

SRI KALISWARI COOLEGE (AUTONOMOUS), SIVAKASI
(Affiliated to Madurai Kamaraj University, Re-accredited with A Grade (CGPA 3.11) by NAAC)
BOARD OF STUDIES MEETING

Name of the Department: **Botany**

Date : **20.07.2021**

Course : **B.Sc, M.SC., Botany**

Members Present:

S. No.	Board Members	Name and Designation
1.	Chairman of the Board	Dr. M. Sujatha Head & Assistant Professor Department of Botany Sri Kaliswari College (Autonomous), Sivakasi.
2.	University Nominee	Dr. P. Gopal Assistant Professor Department of Plant Biotechnology Madurai Kamaraj University, Madurai -625021
3.	Academic Expert 1.	Dr.R. Ramasubbu Assistant Professor Department of xBiology The Gandhigram Rural Institute (Deemed to be University), Gandhigram Dindigul District.
4.	Academic Expert 2.	Dr M.Venkatesan Assistant Professor, Department of Botany, Sourashtra College, Madurai

5.	Industrialist	Mr. R. Govindaraj Sri Marutham Agro Biotech, Madurai
6.	Alumnu	Mr. V. Sakkamuthu Field Assistant, DST Project Kalasalingam School of Agriculture and Horticulture Kalasalingam Academy of Research and Education (Deemed to be University), Anand Nagar, Krishnankovil.
7.	Dr.R. Narayanaprakash	Guest Faculty in Botany
8.	Dr. G. Manikandan	Assistant Professor of Botany
9.	Dr.M. Murugan	Assistant Professor of Botany
10.	Dr.A. Sarvalingam	Assistant Professor of Botany
11.	Dr. S. Jeyakumar	Assistant Professor of Botany
12.	Dr.V. Muniappan	Assistant Professor of Botany
13.	Mr.G. Varatharaju	Assistant Professor of Botany
14.	Dr.C. Divya	Assistant Professor of Botany

The Board of studies meeting was held on 20th July, 2021 through virtual mode. On the basis of feedback received from stakeholders, the revised syllabi under OBE for B.Sc., (Botany), M.Sc., (Botany) and Certificate courses were presented before the Board of studies meeting.

The following recommendations were incorporated in the syllabi in accordance with the suggestions given by the members of the board.

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BOARD OF STUDIES MEETING

Name of the Department: **Botany**

Date : 20.07.2021

Course : B.SC., Botany

Semester	Course code	Course Name	Course code	Course Name	Content/ Unit	Retained/ Shifted/ Changed/ Introduced	Justification
I	18UBYC11	Core Course -I: Plant Diversity I	21UBYC11	Core Course - I: Algae, Fungi, Lichens and Bryophytes	Unit IV	Renamed	Based on the feedback from stakeholders and BOS members, Lichens(Classification, Structure & Reproduction) contents were added in Unit IV
	18UBYC1P	Core Course -II: Lab in Plant Diversity I	21UBYC1P	Core Course - II: Practical: Algae, Fungi, Lichens and Bryophytes		Changed	As per suggestions given by BOS members, Lichens specimen (Thallus structure. Usnea and Foliose types) were added
			21UESR11	Ability Enhancement Compulsory Course: Environmental	Unit III and V revised	Interchanged from 6 th semester to 1 st semester	As per UGC norms, the course given to all the UG students. As per suggestions

				Studies			given by BOS members, IUCN & WWF, Endangered and Endemic Species of India contents were removed instead Indian Biodiversity Hotspots and IUCN Red List Categories were added in Unit III and Human Population, Environment and Human health content were added in Unit V
	18UBE11	Enhancement Course - I: Nursery and Landscaping	21UBYS11	Skill Enhancement Course - I: Nursery and Landscape Management		Retained	Course Title renamed suggestions given by the subject experts of BOS
II	18UBYC21	Core Course -III: Plant Diversity II	21UBYC21	Core Course - III: Pteridophytes, Gymnosperms and Palaeobotany	Unit II and V revised	Changed	Renamed the course Title as per TANSCHÉ. Based on the BOS experts suggestions, <i>Ginkgo</i> and <i>Araucaria</i> plants were added in Unit III & IV. In Unit V, <i>Williamsonia</i> plant was added and

