



"Education for Knowledge, Science, and Culture"

- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur

(Autonomous)



Department of Botany

Syllabus Completion Report

2021-2022

Syllabus Completion Report

Department of Botany

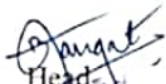


Department of Botany

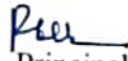
Syllabus Completion Report 2021-2022

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Head
Department of Botany
Vivekanand College
Kolhapur




Principal
Vivekanand College, Kolhapur
PRINCIPAL
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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist

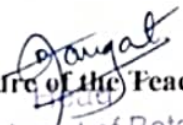
Name of the Teacher: Dr. Bhaurav Tukaram Dangat


Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-------------|---------|--|--|-------------------------|-----------|
| B.Sc. I | Botany | Unit 2: Algae and Fungi | <p>2b. Fungi: General Characters, Classification (As per Ainsworth) up to class with characters and suitable example, Economic importance. A. Morphology and Life Cycles (Excluding developmental stages) of 1. Zygomycotina- <i>Mucor</i> 2. Ascomycotina- <i>Penicillium</i></p> <p>2c. Lichen: Definition, structure of thallus, types, reproduction & economic importance</p> <p>Practicals</p> | | Completed |
| B.Sc. II | Botany | Unit. 1: Organization of flower | <p>1a: Concept of flower as a modified shoot, structure of typical flower.</p> <p>1b: Structure of typical stamen, microsporogenesis, Pollen germination and development of male gametophyte.</p> <p>1c: Structure of typical gynoecium,</p> | | Completed |



| | | | | |
|--------------|--------|---|--|-----------|
| | | | <p>structure of a typical ovule, types of ovules</p> <p>Id: Megasporogenesis, structure of embryo sac: Monosporic (<i>Polygonum</i>), Bisporic (<i>Allium</i>) and Tetrasporic (<i>Pepromia</i>) and development of female gametophyte.</p> <p>Practicals</p> | |
| B.Sc. III | Botany | <p>Unit : I</p> <p>Plant Biochemistry</p> | <p>Carbohydrate metabolism.</p> <p>Ia: Introduction and classification of Carbohydrates</p> <p>Ib: Properties of Monosaccharide's, Oligosaccharide's, Polysaccharide's</p> <p>Ic: Significance</p> <p>Protein metabolism.</p> <p>Id: Introduction, properties and characters of amino acids</p> <p>Ie: Protein- structure and classification</p> <p>If: Protein synthesis</p> <p>Practicals</p> | Completed |


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Term: IInd

Name of the Teacher: Dr. Bhaurav Tukaram Dangat

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|---------|--|---|-------------------------|-----------|
| B.Sc. I | Botany | “Angiosperms Taxonomy ” Unit 1. Angiosperms Taxonomy | 1a: Salient features of Angiosperms. 1b: Taxonomy – Introduction, Function(Identification, Nomenclature and Classification), Importance. 1c: Salient features of International Code of Botanical Nomenclature (ICBN). Practicals | | Completed |
| B.Sc. II | Botany | “Plant Anatomy and Plant Metabolism” | 1a: Plant organs (Introductory) 1b: Development of plant body (Seedling development) 1c: Internal organization Practicals | | Completed |
| B.Sc. III | Botany | “Molecular Biology and Biotechnology” Section I Unit : 2 Recombinant DNA Technology | 2a: Introduction and Principle 2b: Enzymes involved in recombinant DNA technology 2c: Cloning Vectors (Plasmid, Bacteriophage and Cosmids) 2d: Gene Amplification: PCR techniques Practicals | | Completed |

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STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist

Name of the Teacher: Dr. Abhijeet R. Kasarkar

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|------------------|---|---|-------------------------|-----------|
| B.Sc. I | Botany | Paper – I Section – I Unit. 2 – a Algae | Paper – I Section – I Unit. 2 – a Algae | | Completed |
| B.Sc. II | Botany | Paper – III Section - I Unit. 4 Plant Families | Paper – III Section – I Unit. 4 Plant Families | | Completed |
| | | Paper – III Section - II Unit. 4 Respiration | Paper – III Section – II Unit. 4 Respiration | | Completed |
| B.Sc. II | Plant Protection | Paper – I Section – I Unit. 4 – Methods of Plant Protection Part II | Paper – I Section – I Unit. 4 – Methods of Plant Protection Part II | | Completed |
| | Practical - I | Study of Jowar, Groundnut, Gram, Sugarcane, Brinjal, Rose | Study of Jowar, Groundnut, Gram, Sugarcane, Brinjal, Rose | | |
| B.Sc. III | Botany | Paper – IX Section - I Unit. 3 Analytical Techniques in Plant science. | Paper – IX Section – I Unit. 3 Analytical Techniques in Plant science. | | Completed |

