Name Of The Teacher : Dr. Mahadik B. B.
Semester I

Year : 2020-2021

Paper I

Taxonomy of Angiosperms And Plant Ecology

S.Y.B.Sc.

Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remarks
	July 2021	2 & 4	11	7	**Introduction to Angiosperms Taxonomy 2** **Systems of classification** Comparative account of various systems of classification Artificial system- Carl Linnaeus Natural system- Bentham and Hooker Phylogenetic system- Engler and Prantl APG system- A brief review	7	**Introduction to Angiosperms Taxonomy 2** **Systems of classification** Comparative account of various systems of classification Artificial system- Carl Linnaeus Natural system- Bentham and Hooker Phylogenetic system- Engler and Prantl APG system- A brief review	Nil	--
	August 2021	1 &2	11	8	**Study of Plant Families** Annonaceae,Brassicaceae, Myrtaceaee, Rubiaceae, Solanaceae Apocynaceae, Nyctaginaceae and Amaryllidaceae	8	**Study of Plant Families** Annonaceae,Brassicaceae, Myrtaceaee, Rubiaceae, Solanaceae Apocynaceae, Nyctaginaceae and Amaryllidaceae	1	Extra lecture v conduct
	Sept 2021	1 & 2	12	5	**Botanical Nomenclature**	5	**Botanical Nomenclature**	Nil	--

4	Sept 2021	3 & 4	12	6	**Introduction to ecology** Definition, concept, scope, Methods of vegetation sampling	6	**Introduction to ecology** Definition, concept, scope, Methods of vegetation sampling		--	
5	Oct 2021	1 & 2	12	4	**Ecological grouping of the plants**	4	**Ecological grouping of the plants**	Nil		

1 The plan should be prepared in duplicate.
2 One copy of the plan should be submitted at the beginning of the term after filling up columns 1 to 6.
3 The second copy must be retained by the teacher and submitted at the end of the term. Part second of the plan i. e. coumns 7 to 10 must be filled up progressively at the end of every week.

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4	Sept 2021	3 & 4	12	6	**Introduction to ecology** Definition, concept, scope, Methods of vegetation sampling	6	**Introduction to ecology** Definition, concept, scope, Methods of vegetation sampling		--
5	Oct 2021	1 & 2	12	4	**Ecological grouping of the plants**	4	**Ecological grouping of the plants**	Nil	

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Arts, Science and commerce college, Indapur, Dist-Pune
Teaching and Evaluation plan

Name of the teacher: Dr. Kabnorkar P.S . **Year2020-2021**
Semester: I
Subject: Plant Physiology **Paper: II** **Class: S.Y .B. Sc**

Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remar
1	Nov2020	3 & 4	9	6	Introduction to Plant Physiology 1. Introduction and Scope 2. Applications of plant physiology Absorption of water 1. Role of water in plants 2. Mechanisms of water absorption with respect to crop plants 3. Factors affecting rate of water absorption Ascent of sap 1. Introduction and definition	6	Introduction to Plant Physiology 1. Introduction and Scope 2. Applications of plant physiology Absorption of water 1. Role of water in plants 2. Mechanisms of water absorption with respect to crop plants 3. Factors affecting rate of water absorption Ascent of sap 1. Introduction and definition	Nil	--
2	Dec 2020	1 & 2	12	6	2. Transpiration pull or cohesion-tension theory, evidences and objections 3. Factors affecting ascent of sap **Transpiration** 1 Definition, Types of transpiration – cuticular, lenticular and stomatal 2 Structure of stomata, Mechanism of opening and closing of stomata –	6	2. Transpiration pull or cohesion-tension theory, evidences and objections 3. Factors affecting ascent of sap **Transpiration** 1 Definition, Types of transpiration – cuticular, lenticular and stomatal 2 Structure of stomata, Mechanism of opening and closing of stomata – Steward's hypothesis,	Nil	-

