



4Y B.Sc. (Honours) (Major in Botany) (2025 Pattern) Programme

Minutes of the PAC Meeting held on 13.06.2024

Date: 13th June, 2024

Time: 09.00 am to 04.30 pm

The PAC Meeting for 4Y B.Sc. (Honours) (Major in Botany) (2025 Pattern) Programme as per NEP 2020 of **School of Sciences** was held offline & online on **Thursday, 13-06-2024 at 09:00 AM** at school meeting hall. Following members and invitees were present in person,

01	Dr. Chetana Kamlaskar	(Chairperson) and Member
02	Dr. Prashant Gawande	Member
03	Dr. Dnyaneshwar Meera Shivaji Khandbahale	Member
04	Dr. Nitin Manohar Dongarwar	Member
05	Ms. Minakshi Kadel	Academic Coordinator (Botany Programme) and Invitee
06	Dr. Dnyaneshwar Bhusanur	Invitee
07	Dr. Jagruti Chavan	Invitee
08	Mr. Ravindra Bharsat	Invitee
09	Dr. Bharat More	Invitee
10	Mr. Nandkishor Sangle	Invitee
11	Ms. Tejaswi Kadam	Invitee

Following members could not attend the meeting due to their other engagements.

01	Dr. Sunanda More	Member
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Dr. Chetana Kamlaskar, Chairperson and Member of the PAC first welcomed PAC members and introduced the members about the purpose of the meeting. During the meeting following items were discussed.

SN	Details of Items	Resolution												
1	Agenda 1: To finalize and approve proposed B.Sc. (Honours) (Major in Botany) programme - credit distribution details, second and third year (semester 03 to 06) and their evaluation pattern for all first, second and third year courses at semester 01 to 06	The PAC members unanimously finalized and approved the proposed programme structure and credit distribution details for all second- and third-year courses at semester 03 to 06 detailed syllabus related to Major, Minor courses of Botany and evaluation pattern for all first, second- and third-year courses at semester 01 to 06 of the following 02 programmes as per NEP2020 guidelines, with few suggestions about courses in programme structure: i) 4 Year B.Sc. (Honours) (Major in Botany and Minor in Zoology) ii) 4 Year B.Sc. (Honours) (Major in Botany and Minor in Chemistry) For Major in Botany programmes, the following Suggestions are given by the PAC members: 1. In the First year and second year (Semester 01 and 04) of proposed B.Sc. programme, PAC members has suggested to change the course title with few suggestions for SEM I to SEM IV which are given below: Suggestions by PAC members: <table><tr><th>Old Course Title</th><th>Suggested and Finalized Course Title by PAC members</th></tr><tr><td>SEM I BOT101: Plant Diversity (T)</td><td>SEM I BOT101: Evolution and Diversity of Algae, Fungi and Bryophytes (T)</td></tr><tr><td>SEM I BOT102: Plant Diversity (P)</td><td>SEM I BOT102: Evolution and Diversity of Algae, Fungi and Bryophytes (P)</td></tr><tr><td>SEM II BOT103: Plant Ecology & Taxonomy (T)</td><td>SEM II BOT103: Evolution and Diversity of Pteridophytes and Gymnosperms (T)</td></tr><tr><td>SEM II BOT104: Plant Ecology & Taxonomy (P)</td><td>SEM II BOT104: Evolution and Diversity of Pteridophytes and Gymnosperms (P)</td></tr><tr><td>SEM III BOT201: Diversity &</td><td>SEM III BOT201: Angiosperm Morphology, Taxonomy and Diversity (T)</td></tr></table>	Old Course Title	Suggested and Finalized Course Title by PAC members	SEM I BOT101: Plant Diversity (T)	SEM I BOT101: Evolution and Diversity of Algae, Fungi and Bryophytes (T)	SEM I BOT102: Plant Diversity (P)	SEM I BOT102: Evolution and Diversity of Algae, Fungi and Bryophytes (P)	SEM II BOT103: Plant Ecology & Taxonomy (T)	SEM II BOT103: Evolution and Diversity of Pteridophytes and Gymnosperms (T)	SEM II BOT104: Plant Ecology & Taxonomy (P)	SEM II BOT104: Evolution and Diversity of Pteridophytes and Gymnosperms (P)	SEM III BOT201: Diversity &	SEM III BOT201: Angiosperm Morphology, Taxonomy and Diversity (T)
Old Course Title	Suggested and Finalized Course Title by PAC members													
SEM I BOT101: Plant Diversity (T)	SEM I BOT101: Evolution and Diversity of Algae, Fungi and Bryophytes (T)													
SEM I BOT102: Plant Diversity (P)	SEM I BOT102: Evolution and Diversity of Algae, Fungi and Bryophytes (P)													
SEM II BOT103: Plant Ecology & Taxonomy (T)	SEM II BOT103: Evolution and Diversity of Pteridophytes and Gymnosperms (T)													
SEM II BOT104: Plant Ecology & Taxonomy (P)	SEM II BOT104: Evolution and Diversity of Pteridophytes and Gymnosperms (P)													
SEM III BOT201: Diversity &	SEM III BOT201: Angiosperm Morphology, Taxonomy and Diversity (T)													