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Head

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Name of the Teacher: Dr. Abhijeet R. Kasarkar

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not covered | Remarks |
|-----------|------------------|--|--|----------------------|-----------|
| B.Sc. I | Botany | Paper – III Section - I Unit. 1 – Salient features of Taxonomy. Study of ICBN. Bentham and Hooker's system of Classification. | Paper – III Section – I Unit. 1 – Salient features of Taxonomy. Study of ICBN. Bentham and Hooker's system of Classification. | | Completed |
| B.Sc. II | Botany | Paper – IV Section - II Unit. 4 – Seed Dormancy and Germination | Paper – IV Section – II Unit. 4 – Seed Dormancy and Germination | | Completed |
| B.Sc. II | Plant Protection | Paper – II Section - I Unit. 3 – Methods of Weed Management | Paper – II Section – I Unit. 3 – Methods of Weed Management | | Completed |
| | Practical - I | Study of Weeds, Quadrat, Dispersal of Weeds, Soil pH and Moisture, Study of Herbicide, Nematicide and Herbarium technique | Study of Weeds, Quadrat, Dispersal of Weeds, Soil pH and Moisture, Study of Herbicide, Nematicide and Herbarium technique | | |
| B.Sc. III | Botany | Paper – XVI Section - II Unit. 1 – Horticulture, Importance, Propagation, Nursery Management | Paper – XVI Section – II Unit. 1 – Horticulture, Importance, Propagation, Nursery Management | | Complete |

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Year: 2021-2022

Term: I "


Name of the Teacher: Dr.Sarika Dipak Patil.

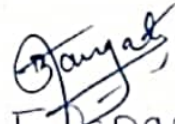
Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-------------|--------------------|---------------------------------------|--|-------------------------|-----------|
| B.Sc. II | Plant Protection - | Paper I Unit. III: | Study of following crop diseases with reference to pathogen, symptoms, disease cycle and their management. 12 hrs 3a: Diseases caused by phytoplasma-Little leaf of Brinjal 3b: Diseases caused by Viruses - Yellow vein mosaic of Okra (Bhendi), 3c: Diseases caused by Bacteria - Citrus canker, 3d: Diseases caused by Fungi - Rust of soybean, 12 White Rust of Crucifers, Grain smut of Jowar, Tikka disease of Groundnut, Powdery mildew of Rose Downey mildew of Grapes | | Completed |
| B.Sc. II | Botany | Paper III Section II Unit. III: | Photosynthesis 3a. Introduction : Ultrastructure of Photosynthetic apparatus. 3b. Photosynthetic pigments-(Chlorophylls, Carotenoids and Phycobilins) 3c. Mechanism of Photosynthesis: a) Light reaction- Photolysis of water, Photosystem I and Photosystem II, Electron transport and Photophosphorylation- Cyclic and Non-cyclic. b) Dark reaction: Calvin cycle C3 c) Adaptive Pathway of Photosynthesis- Hatch- Slack Pathway- (C4) and CAM pathway 3d. Significance of photosynthesis | | Completed |



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|--------------|--------|--|---|-----------|
| B.Sc. III | Botany | <p>Paper V "Cytology and Research Techniques in Life Sciences" Section – I</p> <p>Unit2.</p> <p>Paper V "Microbiology, Plant Pathology and Biofertilizers " Section – II Unit 3.</p> | <p>Cell Organelles</p> <p>2a: Glyoxisomes, Peroxisomes and Lysosomes – Structure, composition and functions.</p> <p>2b: Cell cycle</p> <p>2c: Apoptosis.</p> <p>3d: Spices – Leaf spot of Turmeric</p> <p>3e: Vegetable – White Rust of <i>Amaranthus</i></p> <p>3f: Fruit -Leaf curl of Papaya</p> | Completed |
|--------------|--------|--|---|-----------|


 (Dr. Sarika D. Patil.)
 (Signature of the Teacher)


 (Dr. B.T. Pangat.)
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Name of the Teacher: Dr.Sarika Dipak Patil.

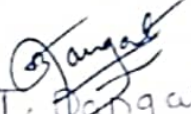
Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|-------------------------------|---|--|-------------------------|-----------|
| B.Sc. I | Botany | | Practicals | | Completed |
| B.Sc. II | Botany | | Practicals | | Completed |
| B.Sc. II | Plant Protection – DSC-1011D2 | Section –I Weed Science Unit-I | Introduction of weeds 06 hrs 1a: Weeds – Definition and losses caused by weeds 1b: Characteristic of Beneficial Weed 1c: Classification of weeds based on : a) Ontogeny, b) Ecology, c) Crop association 1d: Weed Biology and Ecology 1e: Study of parasitic , aquatic, poisonous and noxious weeds. | | Completed |
| B.Sc. III | Paper : DSC 7 G Title : | “Genetics and Plant Breeding” Unit-I | Heredity 1a: Introduction, Terminologies, Laws of Inheritance (Monohybrid and Dihybrid) 1b: Multiple Allelism Section II : “Horticulture, Forestry and Herbal Technology Gardening and Ornamental | | Completed |



