



AKAL UNIVERSITY

TALWANDI SABO

(Estb. under Punjab State Act No. 25 of 2015)

FACULTY OF LIFE SCIENCES

DEPARTMENT OF BOTANY

Syllabi

for

BACHELOR OF SCIENCE IN BOTANY

(under Honours School scheme)

2019-22

SEMESTER: I
SCHEME OF TEACHING & EXAMINATION

NATURE OF COURSE	COURSE CODE	COURSE NAME/TITLE	SCHEDULE OF TEACHING (HRS. PER WEEK)			CREDITS	MARKS					
			LECTURE	TUTORIAL	PRACTICAL		INTERNAL		MCQ / PRACTICAL FILE		END SEMESTER EXAMINATION	
							Theory	Practical	Theory	Practical	Theory	Practical
Core	BOT05C101	Microbiology and Phycology	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L101	Microbiology and Phycology	-	-	4	2	-	10	-	10	-	30
Core	BOT05C102	Biomolecules and Cell Biology	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L102	Biomolecules and Cell Biology	-	-	4	2	-	10	-	10	-	30
AECC	AEC05AX02	Environmental Studies	4	-	-	4	20	-	20	-	60	-
*GE	-	Generic Elective-I	4	-	4	4	20	-	20	-	60	-
GE Lab	-	Generic Elective-I	-	-	4	2	-	10	-	10	-	30
**GS-I	CCE05GX02	Governance, Polity and Constitution	5	-	-	**	20	-	20	-	60	-
		TOTAL	21	-	16	22	130		130		390	
			37				650					

*The students can opt for Generic courses offered by the other departments. Apart from those course following courses will be offered by the University:

1. Subject Code: GEN05G102, Course Title: Computer Applications and IT skills
2. Subject Code: CHM05GX01, Course Title: General Chemistry-I
3. Subject Code: CHM05LX01, Course Title: General Chemistry-I Lab

“Core” indicates Core course; A core course is that knowledge which is deemed to be essential for students registered for a particular programme.

“AECC” indicates ability enhancement compulsory courses; AECC are the courses based upon the content that leads to knowledge enhancement of the students.

“DSE” indicates Discipline Specific Elective Course. Elective courses offered by the main discipline/subject of study are referred to as Discipline Specific Elective.

“SEC” indicates Skill Enhancement Courses; SEC courses are value-based and/or skill-based and are aimed at providing hands-on-training, competencies, skills, etc.

These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge.

“GE” indicates Generic Elective (GE) Course; an elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective.

**“GS” indicates General Studies which will be Non Credit Course (NCC). Syllabus will be prepared by the respective department

SEMESTER: II
SCHEME OF TEACHING & EXAMINATION

NATURE OF COURSE	COURSE CODE	COURSE NAME/TITLE	SCHEDULE OF TEACHING (HRS. PER WEEK)			CREDITS	MARKS					
			LECTURE	TUTORIAL	PRACTICAL		INTERNAL		MCQ/ PRACTICAL FILE		END SEMESTER EXAMINATION	
							Theory	Practical	Theory	Practical	Theory	Practical
Core	BOT05C201	Mycology and Phytopathology	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L201	Mycology and Phytopathology	-	-	4	2	-	10	-	10	-	30
Core	BOT05C202	Archegoniate	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L202	Archegoniate	-	-	4	2	-	10	-	10	-	30
AECC	AEC05AX01	General English Communication	3	1	-	4	20	-	20	-	60	-
*GE	-	Generic Elective-II	4	-	-	4	20	-	20	-	60	-
*GE Lab	-	Generic Elective-II	0	-	4	2	-	10	-	10	-	30
**GS-II	CCE05GX01	Ethics, Integrity and Aptitude	5	-	-	**	20	-	20	-	60	-
		TOTAL	20	1	12	22	130		130		390	
			33				650					

* The students can opt for Generic courses offered by the other departments. Apart from those course following courses will be offered by the University:

1. Subject Code: GEN05G202, Course Title: Mental Ability/Reasoning
2. Subject Code: CHM05GX02, Course Title: General Chemistry II
3. Subject Code: CHM05LX02, Course Title: General Chemistry II Lab

***"GS" indicates General Studies which will be Non Credit Course (NCC). Syllabus will be prepared by the respective department

SEMESTER: III

SCHEME OF TEACHING & EXAMINATION

NATURE OF COURSE	COURSE CODE	COURSE NAME/TITLE	SCHEDULE OF TEACHING (HRS. PER WEEK)			CREDITS	MARKS					
			LECTURE	TUTORIAL	PRACTICAL		INTERNAL		MCQ/ PRACTICAL FILE		END SEMESTER EXAMINATION	
							Theory	Practical	Theory	Practical	Theory	Practical
Core	BOT05C301	Anatomy of Angiosperms	4	-	4	4	20	-	20	-	60	-
Lab	BOT05L301	Anatomy of Angiosperms	-	-	-	2	-	10	-	10	-	30
Core	BOT05C302	Economic Botany	4	-	4	4	20	-	20	-	60	-
Lab	BOT05L302	Economic Botany	-	-	-	2	-	10	-	10	-	30
Core	BOT05C303	Plant Ecology & Phytogeography	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L303	Plant Ecology & Phytogeography	-	-	4	2	-	10	-	10	-	30
#SEC	-	SEC-I	2	0	-	2	20	-	20	-	60	-
*GE	-	Generic Elective-III	4	-	-	4	20	-	20	-	60	-
*GE Lab	-	Generic Elective-III	-	-	4	2	-	10	-	10	-	30
TOTAL			18	1	16	26	130		130		420	
			35				680					

#.Students can opt any one Skill Enhancement Courses offered by the university:

1. Subject Code: BOT05K301, Course title: Ethnobotany
2. Subject Code: BOT05K302, Course title: Medicinal Botany

* The students can opt for Generic courses offered by the other departments. Apart from the course mentioned above, following courses will be offered by the University:

1. Subject Code: GEN05G303, Course Title: Mental Ability/Reasoning-II
2. Subject Code: GEN05G304, Course Title: Entrepreneurial Development
3. Subject Code: ZOO05GX01, Course Title: General Zoology-1
4. Subject Code: ZOO05LX01, Course Title: General Zoology-1 Lab

SEMESTER: IV
SCHEME OF TEACHING & EXAMINATION

NATURE OF COURSE	COURSE CODE	COURSE NAME/TITLE	SCHEDULE OF TEACHING (HRS. PER WEEK)			CREDITS	MARKS					
			LECTURE	TUTORIAL	PRACTICAL		INTERNAL		MCQ/ PRACTICAL FILE		END SEMESTER EXAMINATION	
							Theory	Practical	Theory	Practical	Theory	Practical
Core	BOT05C401	Reproductive Biology of Angiosperms	4	-	-	4	20	-	20	-	60	-
Lab	BOT05C401	Reproductive Biology of Angiosperms	-	-	4	2	-	10	-	10	-	30
Core	BOT05C402	Plant Physiology	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L402	Plant Physiology	-	-	4	2	-	10	-	10	-	30
Core	BOT05C403	Plant Systematics	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L403	Plant Systematics	-	-	4	2	-	10	-	10	-	30
#SEC	-	SEC-II	2	-	-	2	20	-	20	-	60	-
*GE	-	Generic Elective-IV	4	-	-	4	20	-	20	-	60	-
*GE Lab	-	Generic Elective-IV	-	-	4	2	-	10	-	10	-	30
		Total	18	1	16	26	140		140		420	
			35				700					

Students can opt any one skill enhancement course offered by the university.