		Morphology of Angiosperms (T)	
		SEM III BOT202: Diversity & Morphology of Angiosperms (P)	SEM III BOT202: Angiosperm Morphology, Taxonomy and Diversity (P)
		SEM IV BOT204: Plant Systematic Algae, Fungi, Bryophytes (T)	SEM IV BOT204: Plant Physiology and Metabolism (T)
		SEM IV BOT205: Plant Systematic Algae, Fungi, Bryophytes (P)	SEM IV BOT205: Plant Physiology and Metabolism (P)
		2. After the discussion among PAC members the revised course content and rearranged units of each course are accepted with few suggestions and the same are attached in the appendix II syllabus. • This shall also reflect in respective course lab activity with addition of some practicals. • It is also suggested that course content of major shall be used for providing Botany as Minor.	
Action Taken: Programme structure and syllabus has been updated as per the discussion in PAC meeting. Refer Appendix I for updated syllabus.			
2	Agenda 2: Finalization and approval of Syllabus of Elective courses (DSE), OE/VSC courses etc related to Botany	1. The PAC members unanimously finalized and approved the syllabus of the proposed electives courses of Botany with few suggestions, which were retained after the finalization of the programme structure. • Course content for the following Elective courses: BOT304, BOT309 and BOT310: it suggests to enriched and elaborate the syllabus by PAC members. • BOT305: This course will be modified by Dr. Prashant Gawande sir 2. The selection of OE/VSC courses related to Botany have been discussed and approved after fruitful deliberations among all PAC members.	

		• OE/VSC courses etc. related to Botany have been discussed and in which some courses are suggested which will be open for all faculties. The detail discussion regarding OE/VSC will be finalised in next PAC meeting. • The PAC members Suggested OE course title are given below: - i. Herbal Technology ii. Nursery and Gardening iii. Mushroom Culture Technology iv. Bio fertilizers v. Horticulture
	Action Taken: Syllabus has been updated as per the discussion in PAC meeting. Refer Appendix II for updated syllabus.	
3	Agenda 3: Framing guidelines for OJT/FP and RP Courses	The PAC members agreed to guide time to time regarding the OJT/FP and RP courses. A booklet of OJT/FP will be proposed by School of Sciences for all UG courses, which will be finalized in due course of time. It was also resolved to authorize the Director of this School to enrich and update the OJT, Field Project (FP), and Research Project (RP) guidelines from time to time as per the University Policy decisions/norms.
4	Agenda 4: Identification of Writers/ Editors for SLM development task	The PAC members unanimously gave their consent for the writing/editing of the Self Learning Material (SLM) for the proposed B.Sc. (Honours) (Major in Botany) programme. For a few courses, the PAC members have given their consent for SLM development. They also agreed to recommend experts for the new courses, in due course of time. It was also resolved to authorize the Director of this School to enrich and update the list of writers/editors for the Self Learning Material (SLM) development task from time to time as per the University Policy decisions/norms.

Meeting ends with vote of thanks by **Dr. Jagruti Chavan.**

Thank You



(Dr. Chetana Kamlaskar)

Chairperson, PAC B.Sc. (Honours) (Major in Botany)

APPENDIX I: PROGRAMME STRUCTURE

CREDIT DISTRIBUTION BOTANY: MAJOR, ELECTIVES, MINOR, OE, VSC, IKS COURSES

Abbreviations: Yr.: Year; Sem.: Semester; Cumulative Credits: Cum. Cr. ; T- Theory Course; P- Practical course; TW-Term Work; PW- Project Work

