



PG & RESEARCH DEPARTMENT OF BOTANY
NALLAMUTHU GOUNDER MAHALINGAM COLLEGE
(Autonomous and Affiliated to Bharathiar University)
An ISO 9001:2015 Certified Institution
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MINUTES OF BOARD OF STUDIES IN M.SC., BOTANY

M.Sc., Botany Board of studies meeting was held on 22.02.2020 in the PG Department of Botany Lab at 10.30 am. The Chairman welcomed the Board members Dr. T. Parimelazhagan- the university Nominee, Dr. P. Sundaramoorthy- Subject expert, Dr. R. Rathinasamy- Academic auditor, Dr. K. M. Aravinthan - Industrial expert, Mr. K. Sreenivasan - Alumni and faculty of PG Botany.

The board discussed the draft syllabus and recommended the following suggestions which were accepted unanimously.

1. The following course names were Changed

- Phycology, Mycology, Lichenology and Bryology was changed as Plant Diversity I
- Pteridophytes, Gymnosperms and Palaeobotany was changed as Plant Diversity II
- Microbiology and Plant Pathology was changed as Applied Microbiology and Plant Pathology
- Practical I, II, III, IV and V were changed as Laboratory course –I, II, III, IV and V
- Anatomy and Embryology was changed as Plant Anatomy and Reproductive Biology
- Plant systematics was changed as Taxonomy of Angiosperms

- Horticulture was changed as Horticulture and landscaping
- Forestry was changed as Forestry and Wood science
- Molecular Biology and Plant Biotechnology was changed as Plant Biotechnology and Nanobiology

2. The following New Courses were introduced

- Plant ecology, tissue culture and Phytochemical techniques – for Advanced Learners (Extra credit course) has been incorporated in Semester III
- Online comprehensive examination (Extra credit course) has been incorporated in Semester IV
- Two value added courses has been introduced for every semester
 1. Medicinal plants for Human Welfare
 2. Biological entrepreneurship

3. Internship has been incorporated in Semester III

4. The scheme, COs, methodology and evaluation pattern has been changed for final semester Project Viva -voce.

5. *Phytophthora* and *Rhizopus* type study, fossil fungi, alternation of generations in the life-cycle of bryophytes, fossil bryophytes has been included and *Neurospora* and *Fusarium* has been removed in Plant diversity paper I

6. Cordiales and taxaes has been included in the unit III of the paper Plant diversity II and Unit V -Palaeobotany has been entirely restructured

7. Isolation of microbes from industrial waste, concept of prebiotics and probiotics, biotechnology in relation to plant pathology and Agriculture terrorism has been included in the paper of Applied Microbiology and Plant Pathology.

8. In Ecology and Phytogeography paper, subject experts suggested to incorporate few topics like types of ecosystem, cause for loss of biodiversity, theories of succession, Environment Act, Disaster management and application remote sensing in ecological studies, types of ecosystem, altitudinal and longitudinal variation in vegetation and also suggested to remove the topic like adaptation of plants.
9. In Laboratory course I, *Ginkgo biloba*, fossils like Amber, Impression and Petrification has been incorporated.
10. Kranz anatomy has been included in the paper of Plant anatomy and Reproductive Biology
11. Radical scavenging activity has been included in plant physiology paper
12. Cytoplasm male sterility in plants and Double Haploid has been included in cytology, Genetics and Plant breeding paper
13. Removed Effect of varying concentrations of CO₂ on the rate of photosynthesis in Laboratory course II
14. Fruit and vegetable carving techniques has been included in Unit V of Horticulture and Landscaping paper
15. Plumbaginaceae, Orchidaceae family and Software's, mobile APPS for plant identification has been included in Unit IV and V of Taxonomy of Angiosperms respectively.
16. Scanning electron microscopy and Gas chromatography with mass spectrum has been included in Research methodology paper
17. Herbal technology paper Unit IV fully replaced
18. Silver Nanoparticle synthesis has been added in Plant biotechnology and Nanobiology paper

PG (2020-2022 BATCH)