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|--|--|--|--|--|--|
| | | | Gardening, Importance and Landscape garden 2b.Ornamental Plants: Herbs, Shrubs, Trees, Indoor plants, Lawn and Climbe | | |
|--|--|--|--|--|--|


 (Dr. Sarika D. Patil.)
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Year: 2021-2022

Term: Ist

Name of the Teacher: Dr. Jyoti Mahadev Gorule

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-------------|------------------|--|---|-------------------------|-----------|
| B.Sc. I | Botany | Section – I Biodiversity in Microbes, Algae and fungi Unit. 3: Bryophytes and Pteridophytes 3a. Bryophytes | General characters, Adaptation to land habit, Classification (As per G. M. Smith) upto class, Alternation of Generation, Economic importance. Morphology, Anatomy and Life Cycle (Excluding developmental stages) Hepaticopsida - <i>Riccia</i> Anthocerotopsida- <i>Anthoceros</i> | | Completed |
| B.Sc. II | Plant Protection | Section –I “General Agriculture ” Unit 2 2b: Advanced Agricultural practices with reference to concept and applications | A) Organic Farming B) Transgenic methods (<i>Agrobacterium</i> mediated gene transfer) , Examples of Transgenic crops. 3a:Cultural methods – Tillage, crop rotation, trap crops, fertilizer applications 3b: Mechanical methods – Field sanitation, Hand picking, | | Completed |



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|--------------|--------|--|--|--|-----------|
| | | Unit. III. Methods of Plant Protection part -I. | Destruction of infected plants /plant parts, Destruction of egg masses, light traps, use of sticky bands, bagging for the pests. 3c: Physical methods – Heat and soil solarisation | | |
| B.Sc. III | Botany | Section – I Plant Biochemistry Unit : II Lipid metabolism and Fatty acid metabolim. | 2a: Introduction and classification of lipids. 2b: Properties of fatty acids (Stearic and Palmitic acid), and unsaturated fatty acids (Linoleic and Linolenic acid) 2c: Beta oxidation. 2d: Gluconeogenesis and role in mobilization of fatty acids during germination. 2e: Significance of lipids. | | Completed |

J. M. M.

(Signature of the Teacher)

S. Arora
Head

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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: IInd

Name of the Teacher: Dr. Jyoti Mahadev Gorule

Department: Botany

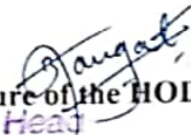
| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|--------------|---------|--|--|-------------------------|-----------|
| B.Sc. I | Botany | Section II Unit 4. Morphology and modifications in Angiosperms | 4a. Morphology and modification of Root. 4b. Morphology and modification of Stem. 4c. Morphology and modification of Leaf. | | Completed |
| B.Sc. II | Botany | Section II: Unit . II. Study of insect pests | Jowar – Stem borer Sugarcane – Whitegrub Gram – Podborer Mango – Hoppers Brinjal – Fruitborer Rose – Bud borer Rice Weevil Pulse beetle | | Completed |
| B.Sc. III | Botany | Horticulture, Forestry and Herbal Technology” Section II | Forestry 3a: Introduction, Forest types of India 3b: Wild life and Biosphere reserves | | Completed |



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|--|--|--|--|--|--|
| | | | 3c: Social and Agricultural Forestry 3d: Forest research education and Training institutions 3e: Forest Acts 3f: Different Plant as a forest products | | |
|--|--|--|--|--|--|



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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED


Year: 2021-2022

Term: I st


Name of the Teacher: Ms. Snehal Sanjay Wadkar

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|------------|---------|---|---|-------------------------|---------|
| B.Sc.- III | Botany | Biofertilizer: Microbes in Agriculture-Biological nitrogen fixation, Mycorrhizae | Biofertilizer: <ul style="list-style-type: none"> Microbes in Agriculture-Biological nitrogen fixation, Mycorrhizae | - | - |
| | | Organic farming - Introduction, concept and scope of organic farming | <ul style="list-style-type: none"> Organic farming - Introduction, concept and scope of organic farming | | |
| | | Green Mnuaring | <ul style="list-style-type: none"> Green Mnuaring | | |
| | | Biocompost making methods | <ul style="list-style-type: none"> Biocompost making methods | | |



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Name of the Teacher: Ms. Snehal Sanjay Wadkar