Level	Sem	Major				Minor	OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem		
		Mandatory		Electives													
4.5	I	BOT101: Evolution and Diversity of Algae, Fungi and Bryophytes (T)	4	-		-		(BOT) OE-I	2		2		2	22			
		BOT102: Evolution and Diversity of Algae, Fungi and Bryophytes (P)	2					(BOT) OE-II	2						2	IKS101: Ancient Indian Botany	2
	II	BOT103: Evolution and Diversity of Pteridophytes and Gymnosperms (T)	4	-		BOT103: Evolution and Diversity of Pteridophytes and Gymnosperms (T)	2	(BOT)OE-III	2	VSC102: Evolution and Diversity of Pteridophytes and Gymnosperms (P)	2					2	22
		BOT104: Evolution and Diversity of Pteridophytes and Gymnosperms (P)	2					(BOT)OE-IV	2		2		2				
Cum. Cr.		12		00		02		08		08		10		04		44	
5.0	III	BOT201: Angiosperm Morphology, Taxonomy and Diversity (T)	4			BOT201:Angiosperm Morphology, Taxonomy and Diversity (T)	4	(BOT)OE-V	2	VSC201:Angiosperm Morphology, Taxonomy and Diversity (P)	2		2	Field Project		2	22
		BOT202: Angiosperm Morphology, Taxonomy and Diversity (P)	2														
		BOT203: Floriculture(T)	2												2		
	IV	BOT 204: Plant Physiology and Metabolism (T)	4			BOT204: Plant Physiology and Metabolism (T)	4	IPR	2		2		2		2	22	
		BOT 205: Plant Physiology and Metabolism (P)	2												2		
		BOT206: Forestry (T)	2												2		
Cum. Cr.		28		00		10		12		12		14		12		88	

Level	Sem	Major				Minor	OE		VSC, SEC (VSEC)	AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem		
		Mandatory		Electives												
5-5	V	BOT301:Cell Biology & Genetics(T)	4	BOT304: Industrial & Environmental Microbiology(T) OR BOT305: Bioinformatics (T)	4	BOT206: Cell Biology & Genetics(T)	4			VSC207: Cell Biology & Genetics(P)	2			FP/CEP	2	22
		BOT302: Industrial Botany (T)	2													
		BOT303: Cell Biology & Genetics (P)	4													
	VI	BOT306: Analytical Techniques in Plant Science & Horticulture(T)	4	BOT309: Economic Botany (T) OR BOT310: Organic Farming	4	BOT306: Analytical Techniques in Plant Science & Horticulture(T)	4					OJT	4	22		
		BOT307: Stress Biology (T)	2													
		BOT 308: Analytical Techniques in Plant Science & Horticulture(P)	4													
Cum. Cr.		48		08		18		12		14		14		18		132

Level	Sem	Major				Minor		OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum . Cr. / Sem		
		Mandatory		Electives														
6.0	VII	BOT401: Diversity of Non-Vascular Plants-I (T)		4	BOT406:Applied Phycology (T) OR BOT407: Tools and Techniques in Plant Science (T)		4	RES405: Research Methodology (T)		4			FP/CEP		2	22		
		BOT402:Diversity of Non-Vascular Plants-II (T)		2														
		BOT403:Diversity of Vascular Plants & Paleobotany -I (T)		4														
		BOT404: Lab Activities on BOT401, BOT402 & BOT403 (P)		4														
	VIII	BOT409:Plant Physiology (T)		4	BOT415:Biotechnology & Molecular Biology (T) OR BOT416: Ecology and Phytogeography (T)		4					ZOO413: OJT		4	22			
		BOT410: Herbal Wealth (T)		2														
		BOT411: Diversity of Vascular Plants and Paleobotany-II (T)		4														
		BOT412:Lab Activities on BOT409, BOT410 & BOT411 (P)		4														
Cum. Cr.		76			16			22		12		14		14		22		176

Programme Structure: B.Sc. (Honours) (Major in Botany and Minor in Zoology) (2025 Pattern)