S.No	Year	Sem	Paper Code	Paper Title	Changes	
					Removed (if any)	Added (if any)
1	2020	I	20PBY101	Plant Diversity I	<i>Neurospora</i> , <i>Fusarium</i> - Unit III <i>Fossombronia</i> , bryophytes classification (Proskauer 1957)- Unit V	Algae distribution in India-Unit I <i>Type study of Gracilaria</i> , <i>Caulerpa</i> –unit II fossil algae-Unit II <i>Rhizopus</i> and <i>Phytophthora</i> - Unit III fossil fungi - comparison of algae and fungi- Unit III Lichenology whole unit IV changed Bryophytes classification (Watson, 1955), alternation of generations in the life-cycle of bryophytes, <i>Notothylus</i> , <i>Sphagnum</i> and Fossil bryophytes- Unit V
2	2020	I	20PBY102	Plant Diversity II		Cordiales and taxales -unit III Unit V (Palaeobotany) has been entirely restructured
3	2020	I	20PBY103	Applied Microbiology and Plant Pathology		Economic importance of Microbes, Isolation of microbes from industrial waste, concept of prebiotics and probiotics, biotechnology in relation to plant pathology and Agriculture terrorism
4	2020	I	20PBY104	Laboratory course-I	<i>Ascobolus</i> <i>Marsilea</i>	<i>Phytophthora</i> <i>Penicillium</i> Impression, Petrification, Amber

5	2020	I	20PBY1E1	Elective -1 Ecology and Phytogeography/	adaptation of plants	Types of ecosystem, cause for loss of biodiversity, theories of succession, Environment Act, Disaster management and application remote sensing in ecological studies, types of ecosystem, altitudinal and longitudinal variation in vegetation
6	2020	I	20PBY1E2	Elective -2 Economic Botany	-	-
7	2020	II	20PBY205	Plant Anatomy and Reproductive Biology	-	Kranz anatomy
8	2020	II	20PBY206	Plant physiology	-	Radical scavenging activity
9	2020	II	20PBY207	Cytology, Genetics and Plant Breeding	-	Cytoplasmic male sterility in plants double haploid
10	2020	II	20PBY208	Laboratory course-II	Effect of varying concentrations of CO ₂ on the rate of photosynthesis	-
11	2020	II	20PBY2E3	Elective-3 Horticulture and Landscaping /	-	Fruit and vegetable carving techniques
12	2020	II	20PBY2E4	Elective-4 IPR and Bioethics	-	All unit changed
13	2020	II	20PBY2N1	Non- Major Elective Entrepreneurship Botany	-	New course introduced
14	2020	III	20PBY309	Taxonomy of Angiosperms	-	Plumbaginaceae, Orchidaceae, Software's, mobile APPS for plant identification
15	2020	III	20PBY310	Plant Biochemistry and Biophysics	-	

16	2020	III	20PBY311	Research Methodology	-	Scanning electron microscopy and Gas chromatography with mass spectrum
17	2020	III	20PBY3E5	Elective -5 Forestry and Wood science	-	
18	2020	III	20PBY3E6	Elective -6 Herbal Technology	Neutraceuticals - classification, antioxidants, probiotics, prebiotics, spirulina, royal jelly, soya beans, garlic and cosmeceuticals. natural pesticides- pyrethrum, neem, derris; antiobiotics, allergenic extracts.	<i>Withania somnifera</i> and <i>Coleus forskohlii</i> General methods of phytochemical and biological screening – Natural sources - Extraction - Purification and isolation of plant constituents - Alkaloids - glycosides - Volatile oils – Study of some herbal formulation techniques as drug cosmetics
19	2020	III	20PBY312	Laboratory course-III	-	Plumbaginaceae, Orchidaceae, Software's, mobile APPS for plant identification
20	2020	III	20PBY313	Laboratory course-IV	-	Silver Nanoparticle synthesis

New papers (Courses) introduced

S.No	Year	Sem	Paper Code	Paper Title	Changes	
					Removed (if any)	Added (if any)
1	2020	II	20PBY2N1	Non- Major Elective Entrepreneurship Botany	-	
2	2020	III	20PBY315	Extra Credit course: Plant ecology, tissue culture and Phytochemical techniques –(Advanced Learners)	-	

After a thorough discussion based on the suggestions/feedback received from the stakeholders, the department suggested the following new courses and classified the courses as skills development / Employability / Entrepreneurship.

