




Shiv Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya (Autonomous), Latur
Structured Work Plan for Teaching
(Jun – 2019 to Oct. 2019)

Details of Classes to be taught


Sr. No.	Class	Name of Assit. Prof.	Subject	Paper
1	B.Sc.II	Miss S.S. Sarkale	Botany	Economic Botany and Pharmacognosy.
2	B.SC. III			SEC -III: Fruits and Fruit Processing
3	M.Sc.I			Plant ecology and evolution .

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Unit-I: Economic Botany –I (10 L)	Introduction: Botanical name, family, distinguishing characters (at least two), method of cultivation and economic importance of the following- 1. Cereals (Wheat). 2. Pulses (Pigeon pea). 3. Fiber yielding plants (Cotton). 4. Cotton processing. 5. Rubber production.	21/06/2019 To 20/07/2019	12	Guest Lecture	
2	Unit-II : Economic Botany-II (10 L)	Botanical name, family, distinguishing characters (at least two), method of cultivation and economic importance of the following- 1. Oil yielding plants: (Soybean, Sunflower) 2. Soya milk production. 3. Starch processing. 4. Timber yielding plants (Teak, Neem). 5. Medicinal plants (Aloe, Withania).	22/07/2019 To 19/08/2019	12		Activity based Unit Test-I

3	Unit-III: Introduction to Pharmacognosy (11L)	1. History, definition and scope of Pharmacognosy. 2. Traditional and alternative systems of medicine. 3. Classification of crude drugs. 4. Concept of active principle. (Five examples)	22/08/2019 To 17/09/2019	11	Seminar	
4	Unit-IV: Ayurvedic Pharmacy (14L)	1. Introduction 2. Tridosha concept. 3. Indigenous systems of medicine (Ayurveda, Siddha, Unani). 4. Ayurvedic principles- Ras, Guna, Vipaka, Virya, Prabhava. 5. Ayurvedic formulations – Asava, Arishta, Kvatha, Churna, Ksharas, Leha, Vatika, Taila, Bhasma. 6. Drug adulteration. 7. Study of drugs w.r.t. occurrence, distribution, morphological characters, Constituents and uses of <i>Adhatoda</i> (Leaf drug)	20/09/2019 To 23/10/2019	14	Field Visit	Unit Test-II


Teacher


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B.Sc. III

SEC -III: Fruits and Fruit Processing

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test Assignment with topic and date
1	Unit I: A) Biology, Biochemistry, Nutrition, and Microbiology	1. Physiology and Classification of Fruits. 2. Biochemistry of Fruits and Fruit Products . 3. Flavor of Fruits and Fruit Products and their Sensory Qualities . 4. Microbiology of Fresh and Processed Fruits . 5. Nutritional Quality of Fruits.	27/07/2019 To 22/08/2019	12	Guest Lecture	
2	B) Postharvest Handling and Preservation Technologies	1. Postharvest Storage Systems: Biology, Physical Factors, Storage, and Transport. 2. Freezing Preservation of Fruits. 3. Conventional Thermal Processing and Preservation. 4. Dehydration Preservation of Fruits. 5. Developments in Minimal Processing of Fruits. 6. Aseptic Processing and Packaging. Food Additives in Fruit Processing.	22/08/2019 To 12/09/2019	10		Activity based Unit Test-I

3	Unit II : A) Processed Fruit Products and Packaging	1. Manufacturing Fruit Beverages and Concentrates. 2. Manufacturing Jams and Jellies. 3. Fresh-Cut Fruits. 4. Fruit and Fruit Products as Ingredients. 5. Developments in Packaging of Fresh Fruits and Fruit Products.	19/09/2019 To 10/10/2019	12	Visit to Vapors Company	
4	B) Processing Plant, Safety, asnd Regulations	1. Fruit Processing Plants and Equipments. 3. Fruit Processing Waste Management. 4. Microbial Safety and Sanitation of Fruits and Fruit Products. 5. Fresh and Processed Fruits: Safety and Regulations.	10/10/2019 To 17/10/2019	04		Unit Test-II



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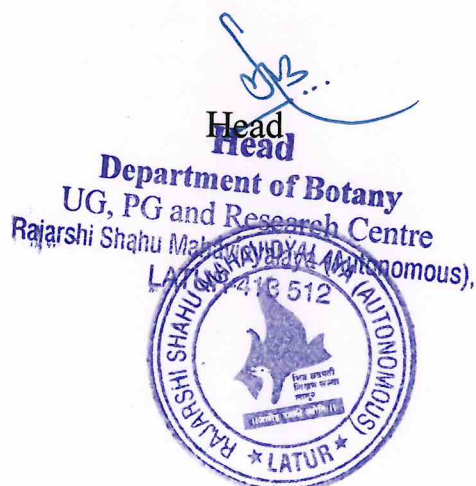


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M. Sc. I
Plant ecology and evolution

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Credit-I: Environmental Ecology (15L)	1.The Environment: Physical environment, biotic environment, biotic and abiotic interactions. 2. Habitat and Niche: Concept of habitat and niche 3. Ecosystem types Species interaction: 4. Conservation Biology: 1.Principles of conservation, major approach to management, 2. Organisms of conservation concern: Rare, endangered species.	09/07/2019 To 03/08/2019	15	Guest Lecture	
2	Credit - II: Population and Community Ecology (15L)	1.Population Ecology: Characteristics of a population; life history strategies (r and K selection); concept of metapopulation - populations. 2. Community Ecology: Nature of communities; community structure and attributes. 3. Diversity types and levels: Alpha, Beta, Gamma, Delta , Omega. 4. Ecological Succession: Types; mechanisms; changes involved in succession, concept of climax. 5. Biogeography: Major terrestrial biomes; theory of island biogeography.	05/08/2019 To 30/08/2019	18		Activity based Unit Test-I

3	Credit- III: Evolutionary Biology (18L)	<p>1. Emergence of evolutionary thoughts: Lamarck; Darwin-concepts of variation, adaptation struggle, fitness and natural selection; Spontaneity of mutations; the evolutionary synthesis.</p> <p>2. Origin of cells and unicellular evolution : Origin of basic biological molecules; Abiotic synthesis of organic monomers and polymers; Concept of Oparane and Haldane; Experiment of Miller (1953); The first cell; Evolution of prokaryotes; Origin of eukaryotic cells; Evolution of unicellular eukaryotes; Anaerobic metabolism, photosynthesis and aerobic metabolism.</p> <p>3. Paleontology and Evolutionary History: The evolutionary time scale; Eras, periods and epoch</p>	03/09/2019 To 28/09/2019	20	Seminar	
4	Credit-IV: Molecular evolutionary Biology (12L)	<p>1. Molecular Evolution: Concepts of neutral evolution, molecular divergence and molecular clocks; Molecular tools in phylogeny, classification and identification; Protein and nucleotide sequence analysis; origin of new genes and proteins; Gene duplication and divergence.</p> <p>2. The Mechanisms: Population genetics - Populations, Gene pool, Gene frequency; Hardy- Weinberg Law; concepts and rate of change in gene frequency through natural selection, migration and random genetic drift; Adaptive radiation; Isolating mechanisms; Speciation; Allopatricity and Sympatricity; Convergent evolution; Sexual selection, Co-evolution.</p>	01/10/2019 To 24/10/2019	14	Quiz Competitio n	Unit Test-II

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Teacher



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