Level	Sem	Major				Minor	OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem	
		Mandatory		Electives												
4.5	I	BOT101: Evolution and Diversity of Algae, Fungi and Bryophytes (T)	4	-		-		(BOT) OE-I	2		2		2	CC101: Yoga (TW)	2	22
		BOT102: Evolution and Diversity of Algae, Fungi and Bryophytes (P)	2					(BOT) OE-II	2		IKS101: Ancient Indian Botany		2			
	II	BOT103: Evolution and Diversity of Pteridophytes and Gymnosperms (T)	4	-	ZOO103: Comparative Anatomy & Developmental Biology Vertebrates(T)	2	(BOT)OE-III	2	VSC102: Lab Activity ZOO103 (P)	2			2	CC102: Drawing & Sketching (TW)	2	22
		BOT104: Evolution and Diversity of Pteridophytes and Gymnosperms (P)	2				(BOT)OE-IV	2		2						
Cum. Cr.		12		00		02		08		08		10		04		44
Exit option: Award of UG Certificate in BOTANY as Major with 44 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor																
5.0	III	BOT201: Angiosperm Morphology, Taxonomy and Diversity (T)	4			ZOO201: Animal Physiology & Ecology (T)	4	(BOT)OE-V	2	VSC201: Lab Activity on Animal Physiology and Ecology (P)	2	AEC201:Modern Indian Language-1 (T)	2	Field Project	2	22
		BOT202: Angiosperm Morphology, Taxonomy and Diversity (P)	2											CC201: Conference & Event Management (TW)	2	
		BOT203: Floriculture(T)	2													
	IV	BOT 204: Plant Physiology and Metabolism (T)	4		ZOO204: Genetics & Evolutionary Biology (T)	4	IPR	2	SEC201: Financial & Investment Skills (TW)	2	AEC202:Modern Indian Language – 2 (T)	2	CEP	2	22	
		BOT 205: Plant Physiology and Metabolism (P)	2										CC202: Personality & Career Skills (TW)	2		
		BOT206: Forestry (T)	2													
Cum. Cr.		28		00		10		12		12		14		12		88
Exit option: Award of UG Diploma in BOTANY as Major and BOTANY as Minor with 88 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor																

Level	Sem	Major				Minor	OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem			
		Mandatory		Electives														
5-5	V	BOT301:Cell Biology & Genetics(T)		4	BOT304: Industrial & Environmental Microbiology(T) OR BOT305: Bioinformatics (T)		4	ZOO301: Mammalian Histology(T)		4	VSC207: Lab Activity on Mammalian Histology(P)		2	FP/CEP		2	22	
		BOT302: Industrial Botany (T)		2														
		BOT303: Cell Biology & Genetics (P)		4														
	VI	BOT306: Analytical Techniques in Plant Science & Horticulture(T)		4	BOT309: Economic Botany (T) OR BOT310: Organic Farming		4	ZOO307: Pest Management & Parasitology (T)		4			OJT		4	22		
		BOT307: Stress Biology (T)		2														
		BOT 308: Analytical Techniques in Plant Science & Horticulture(P)		4														
Cum. Cr.		48			08			18		12		14		14		18		132
Exit option: Award of UG Degree in BOTANY as Major with 132 credits OR Continue with Major and Minor																		

Leve 1	Sem	Major				Minor	OE	VSC, SEC (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Cum. Cr. / Sem					
		Mandatory		Electives												
6.0	VII	BOT401: Diversity of Non-Vascular Plants-I (T)	4	BOT406:Applied Phycology (T) OR BOT407: Tools and Techniques in Plant Science (T)	4	RES405: Research Methodology (T)	4					2	22			
		BOT402:Diversity of Non-Vascular Plants-II (T)	2													
		BOT403:Diversity of Vascular Plants & Paleobotany -I (T)	4													
		BOT404: Lab Activities on BOT401, BOT402 & BOT403 (P)	4													
	VIII	BOT409:Plant Physiology (T)	4	BOT415:Biotechnology & Molecular Biology (T) OR BOT416: Ecology and Phytogeography (T)	4						ZOO413: OJT	4	22			
		BOT410: Herbal Wealth (T)	2													
		BOT411: Diversity of Vascular Plants and Paleobotany-II (T)	4													
		BOT412:Lab Activities on BOT409, BOT410 & BOT411 (P)	4													
Cum. Cr.		76		16		22		12		14		14		22		176
Four Year UG Honours Degree in Major and Minor with 176 credits																

Programme Structure: B.Sc. (Honours) (Major in Botany and Minor in Chemistry) (2024 Pattern)

