Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)
Structured Work Plan for Teaching
(Jul – 2018 to Oct. 2018)

Details of Classes to be taught

Sr. No.	Class	Name of Assit. Prof.	Subject	Paper
1	B.Sc.I	G. A. Suryawanshi	Botany	Biodiversity of Cryptogams and Gymnosperms
2	B.Sc.II			Morphology and Taxonomy of Angiosperms

Summary of Lesson Plan:

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures
1	**UNIT – I: BACTERIA AND VIRUSES** *(10 L)*	**BACTERIA:** **1.** General characters. **2.** Size, Shape and Ultra structure. **3.** Asexual reproduction (By binary fission). **4.** Sexual reproduction (By conjugation). **5.** Economic importance. **VIRUSES:** **1.** General characters. **2.** Classification based on host. **3.** Ultra structure of TMV. **4.** Economic importance.	12/07/18 To 04/08/18	01 01 02 02 01 01 01 02 01
2	**UNIT – II: FUNGI** *(12 L)*	**1.** General characters and. **2.** Classification (Alexopolous and Mims, 1979). **3.** Systematic position, occurrence, structure, reproduction, and graphic life cycle of ***Erysiphe.*** **4**.Economic importance. **5.** Mycorhiza (General characters). **6.** General characters of lichens. **7.** Types of Lichens. **8.** Economic importance of Lichens.	10/08/18 To 01/09/18	01 04 02 01 01 01 01 01 01

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3	**UNIT – III: ALGAE AND BRYOPHYTES** *(10 L)* **ALGAE:**	**1.** General characters. **2.** Classification (F.E.Fritsch,1935). **3.** Systematic position, occurrence, thallus structure, reproduction and graphic life cycle of ***Oedogonium.*** **BRYOPHYTES:** **1.** General characters. **2.** Classification (N.S.Parihar). **3.** Systematic position, occurrence, thallus structure(external and internal), reproduction, and graphic life cycle of (Developmental stages not expected) ***Funaria.***	03/09/18 To 29/09/18	05 05
4	**UNIT – IV: PTERIDOPHYTES AND GYMNOSPERMS (***13 periods)*	**PTERIDOPHYTES :** **1.** General characters. **2.**Classification(N.S.Parihar) **3.**Systematic position, occurrence, thallus structure (external and internal), reproduction, and graphic life cycle with alternation of generation of (Developmental stages not expecte) ***Nephrolepis* (ferm).**	30/09/18 To 05/10/198	06 07

Head

B.Sc.II (III Semester)

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures
1	Unit-I: Morphology of Angiosperms-I (10 L):	**1.** Root: Definition, characters, types (taproot and adventitious) and functions. **2.** Stem: Definition, characters, modifications (stem tendril, runner, and rhizome) and functions. **3.** Leaf: Definition, structure of typical leaf (Hibiscus), Types of leaf apex and margin,Functions, Types, Phyllotaxy and Venation.	25/06/19 To 27/07/19	05 05
2	Unit-II Morphology of Angiosperms-II (10 L):	1.Inflorescence: Definition, structure of typical inflorescence Types- Racemose and Cymose. 2.Flower: Definition, structure of typical flower (Hibiscus), symmetry and types (hypogynous, epigynous, perigynous). 3.Fruit: Definition and its Types.	01/08/19 To 31/08/19	12
3	Unit-III: Taxonomy of Angiosperms (12 L):	**1.** Introduction, **2.** Scope and objectives of angiosperm taxonomy. **3.** Botanical Survey of India (BSI). **4.** Binomial nomenclature, **5.** Chemotaxonomy and Cytotaxonomy. **6.** Taxonomic ranks. **7.** Types of classification (artificial, natural and phylogenetic) **8.** Bentham & Hooker's system of classification with merits and demerits.	05/09/19 To 26/09/19	05 05

4	**Unit-IV: Study of families** (13 L)**:**	Distribution, vegetative morphology (habitat, habit, root, stem, leaf), Reproductive morphology (inflorescence, flower, pollination, fruit) Floral Formula, Floral Diagram, Systematic position (as per Bentham & Hooker system) Distinguishing characters and Economic importance of plants (at least two) of the following families: **1.** Brassicaceae. **2.** Fabaceae. **3.** Solanaceae. **4.** Lamiaceae. **5.** Euphorbiaceae. **6.** Poaceae.	27/09/19 To 24/10/19	06 07

Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)
Structured Work Plan for Teaching
(Dec – 2018 to March. 2019)

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**
2	M.Sc.II			Plant Pathology-III

Summary of Lesson Plan:

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures
1	**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.		10
2	**Unit-II: PLANT BREEDING-II**. (10L)	1. Hybridization. 2. Heterosis and hybrid vigour. 3. Mutation breeding. 4. Polyploidy. 5. Breeding in cotton	13/12/18 To 22/01/19	02 02 02 02 02
3	**UNIT-III: BIOTECHNOLOGY – I (13)**	**1.** Genetic Engineering: i. Definition, scope and importance ii. Tools: a) Restriction Endonucleases b) Vectors: plasmids, cosmids. iii. Technique of r-DNA iv. Genomic and c-DNA libraries 2**.** Agrobacterium mediated gene transfer: (Biology of *Agrobacterium*, Ti - plasmid and *Agrobacterium* mediated transfer	24/01/19 To 05/03/19	01 02 03 02 03 02

		technique), 1. Transgenic plants.		
4	**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.	06/03/19 To 21/03/19	01 01 02 02 01 05

M.Sc. II **(Semester IV)**

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures
1.	**Credit I: Effect of environment on pathogenesis: (15L)**	1. Effect of environment, temperature, moisture, humidity, shade, wind, light, pH, O2 and CO2 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.	03/12/18 To 26/12/18	
2	**Credit II: 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. iv) Criteria for gene for gene	31/12/18 To 30/01/19	

		relationship. v) Molecular basis of host parasitic interaction. 3. Physiologic specialization: General accounts.		
3	**Credit- III: Diseases of crop plants-I: (15L)**	Symptomology, causal organism and control measures of: 1) Long smut of Sorghum. 2) Die back of Chilly. 3) Charcoal rot of Soyabean. 4) Leaf curl of Papaya. 5) Black heart of Potato. 6) Stem canker of Potato. 7) Fusarium wilts of Tomato. 8) Loose Smut of Wheat. 9) Red Rot of Sugarcane. 10) Dodder or Cuscuta on Potato/Flax	04/02/19 To 27/02/19	
4	**Credit IV: Diseases of crop plants II: (15L)**	Symptomology, causal organism and control measures of: 1) Black spot of Crucifers. 2) Loose smut of Sorghum. 3) Rust of Bean. 4) Brown Rust of Wheat. 5) Powdery mildew of Cucurbits 6) Downy mildew of Grapes. 7) Sandal spike Disease. 8) Ear cockles of Wheat 9) Sugarcane Mosaic 10) Late Blight of Potato.	08/03/19 To 21/03/19	

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