						Lichen content was removed.
18UBYC2P	Core Course -IV: Lab in Plant Diversity II	21UBYC2P	Core Course - IV: Practical: Pteridophytes, Gymnosperms and Palaeobotany			Based on the suggestions given by BOS members, <i>Isoetes</i> (Micropreparation, Internal structure) were removed & <i>Araucaria</i> (Micropreparation, Internal structure) were added.
18UBYN21	Non Major Elective course-II: Plant Resources and Utilization				Shifted	As per BOS members suggestions this course is introduced as Major Elective course in Semester V
18UBYE21	Enrichment course-II: Morphology of Angiosperms				Removed the course	The contents of Morphology of Angiosperms were merged with Taxonomy of Angiosperms course in Semester V
		21UBYS21	Skill Enhancement Course - II: Biofertilizer Technology	Unit II & III	Changed the content	Based on the feedback from stakeholders, Characterization of <i>Azospirillum</i> and

							<i>Azotobacter</i> were introduced
			21UDMG21	Disaster Management			
III	18UBYC31	Core Course - V: Plant Anatomy and Embryology	21UBYC31	Core Course - V: Plant Anatomy and Embryology	Unit III	Retained	ICT tools and Plant Ontogeny were included as per the BOS members' suggestions
	18UBYC3P	Core Course - VI: Lab in Plant Anatomy and Embryology	21UBYC3P	Core Course - VI: Practical: Plant Anatomy and Embryology	--	Retained	Principles & application of Microtome were included. Permanent slide preparation was also added.
	18UBYA31	Allied Course - III: Invertebrata	21UBYA31	Allied Course - III: Invertebrata	--	Retained	--
	18UBYA3P	Allied Course - III: Lab in Zoology-I	21UBYA3P	Allied Course - III: Practical: Zoology-I	--	Retained	--
			21UBYN31	Non Major Elective course - I: Horticulture	--	Introduced new course	As per the feedback given by stakeholders and based on the TANSCHÉ syllabus, this course is introduced.
	18UBYV31	Value Based Course- I: Mushroom Cultivation Technology	21UBYS31	Skill Enhancement Course - III: Mushroom Cultivation Technology	Unit I & IV	Changed the content	The contents in unit I & IV were revised. As per BOS members suggestions, Edible

							and Non edible Mushrooms and its Nutritional compositions were added.
IV	18UBYC41	Core Course - VII: Microbiology and Plant Pathology	21UBYC41	Core Course - VII: Microbiology and Plant Pathology	Unit V	Retained	TMV and WC disease were removed Bunchy top of Banana was added.
	18UBYC4P	Core Course - VIII: Lab in Microbiology and Plant Pathology	21UBYC4P	Core Course - VIII: Practical: Microbiology and Plant Pathology		Retained	-
	18UBYA41	Allied Course - IV: Chordata	21UBYA41	Allied Course - IV: Chordata		Retained	-
	18UBYA4P	Allied Course - IV: Lab in Zoology - II	21UBYA4P	Allied Course - IV: Practical: Zoology - II		Retained	-
			21UBYM41	Self paced learning (Swayam courses) 1. Cell culture Technologies		Introduced new course	To mobilize credit transfer through self directed learning.
			21UBYM42	2. Computer Aided Drug Designing		Introduced new course	To mobilize credit transfer through self directed learning.
			21UBYN41	Non Major Elective course - II: Herbal Medicine		Introduced new course	Based on the feedback given by Stakeholders, this course is

							introduced.
	18UBYO41	Major Elective Course -I 1. Biology for Entrepreneurship Development	21UBYS41	Skill Enhancement Course - IV: Biology for Entrepreneurship Development	Unit II,III & V	Retained	As per the BOS members suggestions, <i>Eisenia fetida</i> and <i>Azolla pinnata</i> were added. Fighter, Barbs, Platy and sword tail were Removed.
	18UBYO42	2. Plant Breeding and Evolution				Changed the content	The content of this course was merged with Genetics and Plant Breeding in semester VI.
	18UBYO43	3. Consumer affairs				This course is Removed	
V	18UBYC51	Core Course - IX: Taxonomy of Angiosperms	21UBYC51	Core Course - IX: Taxonomy of Angiosperms	Unit I & II	Changed the contents	As per the subject expert of BOS suggestions, the ICBN was added in the Unit I. Engler and Prantl classification is replaced with Bessey system. Numerical, Molecular and Chemo taxonomy