					Steward's hypothesis, 3. Active K+ transport mechanism 4. Factors affecting the rate of transpiration **5. Nitrogen metabolism** 1. Introduction and role of nitrogen in plants 2. Nitrogen fixation by *Rhizobium* and BGA 3. Symbiotic nitrogen fixation, nitrogenase enzyme- structure and function		3. Active K+ transport mechanism 4. Factors affecting the rate of transpiration **5. Nitrogen metabolism 7L** 1. Introduction and role of nitrogen in plants 2. Nitrogen fixation by *Rhizobium* and BGA 3. Symbiotic nitrogen fixation, nitrogenase enzyme- structure and function		
3	Dec 2020	3 & 4	11	6	4. Non-symbiotic nitrogen fixation 5. Importance and production technique of BGA 6. Denitrification, ammonification and nitrification 7. Reductive amination and transamination **6. Seed dormancy and germination** 1. Definition, types of seed dormancy and germination 2. Methods to break seed dormancy	**06**	Non-Symbiotic nitrogen fixation 5. Importance and production technique of BGA 6. Denitrification, ammonification and nitrification 7. Reductive amination and transamination **. Seed dormancy and germination** 1. Definition, types of seed dormancy and germination 2. Methods to break seed dormancy	1	Extra le was cor on sund
4	January 2021	1 &2	11	6	Metabolic changes during seed germination 4. Role of phytohormones to improve seed germination & Vigor Index	**6** Nil	3. Metabolic changes during seed germination 4. Role of phytohormones to improve seed germination & Vigor Index --	Nil	--

January 2021	3 & 4	12	6	Metabolic changes during seed germination 4. Role of phytohormones to improve seed germination & Vigor Index Physiology of flowering 1. Photoperiodism – Concept, definition, short day plants, long day plants and day neutral plants. 2. Phytochrome theory, role of phytohormones in induction and inhibition of flowering 3. Applications of photoperiodism 4. Vernalization–concept and definition,	6	Physiology of flowering 1. Photoperiodism – Concept, definition, short day plants, long day plants and day neutral plants. 2. Phytochrome theory, role of phytohormones in induction and inhibition of flowering 3. Applications of photoperiodism 4. Vernalization–concept and definition, mechanism of vernalisation, applications of vernalisation and devernalization		

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Teaching And Evaluation plan

Name of the Teacher :- Dr. Kabnoorkar P.S.

Semester II **Paper II : Plant Biotechnology** **Year : 2020-2021**

Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	1
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Rem
1	March2021	3 & 4	11	55	**Introduction to Plant Biotechnology** 1. History and definition 2. Scope and importance of plant biotechnology 3. Current status of biotechnology in India. Structure and function of xylem, phloem and cambium Plant Tissue Culture 1 Concept of plant tissue culture and cellular totipotency 2 Basic techniques: Types of culture	5	Nil	**Introduction to Plant Biotechnology** 1. History and definition 2. Scope and importance of plant biotechnology 3. Current status of biotechnology in India. Structure and function of xylem, phloem and cambium **Plant Tissue Culture** 1 Concept of plant tissue culture and cellular totipotency 2 Basic techniques: Types of culture	Nil	–
2	April2021	1 & 2	11	61	3. Media preparation, sterilization, inoculation & Incubation 4. Hardening and Applications with reference to: Micropropagation	7	1	3. Media preparation, sterilization, inoculation & Incubation 4. Hardening and Applications with reference to: Micropropagation	1	Ext lect was con

						5. Somaclonal variation & Haploid production 6. Protoplast fusion & Somatic hybrids 7. Embryo rescue & Production of secondary metabolites 8. Commercial Plant Tissue culture laboratories in Maharashtra and India.		5. Somaclonal variation & Haploid production 6. Protoplast fusion & Somatic hybrids 7. Embryo rescue & Production of secondary metabolites 8. Commercial Plant Tissue culture laboratories in Maharashtra and India.		
3	April 2021	3 & 4	12	9		**Single Cell Protein** (SCP) 1. Concept and definition 2. Importance of proteins in diet 3. Production of SCP from *Spirulina* and Yeast 4. Importance & acceptability of SCP **Plant Genetic Engineering** 1. Introduction, concept 2. Tools of genetic engineering (restriction enzymes, ligases, plasmid vectors) 3. Gene cloning Technique 4. Applications of plant genetic engineering: insect pest resistance, 5. Abiotic stress tolerance & herbicide resistance	8	**Single Cell Protein** (SCP) 1. Concept and definition 2. Importance of proteins in diet 3. Production of SCP from *Spirulina* and Yeast 4. Importance & acceptability of SCP **Plant Genetic Engineering** 1. Introduction, concept 2. Tools of genetic engineering (restriction enzymes, ligases, plasmid vectors) 3. Gene cloning Technique 4. Applications of plant genetic engineering: insect pest resistance, 5. Abiotic stress tolerance & herbicide resistance	1	E Le
4	May 2021	3 & 4	12	5		**Genomics, Proteomics and Bioinformatics** 1 Genomics- concept & types, 2. Methods used for whole genome	5	**Genomics, Proteomics and Bioinformatics** 1 Genomics- concept & types, 2. Methods used for whole genome		