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to Covered | Remarks |
|----------|---------|---|---|-------------------------|---------|
| B.Sc.-I | Botany | Practical | Practical | - | - |
| B.Sc.-II | Botany | Unit I: Enzymes Unit II: Nitrogen Metabolism - <ul style="list-style-type: none"> • Introduction • Biological nitrogen fixation • General structure and role of Nitrogenase Practical -I Practical-II | Unit I: Enzymes Unit II: Nitrogen Metabolism - <ul style="list-style-type: none"> • Introduction • Biological nitrogen fixation • General structure and role of Nitrogenase Practical -I Practical-II | - | - |
| | | Unit III: Extrachromosomal Genome Unit III: Economic Botany II | Unit III: Extrachromosomal Genome Unit III: Economic Botany II | - | - |

S. Wadkar
Signature of Teacher

Jangal
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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist / IInd

Name of the Teacher: Dr. Annapurna Ram Alvikar

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|---------------------|---------|---|----------------------|-------------------------|---------|
| B.Sc. I (Sem. I) | Botany | Section-II: "Bryophytes, Pteridophytes and Gymnosperms" Unit I: 'Pteridophytes' Introduction, General characters, Classification (As per G. M. Smith) Morphology and Anatomy of <i>Selaginella</i> and <i>Pteris</i> Heterospory and Seed habit in Pteridophytes | All syllabus covered | Nil | - |

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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

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Year: 2021-2022

Term: Ist / IInd

Name of the Teacher: Dr. Annapurna Ram Alvikar

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|----------------------|---------|---|------------------------|-------------------------|---------|
| B.Sc. I (Sem. II) | Botany | Section-I: "Plant Ecology" 'Unit I: Ecological factors and Plant Communities | All syllabus covered | Nil | -- |
| | | Introduction, Definition of Ecology Ecological Factors Edaphic Factors Climatic Factors Ecological adaptations Soil Pollution Ecological succession Ecological Interaction | | | |
| | | Practicals | All Practicals covered | Nil | -- |

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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

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Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-------------------------------|---------|-------------------|------------------------|-------------------------|---------|
| B.Sc. II (Sem. III and IV) | Botany | Practicals | All Practicals covered | Nil | -- |

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Head
Department of Botany
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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

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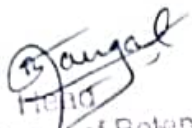
Year: 2021-2022

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Name of the Teacher: Dr. Annapurna Ram Alvikar

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|----------------------|---------|--|----------------------|-------------------------|---------|
| B.Sc. III Sem. V) | Botany | Section-I: Unit 3: 'Stress Physiology' | All syllabus covered | Nil | -- |
| | | Introduction, Defining Plant Stress Types of Stress: Water Stress, Salinity Stress, High Heat Stress, Temperature Stress Calcium Modulation, Phospholipid signalling | | | |


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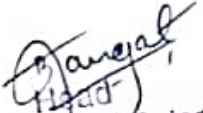
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Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------------------|---------|--|---------------------------|-------------------------|---------|
| B.Sc. III Sem. VI) | Botany | Section-I: Unit I: 'Genetic Material' | All syllabus covered | Nil | -- |
| | | Introduction Nucleic acids(DNA, RNA) Griffth's and Avery's transformation experiment Harshey Chase bacteriophage experiment DNA structure Types of DNA DNA replication Types of RNA | | | |
| | | Practical II | All Practicals covered | Nil | -- |


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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist / IInd

Name of the Teacher: Dr. Priya Digambar Patil

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|--------------------------|---------|-------------------|------------------------|-------------------------|---------|
| B.Sc. I (Sem. I & II) | Botany | Practicals | All practicals covered | Nil | -- |

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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

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Name of the Teacher: Dr. Priya Digambar Patil

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------------------|---------|--|-----------------------------|-------------------------|---------|
| B.Sc. II Sem. III) | Botany | Section-II: Unit 2: 'Pollination and Fertilization' Introduction, Definition, Types of pollination Mechanism of Anemophily, Entomophily and Hydrophily Mimicry in orchids Fertilization: Entry of pollen tube, Double fertilization and triple fusion. Structure and development of monocot and dicot embryo. Development of endosperm, Types: Nuclear, Helobial and cellular | All syllabus covered | Nil | -- |

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Name of the Teacher: Dr. Priya Digambar Patil

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------------------|---------|---|------------------------|-------------------------|---------|
| B.Sc. II (Sem. IV) | Botany | Section-II: Unit 4: 'Plant adaptations' | All syllabus covered | Nil | -- |
| | | Mangroves & their adaptations: Introduction, Types of mangroves, Different adaptations in mangroves | | | |
| | | Practical-II | All practicals covered | Nil | -- |