Comprehensive year of syllabus revision 2018							Comprehensive year of syllabus revision 2020						
SE M	Course code	Name of the course	Old/ new	S D	E N	E M	SEM	Course code	Name of the course	Old/ new	S D	E N	E M
I	18PBY101	Microbiology	Old	✓		✓	I	20PBY101	Plant Diversity I (Phycology, Mycology, Lichenology and Bryology)	Old	✓	✓	
	18PBY102	Phycology, Mycology, Lichenology and Bryology	Old	✓	✓		I	20PBY102	Plant Diversity II (Pteridophytes, Gymnosperms and Palaeobotany)	Old	✓		
	18PBY103	Pteridophytes, Gymnosperms and Palaeobotany	Old	✓			I	20PBY103	Applied Microbiology and Plant Pathology	Old	✓	✓	✓
	18PBY1E1	Elective -1 Ecology and Phytogeography	Old			✓	I	20PBY104	Laboratory course-I (for core papers 1, 2, 3)	Old	✓		
	18PBY104	Core Practical-I (for core papers & elective -1)	Old	✓			I	20PBY1E1/ 20PBY1E2	Elective -1 Ecology and Phytogeography/ Elective -2 Economic Botany	Old Old			✓ ✓
II	18PBY205	Anatomy and Embryology	Old	✓			II	20PBY205	Plant Anatomy and Reproductive Biology	Old	✓		
	18PBY206	Plant physiology	Old	✓			II	20PBY206	Plant physiology	Old	✓		
	18PBY207	Cytogenetics and Plant Breeding	Old	✓	✓	✓	II	20PBY207	Cytology, Genetics and Plant Breeding	Old	✓	✓	✓
	18PBY208	Core Practical- II (for core papers)	Old	✓			II	20PBY208	Laboratory course-II (for core papers 5,6,7)	Old	✓		
	18PBY2E2	Elective -2 Horticulture	Old	✓	✓	✓	II	20PBY2E3/ 20PBY2E4	Elective-3 Horticulture and Landscaping / Elective-4 IPR and Bioethics	Old	✓	✓	✓
	18PBY2N1	Non- Major Elective -1A Mushroom cultivation	Old	✓	✓	✓	II	20PBY2N1	Non- Major Elective Entrepreneur Botany	New	✓	✓	✓
III	18PBY309	Plant Systematics	Old	✓	✓	✓	III	20PBY309	Taxonomy of Angiosperms	Old	✓	✓	✓
	18PBY310	Plant Biochemistry and Biophysics	Old	✓		✓	III	20PBY310	Plant Biochemistry and Biophysics	Old Old	✓		✓
	18PBY311	Research Methodology and Biostatistics	Old	✓	✓	✓	III	20PBY311	Research Methodology	Old	✓	✓	✓
	18PBY3E3	Elective -2 Forest Botany	New	✓	✓	✓	III	20PBY3E5/ 20PBY3E6	Elective -5 Forestry and Wood science / Elective -6 Herbal Technology	Old	✓ ✓	✓ ✓	✓ ✓
	18PBY312	Core Practical- III (Plant Systematics & elective -2)	Old	✓			III	20PBY312	Laboratory course - III (for core paper 9)	Old	✓		✓
	18PBY313	Core Practical –IV (Plant Biochemistry & Plant Biotechnology)	Old	✓		✓	III	20PBY313	Laboratory course –IV (for core papers 10 and 11)	Old	✓		✓
IV	18PBY414	Molecular Biology and Plant Biotechnology	Old	✓		✓	III	20PBY314	Internship	New		✓	✓
IV	18PBY415	Bioinformatics and Cyber security	Old	✓		✓	IV	20PBY414	Plant Biotechnology and Nanobiology	Old	✓		✓
IV	17PBY416	Core Practical -V (for core papers & elective -3)	Old	✓			IV	20PBY415	Bioinformatics and Cyber Security	Old Old	✓		
IV	17PBY4P1	Project Work and Viva - Voce	Old	✓	✓	✓	IV	20PBY4CE	Online-Comprehensive examination	New	✓		
							IV	20PBY416	Laboratory course -V (for core papers 14 and 15)	Old	✓		
							IV	20PBY4P1	Core - 17 Project Work and Viva -Voce	Old	✓		✓