							were added in Unit II. Unit IV & V were revised based on the IFoS and TRB syllabus.
18UBYC52	Core Course - X: Plant Physiology and Biochemistry	21UBYC52	Core Course - X: Plant Physiology and Biochemistry	Unit II	Changed the content		As per the subject expert of BOS suggestions, Chemo osmosis was added in Unit II.
18UBYC53	Core Course -XI: Cell and Molecular Biology				Shifted to VI semester		
18UBYC5P	Core Course - XII: Lab in Taxonomy of Angiosperms	21UBYC5P	Core Course - XI: Practical: Taxonomy of Angiosperms	Experiment no. 1,5 & 6	Retained		Dichotomous key, plant identification by using Punch card, were added as per feedback given by the students
18UBYC5Q	Core Course - XIII: Lab in Plant Physiology and Biochemistry	21UBYC5Q	Core Course - XII: Practical: Plant Physiology and Biochemistry	Experiment No. 6,7 & 8	Retained		Based on the students' feedback, Identification of Amino acid was added.
18UBYO51	Major Elective Course – II 1. Floral Biology and Breeding System of Plants	21UBYO51	Major Elective Course – I 1. Reproductive Biology of Angiosperms	Unit IV	Nomenclature changed		Based on the BOS members suggestions, EFN is added in Unit IV.

18UBY052	2. Ethnobotany and Bioresources				Shifted to semester V	The contents were merged with the course the prospective of medicinal plants.
		21UBY052	2. Recent Trends in Plant Systematics	Unit IV & V	Nomenclature changed	The contents in unit IV & V were interchanged.
		21UBY053	3. Emerging Molecular Techniques	Unit I - V	Introduced new course	All the units were shuffled and rearranged. As per BOS members suggestions, Immunoelectrophoresis, Isothermal PCR and 16S RNA method were removed.
		21UBY054	Major Elective Course - II 1. Economic Botany		Retained	Based on the students and stakeholders suggestions, a few medicinal Plants were Additionally included. The content for AICRPE Ethnobotany Knowledge were

			21UBYO55	2. Plant Resources and Utilization		Introduced new course	added. As per the feedback given by stakeholders and Students, this Course is Introduced
			21UBYO56	3. Prospective of Medicinal Plants		Introduced new course	As per the feedback given by stakeholders and Students, this Course is Introduced
	18UBYS51	Skill Based Course-II: Biological techniques and Biostatistics	21UBYS51	Skill Enhancement Course - V: Bioinstrumentation and Biostatistics	Unit I	Nomenclature changed	As per the BOS members suggestions, Microtomy, Microscope and one way ANOVA were added.
	18UBYS52	Skill Based Course-III: Forest Botany				Shifted to semester VI	-
			21UBJ51	Internship		Introduced	As per Alumni feedback, this Course is introduced
VI	18UBYC61	Core Course -XIV: Plant Ecology and Biodiversity Conservation	21UBYC61	Core Course - XIII: Plant Ecology and Phytogeography	Unit II, III, IV & V	Nomenclature changed	Based on Alumni feedback, the content of Phytogeography was added. Based on the BOS

							members suggestion, Western Ghats of India was added
18UBYC62	Core Course - XV: Plant Biotechnology					Shifted from core course to Skill course	The contents were merged with Lab in Plant Biotechnology and given as techniques in Plant Biotechnology in semester VI
		21UBYC62	Core Course - XIV: Cell and Molecular Biology	Unit I - V	Revised the content		The contents in all the units were elaborated
18UBYC63	Core Course - XVI: Genetics	21UBYC63	Core Course - XV: Genetics and Plant Breeding	Unit I - V	Nomenclature changed		The course Contents of Plant Breeding is merged with Genetics and all the units were elaborated
18UBYC6P	Core Course -XVII: Lab in Plant Ecology and Biodiversity Conservation and Genetics	21UBYC6P	Core Course - XVI: Practical: Plant Ecology and Phytogeography		Nomenclature changed		The content of Phytogeography was added
18UBYC6Q	Core Course- XVIII: Lab in Plant Biotechnology					Shifted from core course to Skill course	The contents were merged with Plant Biotechnology and given as techniques in Plant