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Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|----------------------|---------------------|---|-------------------------|-------------------------|---------|
| .Sc. II sem. III) | Plant Protection | Section-II: 'Plant Pathology' Unit I: 'Crop Diseases' | All syllabus covered | Nil | -- |
| | | Introduction and importance of plant pathology. Definition and concept of disease, Terminologies used in plant pathology, Phytoalexins, siderophores, Classification of plant disease based on- a) Pathogens b) Symptoms c) Severity, spread & occurrence of | | | |



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| | | disease d) Transmission of pathogens through e) Host f) Cause (Biotic, abiotic & mesobiotic) | | | |
| | | Unit2: Mechanism of plant infection : Mechanism of infection (Fungi, Bacteria & virus) Factors affecting infection | All syllabus covered | Nil | -- |

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 Head
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STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist / IInd

Name of the Teacher: Dr. Priya Digambar Patil

Department: Botany

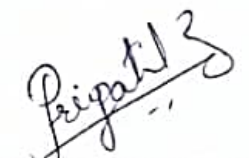
| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not covered | Remark |
|-----------------------|---------------------|--|-------------------------|----------------------|--------|
| B.Sc. II (Sem. IV) | Plant Protection | Section-II: 'Unit I: 'Introduction to insect pests' | All syllabus covered | Nil | -- |
| | | Definition and losses caused by insect pests Causes for insects to assume pest pests Classification of insect pest based on- a) Occurrence of pest b) Intensity of pest c) Level of infestation d) Food requirement | | | |



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|--|--|---|-----------------------------|------------|-----------|
| | | Unit 4: Recent trends in pest management Introduction a) Attractants b) Repellents c) Antifeedants d) Pheromones e) Chemosterilants Precautionary measures used during pesticides | All syllabus covered | Nil | -- |
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 (Signature of Teacher)

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist / IInd

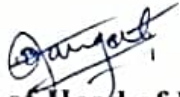
Name of the Teacher: Dr. Priya Digambar Patil


Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------------------|---------|---|----------------------|-------------------------|---------|
| B.Sc. III (Sem. V) | Botany | Section-II: Unit 2: 'Plant Pathology' | All syllabus covered | Nil | -- |
| | | Introduction and Classification of plant diseases based on- a) Pathogens b) crops c) symptoms Study of mechanism of infection in disease development Prevention & control of plant diseases. Role of Plant Quarantine Functions & significance of plant pathology. | | | |



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|--|--|-----------------------------|------------|-----------|
| | Unit 4: Radiation Biology Radioactive isotopes, Introduction & examples, Effect of radiations on Biological systems. Beneficial effects of radiations. Factors affecting infection | All syllabus covered | Nil | -- |
|--|--|-----------------------------|------------|-----------|


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 Kolhapur


(Signature of Teacher)



VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist / IInd

Name of the Teacher: Dr. Priya Digambar Patil

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|------------------------|---------|--|----------------------|-------------------------|---------|
| B.Sc. III (Sem. VI) | Botany | Section-I: Unit 4: 'Plant Tissue Culture' | All syllabus covered | Nil | -- |
| | | Principle and totipotency, Components of culture media, Sterilization techniques, Different techniques in tissue culture, Organogenesis and Embryology Anther culture. Applications of tissue culture. | | | |
| | | Practical-IV | All syllabus covered | Nil | -- |

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Kolhapur



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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: IstName of the Teacher: **Dr. Lubdha Abhijeet Kagale**Department: **Botany**

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|----------|------------------|--|---|-------------------------|-----------|
| B.Sc. I | Botany | Practical I | Biodiversity of Cryptogams and Gymnosperms | | Completed |
| B.Sc. II | Botany | Paper III Unit. III: Mineral Nutrition | 1a: Criteria of essentiality, Macro and Micro elements 1b: Active and Passive uptake Diffusion and Facilitated diffusion. 1c: Role and deficiency of mineral elements (Macroelements and Microelements) | | Completed |
| B.Sc. II | Plant Protection | Paper – DSC 1012C2 Section – II Unit - I Crop diseases | 1e: Symptoms of plant diseases- mildew, rust, smut etc. 1f: Isolation of fungi and Bacteria Inoculation of fungi and Bacteria Pure culture of fungi and Bacteria Koch's Postulates | | Completed |



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|--------------|---------------------|--|--|-----------|
| B.Sc. II | Plant Protection | Section – II Unit - IV Management of crop diseases and Pathophysiol ogical skills | Ia: Principle of plant diseases Ib: Classification of fungicides on chemical nature, Mode of action Ic: Formulation of Fungicide, granular and dust etc. Id: Mode of action, Chemical nature and properties of Carbendazim and COC | Completed |
| B.Sc. III | Botany | Paper – DSC 7 E 2 Section – II Unit - I Microbiology | Ia: Methods in Microbiology Ib: Microorganisms in biological world Ic: Scope of microbes in industry | Completed |
| B.Sc. III | Botany | Paper – DSC 7 G 2 Section – II Unit - II Microbiology Importance of Plant Systematics | Ia : Plant systematics introduction I b: Evidences from Palynology, Cytology, Molecular data and phytochemistry I c : Importance and functions of Herbarium and botanical gardens in India and in world | Completed |