Signatures of all the Board members

1. Dr. T Parimelazhagan.

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T. Parimelazhagan
22/02/2020

2. Dr. P. Sundaramoorthy

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P. Sundaramoorthy
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3. Dr. R. Rathinasamy -

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R. Rathinasamy
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4. Dr. K.M. Aravinthan

[Industrial Expert]

K.M. Aravinthan
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5. Mr. K. Sreenivasan

[Alumni]

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6. Dr. R. Rakkimuthu

Chairman
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7. Dr. P. Sathishkumar

[Member]

P. Sathishkumar
22/02/2020
[Member]

8. Dr. A.M. Anandakumar

[Member]

A.M. Anandakumar
22/02/2020
[Member]

Comprehensive Syllabus Revision

Department: PG and Research Department of Botany

Year of Implementation: 2020

Sem	Course Code	Name of the course	old/new	% of Modification	Skill development	Entrepreneurship	Employability
I	20PBY101	Plant Diversity I	Old	25	✓	✓	-
I	20PBY102	Plant Diversity II	Old	15	✓	-	-
I	20PBY103	Applied Microbiology and Plant Pathology	Old	20	✓	✓	✓
I	20PBY104	Laboratory course-I	Old	10	✓	-	-
I	20PBY1E1	Elective -1 Ecology and Phytogeography/	Old	25	-	-	✓
I	20PBY1E2	Elective -2 Economic Botany	Old	0	-	-	✓
II	20PBY205	Plant Anatomy and Reproductive Biology	Old	5	✓	-	-
II	20PBY206	Plant physiology	Old	5	✓	-	-
II	20PBY207	Cytology, Genetics and Plant Breeding	Old	5	✓	✓	✓
II	20PBY208	Laboratory course-II	Old	0	✓	-	-
II	20PBY2E3	Elective-3 Horticulture and Landscaping /	Old	5	✓	✓	✓
II	20PBY2E4	Elective-4 IPR and Bioethics	Old	50	✓	✓	✓
II	20PBY2N1	Non- Major Elective Entrepreneurship Botany	New	100	✓	✓	✓
III	20PBY309	Taxonomy of Angiosperms	Old	10	✓	✓	✓
III	20PBY310	Plant Biochemistry and Biophysics	Old	0	✓		✓
III	20PBY311	Research Methodology	Old	5	✓	✓	✓

III	20PBY3E5	Elective -5 Forestry and Wood science	Old	0	✓	✓	✓
III	20PBY3E6	Elective -6 Herbal Technology	Old	20	✓	✓	✓
III	20PBY312	Laboratory course-III	Old	5	✓	-	✓
III	20PBY313	Laboratory course-IV	Old	5	✓	-	✓
III	20 PBY314	Internship	New	100	-	✓	✓
III	20PBY315	Extra Credit course: Plant ecology, tissue culture and Phytochemical techniques – (Advanced Learners)	New	100	✓	✓	✓
IV	20PBY414	Plant Biotechnology and Nanobiology	Old	0	✓	-	✓
IV	20PBY415	Bioinformatics and Cyber Security	Old	0	✓	-	-
IV	20PBY416	Core – 16 Laboratory course - V (for core papers 14 and 15)	Old	0	✓	-	-
IV	20PBY4P1	Core - 17 Project Work and Viva - Voce	Old	0	✓	-	✓
IV	20PBY4CE	Online-Comprehensive examination	New	100	✓	-	-
		Total		22.59			

Total percentage of syllabus change is 22.59

R. Rakkimuthu
4/3/2020

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