

Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)

Structured Work Plan for Teaching (Jul– 2020 to Dec 2020)

Details of Classes to be taught

Sr. No.	Class	Name of Assit. Prof.	Subject	Paper
1	M. Sc.II	G.A.Suryawanshi	Botany	B.O 3.4 Plant Pathology I
2	M.Sc.I			B.O 1.3 Plant Biochemistry

Summary of Lesson Plan

Name of Teacher: G.A.Suryawanshi

(III Semester)

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: Introduction to Plant Pathology:	1. Scope and Importance of Plant Pathology; Contributions of E.F .Smith E. J. Butler and K. C. Mehta, in the field of plant pathology. 2. Careers in Plant Pathology, The Practice and Practitioners of Plant Pathology. Certification of Professional Plant Pathologists . 3. Aerobiology: Scope and applications of aerobiology. Airborne pathogens, Methods for detection of Aerospora.	13.07.20 To 05.08.20	02 02 03 05		

		4. Methods in Plant Pathology		03		
2	Credit - II: Diseases of crop plants – I:	History, symptomology, causal organism, etiology and management of: 1. Rice: - Blast disease. 2. Jowar :- Leaf Spot 3. Pigeon pea :- Leaf Spot 4. Tomato: - Early Blight. 5. Bhendi :- Powdery Mildew 6. Brinjal: - Leaf Spot. 7. Chilly: - Anthracnose. 8. Bean Mosaic	06.08.20 To 29.08.20	03 02 02 02 02 02 02		
3	Credit- III: Disease of crop plants – II:	(History, symptomology, causal organism, etiology and management of) 1. Banana: - Panama disease. 2. Grapes: - Powdery Mildew. 3. Sugarcane: - Grassy Shoot. 4. Sunflower: - Rust. 5. Groundnut :- Rust 6. Sesamum :- Leaf Spot. 7. Green gram: - Powdery mildew	31.08.20 To 23.09.20	03 03 02 03 02 02		
4	Credit- IV: Host resistance, Disease management and control of diseases:	1. Plant defenses: Non-host and host resistance. 2. Pre-existing and induced structural and chemical defenses. 3. Pathogenicity genes, avirulence genes, effector molecules. 4. Control of disease using fungicides. 5. Biocontrol agents for controlling disease.	24.09.20 To 14.10.20	03 03 05 02 02		

Principal

Head

M. Sc-I**Class: M.Sc.I (I Semester)**

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
	Credit-I: Molecules and their Interaction (15L)	<p>1. Structure of atoms, molecules and chemical bonds. (Covalent and Non covalent bonds)</p> <p>2. Stabilizing interactions (H-bonding, hydrophobic interactions, electrostatic interactions Vander Waals interactions etc.)</p> <p>3. Principles of biophysical chemistry Solutions (Percentage, Molar, Normal, PPM and PPB) pH,buffer, Reaction kinetics.</p> <p>4. Thermodynamics laws (Concept of entropy, Enthalpy, standard free energy, Colligative properties (Osmotic pressure freezing point and boiling point)</p> <p>5. Gibb's free Energy.</p>	<p>01/01/21 To 02-01-21</p>	<p>02</p> <p>04</p> <p>04</p> <p>03</p> <p>02</p>		
	Credit-II: Structure and Functions of	<p>1. Composition, structure and function of biomolecules (carbohydrates, lipids, Amino acids, peptide Bonds)</p>	<p>05-02-21</p>	<p>05</p>		

	Biomolecules (15L)	<p>2., Proteins (Primary, secondary tertiary and quaternary structure) Conformation of proteins (Ramchandran plot, secondary structure, domains, motif and folds.)</p> <p>3.Nucleic acids. Nucleotides Conformation of nucleic acids (A, B, Z DNA), RNA.</p>	To 04-03-21	05 05		
	Credit III: Enzymology (15L)	<p>1. Introduction, Properties, Enzymes classification, vitamins as coenzymes, Principles of catalysis and enzyme kinetics (MM equation,)</p> <p>2. Types of Enzymes (Alloenzymes, isoenzymes, Apo enzymes, Ribozymes)</p> <p>3. Types of Enzyme inhibition, (Competitive, noncompetitive and uncompetitive)</p> <p>Allosteric enzyme regulation</p>	05-03-21 To 19-03-21	06 04 05		
	Credit IV: Metabolism (15L)	<p>1 .Metabolism of carbohydrates(Gluconeogenesis), nucleotides Biosynthesis (De novo and salvage pathway)</p> <p>2.General pathway of Lipid</p>	20-03-21 To 31-03-21	05 05		

		metabolism 3.General pathway of Amino acid metabolism		05		
--	--	---	--	----	--	--