Level	Sem	Major				Minor	OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem		
		Mandatory		Electives													
4.5	I	BOT101: Evolution and Diversity of Algae, Fungi and Bryophytes (T)	4	-	-			(BOT) OE-I	2	VSC101:Basic Instrumentation Skills (TW)	2	AEC101: English Communication -1 (T)	2	CC101: Yoga (TW)	2	22	
		BOT102: Evolution and Diversity of Algae, Fungi and Bryophytes (P)	2					(BOT) OE-II	2	SEC101: IT & e-Learning Skills (TW)	2	VEC101:Value Education (T)	2				IKS101: Biology in Ayurveda (T)
	II	BOT103: Evolution and Diversity of Pteridophytes and Gymnosperms (T)	4	-	CHE103: Physical & Organic Chemistry-I (T)	2	(BOT)OE-III	2	VSC102: Lab Activity on Physical & Organic Chemistry-I (P)	2	AEC102: English Communication -2 (T)	2	CC102: Drawing & Sketching (TW)				2
		BOT104: Evolution and Diversity of Pteridophytes and Gymnosperms (P)	2						(BOT)OE-IV	2	SEC102: Solar Panel System (TW)	2		VEC102: Environmental Science (T)	2		
	Cum. Cr.		12		00		02		08		08		10		04		44
	Exit option: Award of UG Certificate in BOTANY as Major with 44 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor																
5.0	III	BOT201: Angiosperm Morphology, Taxonomy and Diversity (T)	4			CHE301: Physical & Organic Chemistry-II (T)	4	(BOT)OE-V	2	VSC201: Lab Activity on Physical & Organic Chemistry-II (P)	2	AEC201:Modern Indian Language – 1 (T)	2	Field Project	2	22	
		BOT202: Angiosperm Morphology, Taxonomy and Diversity (P)	2											CC201: Conference & Event Management (TW)	2		
		BOT203: Floriculture(T)															2
	IV	BOT 204: Plant Physiology and Metabolism (T)	4		CHE304: Analytical Chemistry (T)	4	IPR	2	SEC201: Financial & Investment Skills (TW)	2	AEC202: Modern Indian Language – 2 (T)	2	CEP(TW)	2	22		
		BOT 205: Plant Physiology and Metabolism (P)	2										CC202: Personality & Career Skills (TW)	2			
		BOT206: Forestry (T)														2	
		Cum. Cr.											28			00	
Exit option: Award of UG Diploma in BOTANY as Major and CHEMISTRY as Minor with 88 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor																	

Level	Sem	Major				Minor		OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem
		Mandatory		Electives												
5-5	V	BOT301:Cell Biology & Genetics(T)	4	BOT304: Industrial & Environmental Microbiology(T) OR BOT305: Bioinformatics (T)	4	CHE206: Physical & Inorganic Chemistry (T)	4			VSC207: Lab Activity on Physical & Inorganic Chemistry (P)	2			FP/CEP	2	22
		BOT302: Industrial Botany (T)	2													
		BOT303: Cell Biology & Genetics (P)	4													
	VI	BOT306: Analytical Techniques in Plant Science & Horticulture(T)	4	BOT309: Economic Botany (T) OR BOT310: Organic Farming	4	CHE306: Green Chemistry (T)	4						OJT	4	22	
		BOT307: Stress Biology (T)	2													
		BOT 308: Analytical Techniques in Plant Science & Horticulture(P)	4													
Cum. Cr.		48		08		18		12		14		14		18		132
Exit option: Award of UG Degree in BOTANY as Major with 132 credits OR Continue with Major and Minor																

	Se m	Major				Minor		OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem	
		Mandatory		Electives													
6.0	VII	BOT401: Diversity of Non-Vascular Plants-I (T)		4	BOT406:Applied Phycology (T) OR BOT407: Tools and Techniques in Plant Science (T)		4	RES405: Research Methodology (T)						2	22		
		BOT402:Diversity of Non-Vascular Plants-II (T)		2													
		BOT403:Diversity of Vascular Plants & Paleobotany - I (T)		4													
		BOT404: Lab Activities on BOT401, BOT402 & BOT403 (P)		4													
	VIII	BOT409:Plant Physiology (T)		4	BOT415:Biotechnology & Molecular Biology (T) OR BOT416: Ecology and Phytogeography (T)		4							BOT413: OJT	4	22	
		BOT410: Herbal Wealth (T)		2													
		BOT411: Diversity of Vascular Plants and Paleobotany-II (T)		4													
		BOT412:Lab Activities on BOT409, BOT410 & BOT411 (P)		4													
Cum. Cr.		76			16		22		12		14		14		22		176
Four Year UG Honours Degree in Major in BOTANY and Minor in CHEMISTRY with 176 credits																	

APPENDIX II:

SYLLABUS OF B.SC. (HONOURS) (BOTANY AS MAJOR)

Refer the syllabus file attached with this mail separately.

APPENDIX III:

SYLLABUS OF B.SC. (HONOURS) (BOTANY AS MINOR)

Refer the syllabus file attached with this mail separately

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