							Biotechnology in semester VI.
			21UBYC6Q	Core Course - XVII: Practical: Cell and Molecular Biology and Genetics		Nomenclature changed	As per BOS members suggestions, Observation of Chromosomal structure and SDs page, PCR were added
	Major Elective Course - III		21UBYO61	Major Elective Course - III 1. Biodiversity and Conservation	Unit I,II & V	Changed the content	Based on the BOS Members the content of hotspots Removed. All content in units were shuffled. Endemism, Biodiversity laws and conservation strategies were added
18UBYO61	Palynology and Pollination Biology					The course is changed	Instead, new course Recent advances in botany were added
18UBYO62	Economic Botany		21UBYO62	2. Forest Botany	Unit II,III	Sifted to semester V Changed the	Commercial

			21UBY063	3. Recent Advances in Botany	& V Unit I,II & IV	content Introduced new course	plantations, Role of tribals in biodiversity conservation were added and <i>Citrus</i> , <i>Eucalyptus</i> were removed As per BOS members suggestions, Genome project, ICT tools, Therapeutic values, Protein databases, BLAST & FAST were added. Genome sequencing, Computational biology, Pharmacognosy were removed
18UBYS61	Skill Based Course-IV: Horticulture		21UBYS61	Skill Enhancement Course - VI: Techniques in Plant Biotechnology	Unit I& II	Sifted to semester III Nomenclature changed	BOS members suggested to give as Non major elective course Genetics transformations of Plants, PCR cloning, Binary vectors, Southern and

							Western plot techniques were added. Plasmid DNA, Gene transfer method removed
	18UBYV61	Value Based Course-II: Biofertilizers				Sifted to semester II	-

CERTIFICATE COURSES - B.Sc., BOTANY

Semester	Course code	2021-2024 Course Name	Content /Unit	Retained/Sifted/Changed /introduced new course	Justification
III	21UBYEX1	Certificate course in Bee keeping		Introduced the new course	Based on the fed back given from the stakeholders this course in introduced
IV	21UBYEX2	Certificate course in Organic farming		Introduced the new course	This course introduced to enhance learners knowledge in organic farming
V	21UBYEX3	Certificate course in Bioinformatics		Introduced the new course	This course introduced to enhance learners knowledge in Bioinformatics
VI	21UBYEX4	Certificate course in Pharmacognosy		Introduced the new course	Based on the feedback given by stake holders this course in introduced

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	18PBYC13	Core Course III: Instrumentation and Bio- techniques				Sifted to semester III	
			21PBYC13	Core Course - III: Plant Diversity	Unit I-V	Retained	As per the BOS members instructions, The general characters of Algae, Bryophytes, Pteridophytes and Gynosperms were added. The ICT tools were added. SCP, Sporophytes evolution were removed.
	18PBYC1P	Core Course IV: Practical I Lab in taxonomy of Angiosperms, Developmental Botany, Instrumentation and Bio- techniques	21PBYC1P	Core Course - IV: Practical: Taxonomy of Angiosperms, Developmental Botany and Plant Diversity		Retained and changed the nomenclature	The content of plant diversity is added. The <i>Bombax</i> , <i>Tectona</i> , and <i>Azadirachta</i> were removed and <i>Lycopodium</i> was added in plant diversity and Isoetes was removed

Semester	2018-2021		Semester	2021-2024		Content/ Unit	Retained/ Shifted Changed/ Introduced	Justification
	Course Code	Course Name		Course Code	Course Name			
I	18PBYC11	Core Course I: Taxonomy of Angiosperms	I	21PBYC11	Core Course - I: Taxonomy of Angiosperms	Unit I,II & III	Retained	As per the BOS member's suggestion, ICBN and Huitchinson, Takjtajan Classification were added. Salient features and floral characters of Angiosperms were removed.
	18PBYC12	Core Course II: Developmental Botany		21PBYC12	Core Course - II: Developmental Botany			