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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: IInd

Name of the Teacher: Dr. Lubdha Abhijeet Kagale

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|------------------|--|--|-------------------------|-----------|
| B.Sc. II | Botany | Paper-IV Section-II Practical: | Plant Anatomy | | Completed |
| B.Sc. II | Plant Protection | Paper-DSC 1011D2 Section-II Unit - III Management of Insect Pest | 1a: Principal of insect pest control 1b: classification of insecticides based on mode of entry, chemical nature and mode of action 1c: Plant origin insecticides 1d: Nature of formulations, methods of preparation of insecticides | | Completed |
| B.Sc. II | Plant Protection | Paper - DSC 1011D2 Section - II Practical | Plant diseases and Insect pests | | Completed |
| B.Sc. III | Botany | Paper - DSC 1007 G Section - II Unit - IV Ethnobotany | 1a: Introduction and objectives 1b: Data collection, Herbarium, Field work 1c: Role of ethnobotany in, Ancient literature, Sacred groves, Archaeological findings 1d: Role of ethnobotany in modern medicine, <i>Adathoda</i> | | Completed |



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| | | | <i>vasica, Tribulus terrestris, Curcuma longa, Tinospora cordifolia</i> Unit IV- Herbal Technology 1a: Pharmacognosy introduction and defination 1b: Phytochemicals – Alkaloids and phenols | | |
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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist

Name of the Teacher: Dr. Ketaki Prakash Patil

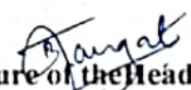
Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|---------|------------------------------|--|-------------------------|-----------|
| B.Sc. I | Botany | Unit I: Microbes | Virus: Discovery, General Characters, DNA Virus, RNA virus, economic important of viruses. Bacteria: Discovery, General Characters, cell structure, Types, mode of reproduction, Binary fission, Budding, Conjugation, Transformation and transduction, Economic important of Bacteria. | | Completed |
| | | Unit 4: Gymnosperms | General characters, Classification, Economic importanes of gymnosperms, Morphology, Anatomy and life cycle of Cycus , Evolutionary Significanes of gymnosperms | | Completed |
| | | Practical | Biodiversity in cryptogams and gymnosperms | | Completed |
| B.Sc. II | Botany | Unit 4: Family | a. Annonaceae b. Meliaceae c. Apocynaceae d. Amaranthaceae e. Lamiaceae f. Orchidaceae | | Completed |
| | | Practical | Plant Anatomy | | Completed |
| B.Sc. III | Botany | Unit I: Cell is unit of Life | 1a. The cell theory, Prokaryotic and eukaryotic cell, Cell Size and shape, eukaryotic cell components 1b. cell membrane and cell wall | | Completed |



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| | | | 1c. the function of membrane, Models of membrane structure. 1d. the fluidity of membranes, membranes protein and their functions, faces of the membranes, selective permeability of membrane cell wall | |
| | | Unit 4: Radiation Biology (Half Unit) | 4d. Autoradiography techniques 4e. Geiger-Muller experiment/ Liquid Scintillator 4f. Precautionary Measures | Completed |
| | | Practaical | 1. Cytology 2. Genetics | Completed |


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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: IInd

Name of the Teacher: Dr. Ketaki Prakash Patil

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|---------|---------------------------------------|---|-------------------------|-----------|
| B.Sc. I | Botany | Unit 2: Ecosystem and Phyto-geography | 2a. Ecosystem- Introduction, Composition and type 2b. Terrestrial ecosystem, food chain, food web and Ecological pyramids 2c. Phytogeographical regions of India (Chatterjii and Mani) | | Completed |
| | | Practical | Biodiversity in cryptogams and gymnosperms | | Completed |
| B.sc. II | | Practical | Plant Anatomy | | Completed |
| B.Sc. III | Botany | Unit 3: Genetic Engineering | 3a. Intoduction 3b. Methods of gene transfer- Agrobacterium mediated, Direct gene transfer by Electroporation, Microinjections, Microprojectil bombardment 3c. Transgenic Plant (b.t. cotton and golden rice) 4d. Applications of Genetic transformation 4e. Blotting techniques- Northern, Southern, and DNA fingerprinting. | | Completed |
| | | Practical | 1. Cytology 2. Genetics | | Completed |

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STATEMENT OF SYLLABUS COVERED


Year: 2021-2022

Term: Ist

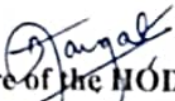
Name of the Teacher: Dr. Mrunalini Nilesh Desai