						sequencing 3. Proteomics-concept, types 4. Methods used in proteome analysis 5. Bioinformatics-concept, database and its classification, data retrieval tools.		sequencing 3. Proteomics-concept, types 4. Methods used in proteome analysis 5. Bioinformatics-concept, database and its classification, data retrieval tools.		
5	5	May 2021	1 & 2	12	5	**Bioremediation** 1 Introduction and concept, Microbial remediation 2. Phytoremediation **Biofuel technology** 1. Definition, Concept and types of Renewable and nonrenewable energy sources 2. Definition and concept of Biogas, Bioethanol & Biobutanol, 3. Biodiesel & Biohydrogen	5	1	**Bioremediation** 1 Introduction and concept, Microbial remediation 2. Phytoremediation **Biofuel technology** 1. Definition, Concept and types of Renewable and nonrenewable energy sources 2. Definition and concept of Biogas, Bioethanol & Biobutanol, 3. Biodiesel & Biohydrogen	1	Extr. lectu was cond

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Name of the teacher: Mahadik B.B.

Semester: I **Year: 2020-21**

Semester II **Paper: Plant Anatomy And Embryology** **Year : 2020-2021**

Part I : Teaching Plan | **Part II : Evaluation of Plan**

1	2	3	4	5	6	7	8	9	10
Sr. No.	**Month**	**Week**	**No. of working days**	**No. of periods available**	**Topics to be taught**	**No. of periods engaged**	**Topics taught**	**Deviation in periods**	**Remarks**
1	Dec 2020	2 & 4	11	8	***Introduction*** *Definition,Scope of plant anatomy* ***Epidermal tissue system*** *Structure, types and functions of epidermis, Stomata* *Epidermal outgrowths-* ***Mechanical tissue system*** *a) Inflexibility,* *b) Incompressibility,* *c) Inextensibility and* *d) Shearing stress* *3.2 Vascular tissue system: Structure and function of xylem, phloem and cambium*	8	**Introduction** Definition,Scope of plant anatomy **Epidermal tissue system** Structure, types and functions of epidermis, Stomata Epidermal outgrowths- **Mechanical tissue system** a) Inflexibility, b) Incompressibility, c) Inextensibility and d) Shearing stress Vascular tissue system: Structure and function of xylem, phloem and cambium	Nil	--
2	Jan 2023	1 &2	11	7	**Normal secondary growth** Introduction Normal secondary growth in dicotyledonous stem Development of annual rings, periderm, bark, tyloses and lenticel **Anomalous secondary growth** Introduction Causes of anomalous secondary growth Anomalous secondary growth in:	7	**Normal secondary growth** Introduction Normal secondary growth in dicotyledonous stem Development of annual rings, periderm, bark, tyloses and lenticel **Anomalous secondary growth** Introduction,Causes of anomalous secondary growth anomalous secondary growth in:	1	Extra lectur was cond

3	Sept 2021	1 & 2	12	5	**Plant Embryology ntroduction** **Microsporangium and male gametophyte** tetrasporangiate anther Types of tapetum Sporogenous tissue Microsporogenesis Types of microspore tetrad Male gametophyte: structure and development of male gametophyte	5	**Plant Embryology ntroduction** **Microsporangium and male gametophyte** tetrasporangiate anther Types of tapetum Sporogenous tissue Microsporogenesis Types of microspore tetrad Male gametophyte: structure and development of male gametophyte	Nil	--
4	Sept 2021	3 & 4	12	4	**Megasporangium and female gametophyte** Structure Types of ovules Types of megaspore tetrads Female gametophyte: structure of typical embryo sac Types of embryo sacs – monosporic, bisporic and tetrasporic	4	**Megasporangium and female gametophyte** Structure Types of ovules Types of megaspore tetrads Female gametophyte: structure of typical embryo sac Types of embryo sacs – monosporic, bisporic and tetrasporic		--
	Oct 2021	1 & 2	12	6	**Pollination and Fertilization:** Introduction and definition Types of pollination Germination of pollen grain Entry of pollen tube- porogamy, mesogamy and chalazogamy Double fertilization and its significance. **Endosperm and embryo**	6	**Pollination and Fertilization:** Introduction and definition Types of pollination Germination of pollen grain Entry of pollen tube- porogamy, mesogamy and chalazogamy Double fertilization and its significance. **Endosperm and embryo**	1	Extra lecture was conducted

					Endosperm: Types – nuclear, helobial and cellular,Structure of Dicotyledonous and Monocotyledonous embryo		Endosperm: Types – nuclear, helobial and cellular,Structure of Dicotyledonous and Monocotyledonous embryo	

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