		Major Elective Course - I:			Major Elective Course - I:				
	18PBYO11	1. Herbal Botany		21PBYO11	1. Herbal Technology	Unit II & V	Changed the nomenclature	As per the suggestion of BOS members, The Extraction methods and Isolation of volatile oil and Principle and applications of GC-MS, NMR were added and a few common plants were removed	
	18PBYO12	2. Biofertilizer Technology		21PBYO12	2. Biofertilizer Technology	Unit II,III & V	Retained	As per BOS members suggestions The <i>Rhizobium</i> , <i>Azotobacter</i> , Agni asthiram and Fish amino acid were added.	
				21PBYO13	3. Ethnobotany and Bio-resources		Introduced New course	This course introduced as per feedback given by alumni	
II	18PBYC21	Core Course V: Plant Diversity (Algae, Fungi and Lichens,	II				Shifted to semester I		

		Bryophytes, Pteridophytes and Gymnosperms)						
				21PBYC21	Core Course-V: Instrumentation Techniques and Biostatistics and Research Methodology	Unit I, II and V	Changed the nomenclature	Based on the feedback given by alumni, Biostatistics and Research Methodology contents were added. Secondary metabolites, Enzyme assay and Kinetics were removed.
	18PBYC22	Core Course VI: Cell and Molecular Biology		21PBYC22	Core Course-VI: Cell and Molecular Biology	Unit I and II	Retained	Based on the BOS members suggestions, the Endo symbiotic theory and Epigenetics and histone modification were included.
	18PBYC23	Core Course VII: Bioinformatics and Biostatistics and Plant		21PBYC23	Core Course - VII: Plant Biotechnology and	Unit I & II	Nomenclature changed	As per the suggestions give by BOS members Pathogen related

		biotechnology (Biostatistics Content merged with Instrumentation Techniques and Biostatistics and Research Methodology at II sem)			Bioinformatics			proteins, Cloning, Binary Vector and Gene gun. Biostatistics content was removed and merged with the course instrumentation techniques, Biostatistics and research methodology at semester II
	18PBYC2P	Core Course VIII: Practical II : Lab in Plant Diversity, Cell and Molecular biology, Bioinformatics, Biostatistics		21PBYC2P	Core Course - VIII: Practical: Instrumentation Techniques and Biostatistics and Research Methodology, Cell and Molecular Biology, Plant Biotechnology and Bioinformatics	Experiments updated	Retained	As per BOS members suggestion, PCR techniques were added.
	18PBYN21	Non Major Elective Course I: Mushroom Cultivation		21PBYN21	Non Major Elective Course : Home Gardening		Introduced new course	Mushroom cultivation course is changed and new course


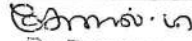

								introduced Home Gardening.
III	18PBYC31	Core Course IX: Microbiology and Plant pathology	III	21PBYC31	Core Course-IX: Microbiology and Plant Pathology	Unit III and V	Retained	Based on the BOS members suggestions, Virology, Plant diseases (Pararetrovirus & Bunchy top of Banana) were added.
	18PBYC32	Core Course X: Genetics and Evolution		21PBYC32	Core Course - X: Genetics and Evolution	Unit I, II and IV	Retained	As per BOS members suggestions, Sex linked inheritance, interaction of genes, mechanisms of crossing over were included. Classical Genetics were included.
	18PBYC33	Core Course XI: Biochemistry		21PBYC33	Core Course - XI: Biochemistry	Unit II	Retained	Based on the BOS member's suggestion, the Protein folding and conformational changes,

