teaching Plan** 

Name of the teacher: Dr. Sarika Dipak Patil

Programme - B.Sc. II

Semester- IV

Subject: Plant Protection

Course Title: Weed Science and Insect pest

Month - March			Module/Unit:	Sub-units planned
Lectures	Tomi   Tomi	Harmful and beneficial effect of		
02	•	02	Unit - I Introduction of Weeds	weed, poisonous and noxious weeds
Month - April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		Characteristics of weed,
02		02	Introduction of Weeds	Parasitic and aquatic weed
1	Month- May		Module/Unit:	Sub-units planned
02	-	02	Introduction of Weeds	Classification of weeds, weed biology of weed, and ecology

Name and Signature of Teacher

Name and Sig



Department of Botany Academic Year: 2021-2022 **Annual Teaching Plan** 

Name of the teacher: Dr. Sarika Dipak Patil

Programme - B. Sc. II

Semester- III

Subject: Botany Course Title: "Plant Physiology"

Month - November			Module/Unit:	Sub-units planned	
Lectures	Practicals	Total	Paper -III Section - II Unit III	Ultrastructure of photosynthetic	
03	10	13	Photosynthesis	apparatus, photosynthetic pigments	
Month - December			Module/Unit:	Sub-units planned	
Lectures	Practicals	Total		Mechanism of photosynthesis	
02	07	09	Photosynthesis		
Month- January			Module/Unit:	Sub-units planned	
03	07	10		Significance of photosynthesis	
			Photosynthesis		

( Dr. Sarika D. Patil.)

Name and Signature of Teacher

Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Sarika Dipak Patil

Programme - B. Sc. II

Semester- IV

Subject: Botany

Course Title: "Plant Anatomy and Plant Metabolism"

Month - March		1	Module/Unit:	Sub-units planned	
Lectures	Practicals	Total	Paper -IV Section - II Unit III		
-	10	10	Plant Anatomy		
Month - April		ı	Module/Unit:	Sub-units planned	
Lectures	Practicals	Total			
•	07	07	Plant Anatomy		
Month- May			Module/Unit:	Sub-units planned	
-14.	07	07			
			Plant Anatomy		

(Dr. Sarika D. Patil.)

Name and Signature of Teacher

Name and Signature of HOD
Programment Bolant
Vivekanand College
Kolhapur



Department of Botany Academic Year: 2021-2022 **Annual Teaching Plan** 

Name of the teacher: Dr. Sarika Dipak Patil

Programme - B. Sc. I

Semester- I

Subject: Botany

Course Title: "Biodiversity in cryptogams and Gymnosperms"

Month - March			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper –I	
-	10	10	Biodiversity in cryptogams and Gymnosperms	
N	Ionth - Apri	1	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Biodiversity in cryptogams and	
Te	10	10	Gymnosperms	
Month- May			Module/Unit:	Sub-units planned
•	06	06	Biodiversity in cryptogams and Gymnosperms	

(Dr. Sarika D. Patil.) Name and Signature of Teacher

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Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Sarika Dipak Patil

Programme - B. Sc. I

Semester-II

Subject: Botany

Course Title: "Biodiversity in cryptogams and Gymnosperms"

Month - March			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper –I	
	10	10	Biodiversity in cryptogams and Gymnosperms	
Month - April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Biodiversity in cryptogams and	
	10	10	Gymnosperms	
Month- May			Module/Unit:	Sub-units planned
•	06	06	Biodiversity in cryptogams and  Gymnosperms	

(Dr. Sarika D. Patil.) Name and Signature of Teacher

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Kolhapur



Department of Botany Academic Year 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Ketaki Prakash Patil

Programme - B. Sc. 1

Semester- I

Subject: Botany

Course Title: "Biodiversity in microbes, algae and fungi"