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|------------------|---|---|-------------------------|-----------|
| B.Sc. II | Plant Protection | Paper I: Unit I & Unit II: Introduction of Agriculture and study of major crops. | A. Cereal - Jowar B. Oil seed crop - Ground nut C. Pulse crop - Gram D. Cash crop - Sugar cane E. Fruit crop - Mango F. Vegetable crop - Brinjal G. Spice - Turmeric H. Floriculture - Rose | | Completed |
| B.Sc. III | Botany | Unit : IV Plant Systematic and Paleobotany | 4a. General account, Types of fossils, Geological Time Scale 4b. Study of following genera with reference to systematic position, external morphology and affinities. 1. <i>Lyginopteris</i> 2. <i>Enigmocorpon</i> 4c. Application of Paleobotany - Role of microfossils in oil and coal exploration. | | Completed |


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Head
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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: IInd

Name of the Teacher: Dr. Mrunalini Nilesh Desai

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-------------|------------------|--|---|-------------------------|-----------|
| B.Sc. II | Botany | “Plant Anatomy and Plant Metabolism” Unit : II. Tissue And Tissue System | 2a: Meristem: Introduction, characteristics and classification of meristem based on position. Theories of structural development – i) Apical cell theory ii) Histogen theory iii) Tunica Corpus theory 2b: Permanent tissue: i) Simple tissue – Parenchyma, Collenchyma and Sclerenchyma ii) Complex tissue – Xylem and Phloem 2c: Epidermal tissue system 2d. Secretary tissue system 2e. Mechanical tissue system 2f. Types of Vascular bundle | | Completed |
| B.Sc. II | Botany | Practical | Plant Anatomy and Plant Metabolism, Taxonomy, Embryology and plant physiology | | Completed |
| B.Sc. II | Plant Protection | “Weed Science and Insect Pest” Unit : IV | 4a. Nematodes 4b. Birds 4c. Rats 4d. House Hold Pest: Drosophila Housefly | | Completed |



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| | | Non Insect Pest and House Hold Pest. | Mosquito | | |
| B.Sc. III | Botany | “ Biostatistics, Economic Botany and Ethnobotany ” Section II Unit : 2 Economic Botany. | 2a: Study of following economical important plant with reference to origin, morphology, parts used and uses. 2b: Cereals: Jowar and Rice 2c: Legumes: Soybean and Vigna 2d: Vegetables: <i>Amaranthus</i> and Chilly 2e. Spices: Clove and Black pepper | | Completed |
| B.Sc. I | Botany | Biodiversity in Cryptogams and gymnosperms | Practicals | | Completed |



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Head

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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist


Name of the Teacher: Dr. Shital B. Koparde

Department: Botany

| Class | Subject | Syllabus assigned | Syllabus Covered | Syllabus not to covered | Remarks |
|--------------|---------|---|--|-------------------------|-----------|
| B. Sc III | Botany | Paper DSC 7F Section- I Unit- 4 Senescence and aging | 4a. Patterns of Senescence 4b. Physical changes during Senescence 4c. Control of Senescence | Nil | Completed |



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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: IInd

Name of the Teacher: Dr. Shital B. Koparde

Department: Botany

| Class | Subject | Syllabus assigned | Syllabus Covered | Syllabus not to covered | Remarks |
|--------------|---------|---|---|-------------------------|-----------|
| B. Sc II | Botany | Paper IV Section- II Unit- 3 Growth and Development Paper IV Section- II Unit- 2 Nitrogen metabolism | 3a. Defination and phases of growth 3b. Plant growth regulators- Auxin, Cytokinin, Gibberellins, ABA 3c. Photoperiodism and floregein concept, Photoperiodic classification of plant 3d. Vernalization 2d. Mechanism of reduction of nitrate into ammonia 2e. Mechanism of ammonia assimilation in plants 2f. nif genes | Nil | Completed |
| B. Sc III | Botany | Paper DSC 7G Section-I | 4a. Introduction and objectives, plant genetic resources, centers of origin | Nil | Completed |



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| | | Unit-4 Plant breeding | and domestication of crop plants 4b. Methods of crop improvement – methods of breeding Selection methods for self- pollinated, cross-pollinated and vegetatively propagated plants. Mutation breeding | | |
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Head

Department of Botany
Vivekanand College
Kolhapur



VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)
STATEMENT OF SYLLABUS COVERED

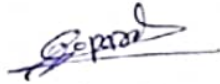
Year: 2021-2022

Term: Ist and IInd

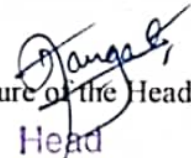
Name of the Teacher: Dr. Shital B. Koparde