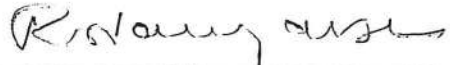






							Essential and Non essential amino acids and metabolism of AA were added.	
18PBYC3P	Core Course XII: Practical III Lab in Microbiology and Plant Pathology, Genetics and Evolution and Biochemistry		21PBYC3P	Core Course – XII: Practical: Microbiology and Plant Pathology and Genetics and Evolution and Biochemistry	Experiments revised	Retained	As per the suggestions given by BOS members, the Phytopathogens and Fungal mycelia staining by lacto phenol cotton blue were included.	
	Major Elective Course- II:			Major Elective Course- II:				
18PBYO31	1. Biodiversity and Conservation		21PBYO31	1. Biodiversity and Conservation		Retained	---	
18PBYO32	2. Palynology and Pollination Biology		21PBYO32	2. Palynology and Pollination Biology	Unit I	Retained	Based on the BOS members suggestions, Allergic effects of pollen grains was added.	
			21PBYO33	3. Recent Advances in Botany		Introduced new course	---	
			Self-paced Learning - (Swayam Course)					
			21PBYM31	1. Forests and		Introduced	To mobilize	

					their Management		new course	credit transfer through self directed learning
				21PBYM32	2. Applied Environmental Microbiology		Introduced new course	To mobilize credit transfer through self directed learning
IV	18PBYC41	Core Course XIII: Plant Physiology	IV	21PBYC41	Core Course - XIII: Plant Physiology	Unit II, III, IV and V Content revised	Retained	Based on the BOS Members suggestion, the Bennet clark theory, Structure and function of chloroplast and mitochondria, phytochrome were added.
	18PBYC42	Core Course XIV: Plant Ecology		21PBYC42	Core Course - XIV: Plant Ecology		Retained	--
	18PBYC4P	Core Course XV: Practical IV Lab in Plant Physiology and Plant Ecology		21PBYC4P	Core Course - XV: Practical: Practical: Plant Physiology and Plant Ecology		Retained	---
	18PBYJ41	Core Course XVI: Project		21PBYJ41	Core Course - XVI: Project		Retained	--
				21PBYEX1	Certificate Course in Waste Management		Newly Introduced	Based on the feedback given by stakeholders, this course is

								introduced
				21PBEX2	Certificate Course in Phyto-chemistry		Newly Introduced	This course is introduced to enhance the learners' knowledge on phytochemistry
				21PBEX3	Certificate Course in Molecular Modeling and Molecular Docking		Newly Introduced	This course is introduced to enhance the learners' knowledge on Molecular Modeling and Molecular Docking

Members Present:

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1.	Chairman of the Board	Dr. M. Sujatha Head & Assistant Professor Department of Botany Sri Kaliswari College (Autonomous), Sivakasi.	
2.	University Nominee	Dr. P. Gopal Assistant Professor Department of Plant Biotechnology Madurai Kamaraj University, Madurai -625021	 Dr. P. GOPAL Assistant Professor Department of Plant Biotechnology School of Biotechnology Madurai Kamaraj University Madurai - 625 004, INDIA.
3.	Academic Expert 1.	Dr.R. Ramasubbu Assistant Professor Department of Biology The Gandhigram Rural Institute (Deemed to be University), Gandhigram Dindigul District.	
4.	Academic Expert 2.	Dr M.Venkatesan Assistant Professor, Department of Botany, Sourashtra College, Madurai	 DR. M. VENKATESAN, M.Sc. Ph.D. HEAD AND ASSISTANT PROFESSOR DEPARTMENT OF BOTANY SOURASHTRA COLLEGE (AUTONOMOUS) MADURAI - 625 004
5.	Industrialist	Mr. R. Govindaraj Sri Marutham Agro Biotech, Madurai	
6.	Alumnus	Mr. V. Sakkamuthu Field Assistant, DST Project Kalasalingam School of Agriculture and Horticulture Kalasalingam Academy of Research and Education (Deemed to be University), Anand Nagar, Krishnankovil.	

7.	Dr.R. Narayana Prakash	Guest Faculty in Botany	
8.	Dr. G. Manikandan	Assistant Professor of Botany	
9.	Dr.M. Murugan	Assistant Professor of Botany	
10.	Dr.A. Sarvalingam	Assistant Professor of Botany	
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14.	Dr.C. Divya	Assistant Professor of Botany	

M. Sujith
Signature of Chairman of the Board

S. Fernine
Dean of Academic affairs


Principal