Month - March			Module/Unit	Sub-units planned
Lectures	Practicals	Total	DSC 1007 A Paper I- Unit -I  1. Biodiversity in microbes	Microbes- Viruses- DNA virus, RNA virus
05	04	09	DSC 1007 B Paper II- Unit -II	
			Gymnosperms	General characters, classification and economic importance
Month – April		1	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Biodiversity in microbes	Bacteria- Types and
05	04	09	Gymnosperms	Morphology, Anatomy and life cycles
Month- May			Module/Unit:	Sub-units planned
04	02	06	Biodiversity in microbes  Gymnosperms	Economic importance of bacteria and viruses
				Evolutionary significance of gymnosperms

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Department of Botan

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Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Ketaki Prakash Patil

Programme - B. Sc. I

Semester- II

Subject: Botany

Course Title: "Plant Ecology"

Month - March			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper III: DSC1007C Ecosysytem and	Ecosystem introduction composition and type
05	04	09	Phytogeography	composition and type
N	fonth – Apri	1	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Ecosysytem and Phytogeography	Terrestrial ecosystem and their types
05	04	09		
Month- May			Module/Unit:	Sub-units planned
05	02	07	Ecosysytem and Phytogeography	Phytogeographical regions of India

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Department of Botany Vivekanand College Kolhapur



Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Ketaki Prakash Patil

Programme - B. Sc. II

Semester- III

Subject: Botany

Course Title: "PlaTaxonomy, Embryology and plant physiology

Month - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper -III Section - I Unit IV	Annonaceae
03	05	05	Plant Families	Meliaceae
Mor	nth – Decemb	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		Apocynaceae
02	04	04	Plant Families	Lamiaceae
Month- January			Module/Unit:	Sub-units planned
02	04	04	Plant Families	Amaranthaceae Orchidaceae

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Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Ketaki Prakash Patil

Programme - B. Sc. II

Semester- IV

Subject: Botany

Course Title: " Plant Anatomy and Plant Metabolism "

Month - March			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper -IV Section - II Unit III	
	04	04	Plant Anatomy	
Month - April		ı	Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
F0.7	04	04	Plant Anatomy	
Month- May			Module/Unit:	Sub-units planned
•	02	02		
			Plant Anatomy	

Name and Signature of Teacher

Dr. K. P. Patil

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Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Ketaki Prakash Patil

Programme - B. Sc. III

Semester- V

Subject: Botany Course Title: "Cytology and Research in life sciences and Microbilogy

Plant pathology and Biofertilizers"

Month - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper - DSC 7 E 1Section - I	la. The cell theory, prokaryotic and eukaryotic,
05	03	08	Unit – 1 Cell is unit of life	cell size and shape, eukaryotic cell components
Mor	nth - Decemb	er	Module/Unit:	Sub-units planned
Lectures Practicals Total		N. Trail	Cell is unit of life	1b. Cell membrane and cell wall
04	03	07	Radiation Biology	1c. The functions of membranes, models of membrane structure 4d. Autoradiography techniques  4e. Geiger-Mullar experiment/ Liquid Scintillator
Month- January			Module/Unit:	
04	04	08	Cell is unit of life Radiation Biology	1d. The fluidity of membranes, membrane protein and their functions, faces of the membrane, selective permeability of the membrane cell wall  4f. Precautionary Measures

Name and Signature of Teacher

Dr. K. P. Pa fil

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Department of Botany Academic Year: 2021-2022 Annual Teaching Plan

Name of the teacher: Dr. Ketaki Prakash Patil

Programme - B. Sc. III

Semester- VI

Subject: Botany

Course Title- Molecular biology and Biotechnolgy

Month - March			Module/Unit:	Sub-units planned
Lectures		Total	Paper – DSC 1007 G Section – I Unit – III	Introduction, Methods of gene transfer,
04		04	Genetic Engineering	Agrobacterium mediated, direct gene transfer
Month - April			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		
04	06	04	Genetic Engineering	Transgenic plants- Bt cotton and golden rice, Application of genetic transformation
Month- May			Module/Unit:	Sub-units planned
05	06	05	Genetic Engineering	Blotting techniques

Name and Signature of Teacher

Dr. K. P. Patil

DT. B. T. Dangal

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Vivekanand College Kolhapur



