Shiv Chhatrapati Shikshan Sanstha's

Rajarshi Shahu Mahavidyalaya (Autonomous), Latur

Structured Work Plan for Teaching

(Jun. 2018 to Oct. 2018)

Details of Class to be taught

Sr. No.	Class	Name of the Teacher	Subject	Paper
1	M.Sc.II Semester-III	Mr. D.R.Awad	Botany	B.O 3.3 Plant Nanotechnology and Forensic Botany

Sr. No.	Unit	Chapter to be covered	Date	No. of Lectures (60)	Academic activities to be organized	No. of Test / Assignment with topic and date
1	**UNIT- I: Plant Nanotechnology and Its Concepts (15L)**	1.Plant Nanotechnology: An Overview on Concepts, Strategies, and Tools 2. Physical and Chemical Nature of Nanoparticles. 3.Effects of Nanoparticles on Plant Growth and Development 4.Agri-Nanotechniques for Plant Availability of Nutrients 5.Utilization of Nanoparticles for Plant Protection	13-07-18 to 06-08-18	03 02 02 03 02 03	Guest Lecture	

		6.Nanotechnology in Soil-Plant System		=15		
2	**UNIT - II : Bio-sensors & Biogenic Methods of Synthesis of Nanomaterials (15L)**	1. Nature in the construction of Nano-scale biosensor devices and motors: ATP synthesis is an anomotor with 100% thermodynamic efficiency., bacterial flagella & its energetic momentum. 2. DNA and protein's use as actuators, chips, sensors and electronic circuits. 3. Properties of living organisms such as to combat deleterious effect of heavy metals in high concentrations; resistance against metals by modulation of their transport, active efflux, redox changes and Sequestration and intracellular compartmentation into detoxified complexes, biogenic synthesis by (i) bacteria, (ii) fungi, (iii) algae and (iv) plants	07-08-18 to 01-09-18	05 05 05 =15		Activity based Unit Test-I
3	**UNIT- III: Forensic Botany (15L)**	1.Introduction to forensic botany. 2.Botanical evidence on legal investigations. 3.Legal plant definition. Botanical evidence in legal investigations 4. The Use of Botanical Evidence in	04-09-18 to 29-09-18	03 03 03 03 03 =15	Seminar	

		Criminal Investigations				
4	**UNIT- IV: Evidence collection and analysis (15L)**	1.Evidence collection and analysis: i. Documentation of botanical evidence ii. Collection information needed for each botanical sample iii. How to have botanical evidence analyzed iv. Evidence analysis v. Laboratory report 4. Fundamentals of wildlife forensic. Significance of wildlife forensic	01-10-18 to 20-10-18	04 02 04 03 02 =15	Field Visit	Unit Test-II

Teacher

Head

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Principal
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Structured Work Plan for Teaching

(Dec. 2018 to Mar. 2019)

Details of Class to be taught

Sr. No.	Class	Name of the Teacher	Subject	Paper
1	B.Sc.I Semester-II	Mr. D.R.Awad	Botany	Paper-III: Histology, Anatomy and Embryology of Angiosperms

Sr. No.	Unit	Chapter to be covered	Date	No. of Lectures (45)	Academic activities to be organized	No. of Test / Assignment with topic and date
1	UNIT – I: Histology, Plant Tissues (12 L)	A. Meristematic tissues and their classification based on position B.Permanent Tissues I Simple Tissues: 1. Parenchyma 2. Collenchyma 3. Sclerenchyma II Complex Tissues 1. Xylem 2. Phloem III Secretary Tissues 1. Laticiferous Tissues	22-12-18 to 18-01-19	03 03 03 02 01 =12	Guest Lecture	

		2. Glandular Tissues a. External glands b. Internal glands				
2	**UNIT – II:** **Anatomy** **(12 L)**	1. Anatomy of dicot Stem (Sunflower) 2. Anatomy of monocot Stem (Maize) 3. Secondary growth in dicot stem 4. Leaf anatomy of dicotyledons 3(Sunflower) and monocotyledons (Maize) 5. Anomalous secondary growth in *Dracaena* stem	19-01-19 to 16-02-19	03 02 03 02 02 =12		Activity based Unit Test-I
3	**UNIT –III:** **Embryology –I** **(11 L)**	1 Structure of a Microsporangium (T.S. of anther) 2. Structure of a Microspore 3. Development of male gametophyte (Microgametogenesis) 4. Structure of a Megasporangium 5. Anatropous ovule 6. Types of ovule 7. Development of female gametophyte (Monosporic)	21-02-19 to 15-03-19	02 02 01 02 02 01 01 =11	Woolen Model	
4	**UNIT – IV:** **Embryology –II** **(10 L)**	1. Fertilization 2. Post fertilization changes 3. Endosperm and its types 4. Development of dicot embryo (Crucifer type) 5. Structure of Dicot seed 6. Structure of Monocot seed	16-03-19 to 12-04-19	02 02 02 02 01 01 =10		Unit Test-II

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(Dec. 2018 to Mar. 2019)

Details of Class to be taught

Sr. No.	Class	Name of the Teacher	Subject	Paper
1	M.Sc.I Semester-II	Mr. D.R.Awad	Botany	B.O 2.1 Diversity of Pteridophytes, Gymnosperms and Fossil Plants

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures (60)	Academic activities to be organized	No. of Test / Assignment with topic and date
1	UNIT-I: Pteridophytes-I (15L)	1.Introduction and characteristic features. Diversity of Pteridophytes in India and their migration to land. Affinities of Pteridophyte with Bryophyte and Algae. 2.Recent systems of classification of Pteridophytes. 3.Comparative morphology, reproduction and phylogeny of following orders with reference to the forms mentioned against each: Psilotales (*Tmesipteris*), Lycopodiales (*Lycopodium*), Filicales (*Adiantum*), Equisitales (*Equisetum*), Salviniales (*Salvinia*)	22-12-18 to 17-01-19	05 05 05 =15	Guest Lecture	
2	UNIT-II:	1.Apogamy and Apospory.	18-01-19	03		Activity based Unit

	Pteridophytes-II (15L)	2.Telome concept. 3.Stelar evolution. 4.Soral evolution. 5.Gamatophyte evolution. 6.Heterospory and seed habit. 7.Economic importance of Pteridophytes	to 14-02-19	02 02 03 02 03 =15		Test-I
3	**UNIT-III: Gymnosperms (15L)**	1.Characteristic features of Gymnosperms. 2.Recent system of classification (S.P. Bhatnagar and Alok Moitra). 3.Study of morphology and reproduction Cycadales (*Zamia*), Coniferales (*Pinus*), Gnetales (*Gnetum*), Ephedrales (*Ephedra*). 4.Gymnosperms as prospective ancestor of Angiosperms. 5.Economic importance of gymnosperms	15-02-19 to 13-03-19	03 02 03 02 05 =15	Field Visit	
4	**UNIT-IV: Paleobotany (15L)**	1.Introduction ,Evolution time scale 2.Principles of Paleobotany: Petrification, Impression and Compression. 3.Indian fossil flora –Glossopteris flora, Rajmahal hill flora and Deccan Intertrappean flora. 4.Paleopalynological techniques- Coal maceration and Lignite maceration 5.Study of morphology and evolutionary trends of: ➢ Bennettitales ➢ Cycadales ➢ Coniferales	14-03-19 to 13-04-19	03 02 03 02 05 =15		Unit Test-II

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