Principal

Head

Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous) Structured Work Plan for Teaching (Jan– 2021 to May 2021)

Details of Classes to be taught

Sr. No.	Class	Name of Assit. Prof.	Subject	Paper
1	B.Sc.II	G.A.Suryawanshi	Botany	Paper-VIII Plant Breeding and Biotechnology
3	M.Sc.II			BO 4.4: Plant Pathology-III

Summary of Lesson Plan

Name of Teacher: G.A.Suryawanshi

Class: B.Sc.II (IV Semester)

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
2	Unit-I: PLANT BREEDING-I (10L)	1. Definition, Aims and Objectives 2. Centres of origin. 3. Methods of Plant Breeding: i. Plant introduction and acclimatization ii.Mass Selection. iii. Pure line selection. iv.Clonal selection. v. Pedigree selection.	22-02-21 To 24-03-21	01 01 01 02 02 01 02		
	Unit-II: PLANT BREEDING-II. (10L)	1. Hybridization. 2. Heterosis and hybrid vigour. 3. Mutation breeding. 4. Polyploidy. 5. Breeding in cotton	29-03-21 To 19-04-21	02 02 02 02 02		

	UNIT-III: BIOTECHNOLOGY – I (13)	1. Genetic Engineering: i. Definition, scope and importance ii. Tools: a) Restriction Endonuclease b) Vectors: plasmids, cosmids. iii. Technique of r-DNA iv. Genomic and c-DNA libraries 2. Agrobacterium mediated gene transfer: (Biology of <i>Agrobacterium</i> , Ti - plasmid, and <i>Agrobacterium</i> mediated transfer technique), 3. Transgenic plants.	20-04-21 To 18-05-21	02 02 02 02 02 01		
	UNIT-IV: BIOTECHNOLOGY – II (12)	1. Tissue culture: i. Introduction, ii. Concept of Totipotency of cell, iii. Basic aspects of tissue culture laboratory, iv. Technique of tissue culture v. Callus culture, differentiation and morphogenesis. 2. Applications of Tissue culture: i. Micropropagation, ii. Production of secondary metabolites, iii. Somatic hybridization, iv. Anther culture and production of haploids.	19-05-21 To 31-05-21	02 02 02 02 02 02		

Principal

Head

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
	Credit I: Effect of environment on pathogenesis:(15L)	1. Effect of environment, temperature, moisture, humidity, shade, wind, light, pH, O ₂ and CO ₂ concentration. 2. Role of Toxins in Plant pathogenesis: Pathotoxins, Vivo toxins and Phyto toxins. 3. Effect of toxins on plant tissues: Selective and non-selective toxins. 4. Seed Pathology: Scope and importance; seed health testing; methods and procedures; detection of seed borne-fungi, Bacteria and viruses. Seed bio deterioration: Biochemical changes, Morphological abnormalities, loss in germinability. Mycotoxins, fusarium toxin and aflatoxin. Control of Post-harvest spoilage of grains.	22-02-21 To 12-03-21	04 01 03 07		
	Credit- II:Diseases of crop plants-I:(15L)	Symptomology, causal organism and control measures of: 1) Sorghum: Long Smut. 2) Chilly: Die back. 3) Soyabean: Charcoal rot. 4) Potato: Stem canker.	20-03-21 To	03 02 03		

		5) Tomato: Fusarium Wilt 6) Wheat: Loose Smut 7) Sugarcane: Red Rot 8) Papaya: Leaf Curl 9) Potato: Black Heart. 10) Potato/Flax: Dodder or Cuscuta.	10-04-21	03 01 01 01 01		
	Credit III:Diseases of crop plants II:(15L)	Symptomology,causal organism and control measures of: 1) Crucifers: Black spot. 2) Sorghum: Loose smut. 3) Bean: Rust 4)Wheat: Brown Rust. 5) Cucurbits:Powdery mildew. 6)Grapes: Downy mildew. 7) Potato: Late Blight 8) Wheat: Ear cockles. 9) Sugarcane: Mosaic 10) Sandal: Spike.	12-04-21 To 14-05-21	05 05 03 02		
	Credit IV: Genetic Variability:(15L)	1. Genetic Variability in plant pathogen: i) Genetic Variability in viruses ii) Genetic Variability in Fungi iii) Level of variability in pathogen iv) Loss of virulence 2. Genetics and molecular basis of host parasite interaction: i) Evolution of parasitism. ii) Genetics of host parasite interaction. iii) Gene for gene relationship.	15-05-21 To 31-05-21	05 04 04		

		iv) Criteria for gene for gene relationship. v) Molecular basis of host parasitic interaction. 3. Physiologic specialization: General accounts		02		
--	--	--	--	----	--	--

Principal

Head