Department: Botany

| Class | Subject | Syllabus assigned | Syllabus Covered | Syllabus not to covered | Remarks |
|-------------|---------|-------------------|----------------------------|-------------------------|-----------|
| B. Sc I | Botany | Practicals | All practicals are covered | Nil | Completed |
| B. Sc II | Botany | Practicals | All practicals are covered | Nil | Completed |



Signature of the Teacher



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Head

Department of Botany
Vivekanand College



VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist

Name of the Teacher: Dr. Priyanka Pravin Jadhav

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|---------|---|--|-------------------------|-----------|
| B.Sc. III | Botany | Paper- DSC7E 2 Section - I Unit - I Protein metabolism | I.d. Introduction, properties and Characters of amino acids. 1e. Protein structure and Classification 1f. .Protein Synthesis | | Completed |
| B.Sc. II | Botany | Practical's from "Taxonomy Embryology and plant physiology" | Practical's from "Taxonomy Embryology and plant physiology" | | Completed |
| B.Sc. II | Botany | Practical's from "plant Anatomy and plant metabolism" | Practical's from "plant Anatomy and plant metabolism" | | Completed |

P. Jadhav

(Name and Signature of Teacher)

P. Jadhav

(Name and Signature of HOD)

Head

Department of Botany
Vivekanand College
Kolhapur



VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: IInd

Name of the Teacher: Dr. Priyanka Pravin Jadhav

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|---------|---|---|-------------------------|-----------|
| B.Sc. II | Botany | Paper –IV Section – I Unit III Primary and secondary structure of plant body | 2.1: Primary structure of Monocotyledon AndDicotyledon root, stem and leaf. 2.2: Normal secondary growth inDicotyledon root and stem. 2.3: Anomalous secondary growth in <i>Bignonia</i> (Dicot.) and <i>Dracaena</i> (Monocot.) stem. 2.4 : Periderm and Lenticel | | Completed |
| B.Sc. II | Botany | Practical's from "Taxonomy Embryology and plant physiology" | Practical's from "Taxonomy Embryology and plant physiology" | | Completed |
| B.Sc. II | Botany | Practical's from "plant Anatomy and plant metabolism" | Practical's from "plant Anatomy and plant metabolism" | | Completed |
| B.Sc. III | Botany | Paper – DSC 7 G Section – I | 2a. Linkage concept and History, types of Linkage, | | Completed |



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| | | Unit:-2 Linkage and Crossing over | 2b. Crossing over: Concept Significance, Cytological proof of crossing over, 3c. Linkage Maps | | |
| B.Sc. III | Botany | Paper –DSC 7 H Section – II Unit- II Gardening and Ornamental plants | 2a. Definition Objective, Types of Gardening importance and landscape garden | | Completed |

P. P. Todhe

(Name and Signature of Teacher)

P. P. Jangal

(Name and Signature of HOD)

Head
Department of Botany
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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: Ist

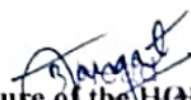
Name of the Teacher: Dr. Bhairu Nathaji Shinde

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|---------|-------------------------------|--|-------------------------|-----------|
| B.Sc. I | Botany | Practical | All Practicals covered | | Completed |
| B.Sc. II | Botany | Practical - I | All Practicals covered | | Completed |
| B.Sc. II | Botany | Practical - II | All Practicals covered | | Completed |
| B.Sc. III | Botany | Unit : III Plant Pathology | 3: Study of Plant Diseases 3a: Cereals: Rust of Wheat 3b: Cash crop: Red rot of Sugarcane 3c: Legume: Rust of Soybean , mosaic of bean | | Completed |



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 Vivekanand College
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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

STATEMENT OF SYLLABUS COVERED

Year: 2021-2022

Term: IInd

Name of the Teacher: Dr. Bhairu Nathaji Shinde

Department: Botany

| Class | Subject | Syllabus Assigned | Syllabus Covered | Syllabus Not to covered | Remarks |
|-----------|---------|---|---|-------------------------|-----------|
| B.Sc. I | Botany | Practical | All practical's covered | | Completed |
| B.Sc. II | Botany | Practical II | All practical's covered | | Completed |
| B.Sc. II | Botany | Section II Unit 4: Plant Adaptation | 4b : Xeric adaptation 4c: Carnivorous adaptation 4d: Epiphytic and parasitic plant | | Completed |
| B.Sc. III | Botany | Section II Unit 1 : Biostatistics | 1a: Introduction , Statistical terms 1b: Sampling: Sampling methods. 1c: Collection and representation of data 1d: Measures of central tendency- Mean, Mode, Median 1e: Variances and Standard deviation coefficient of variance 1f: Test of significance (T-test), Chi-square test (χ^2) test. | | Completed |
| B.Sc. III | Botany | Section II Unit 4 : Pharmacognosy | 4c: Drug: Types and adulteration 4d: Scope of Pharmacognosy | | Completed |

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Vivekanand College
Kolhapur