1. Subject Code: BOT05K401, Course Title: Floriculture

2. Subject Code: BOT05K402, Course Title: Nursery and Gardening

* The students can opt for Generic courses offered by the other departments. Apart from the course mentioned above, following courses will be offered by the University:

1. Subject Code: GEN05G303, Course Title: Mental Ability/Reasoning-II
2. Subject Code: GEN05G304, Course Title: Entrepreneurial Development
3. Subject Code: ZOO05GX02, Course Title: General Zoology-II
4. Subject Code: ZOO05LX02, Course Title: General Zoology-II Lab

SEMESTER: V
SCHEME OF TEACHING & EXAMINATION

NATURE OF COURSE	COURSE CODE	COURSE NAME/TITLE	SCHEDULE OF TEACHING (HRS. PER WEEK)			CREDITS	MARKS					
			LECTURE	TUTORIAL	PRACTICAL		INTERNAL		MCQ/ PRACTICAL FILE		END SEMESTER EXAMINATION	
							Theory	Practical	Theory	Practical	Theory	Practical
Core	BOT05C501	Molecular Biology	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L501	Molecular Biology	-	-	4	2	-	10	-	10	-	30
Core	BOT05C502	Principles of Genetics	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L502	Principles of Genetics	-	-	4	2	-	10	-	10	-	30
#DSE	-	DSE-I	4	-	-	4	20	-	20	-	60	-
#DSE Lab	-	DSE-I	-	-	4	2	-	10	-	10	-	30
#DSE	-	DSE-II	4	-	-	4	20	-	20	-	60	-
#DSE Lab	-	DSE-II	-	-	4	2	-	10	-	10	-	30
**GS-III	CCE05GX04	History and Culture of India & the World	5	-	-	**	20	-	20	-	60	-
		TOTAL	21	-	16	24	140		140		420	
			37				700					

Students have to choose any two paper from four Discipline Specific Elective Course provided for DSE-I and DSE-II course offered by the university:

1. Subject Code: BOT05E501, Course Title: Plant Breeding
2. Subject Code: BOT05L503, Course Title: Plant Breeding Lab
3. Subject Code: BOT05E502, Course Title: Horticultural Practices And Post-Harvest Technology
4. Subject Code: BOT05L504, Course Title: Horticultural Practices And Post-Harvest Technology Lab
5. Subject Code: BOT05E503, Course Title: Analytical Techniques In Plant Sciences
6. Subject Code: BOT05L505, Course Title: Analytical Techniques In Plant Sciences Lab
7. Subject Code: BOT05E504, Course Title: Research Methodology
8. Subject Code: BOT05L506, Course Title: Research Methodology Lab

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SEMESTER: VI
SCHEME OF TEACHING & EXAMINATION

NATURE OF COURSE	COURSE CODE	COURSE NAME/TITLE	SCHEDULE OF TEACHING (HRS. PER WEEK)			CREDITS	MARKS					
			LECTURE	TUTORIAL	PRACTICAL		INTERNAL		MCQ/ PRACTICAL FILE		END SEMESTER EXAMINATION	
							Theory	Practical	Theory	Practical	Theory	Practical
Core	BOT05C601	Plant Metabolism	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L601	Plant Metabolism	-	-	4	2	-	10	-	10	-	30
Core	BOT05C602	Plant Biotechnology	4	-	-	4	20	-	20	-	60	-
Lab	BOT05L602	Plant Biotechnology	-	-	4	2	-	10	-	10	-	30
#DSE	-	DSE-III	4	-	-	4	20	-	20	-	60	-
#DSE Lab	-	DSE-III	-	-	4	2	-	10	-	10	-	30
#DSE	-	DSE-IV	4	-	-	4	20	-	20	-	60	-
#DSE Lab	-	DSE-IV	-	-	4	2	-	10	-	10	-	30
**GS-IV	CCE05GX03	Development Studies	5	-	-	**	20	-	20	-	60	-
*	BOT05P601	PROJECT/DISSERTATION				6	Presentation (50)		-		Evaluation of Project Report (100)	
Total			21	-	16	24	140		140		420	
			37				700					

Students have to choose two paper from each Discipline Specific Elective Course i.e. DSE-III and DSE-IV offered by the university.

1. Subject Code: BOT05E601, Course Title: Stress Biology
2. Subject Code: BOT05L603, Course Title: Stress Biology Lab
3. Subject Code: BOT05E602, Course Title: Biostatistics
4. Subject Code: BOT05L604, Course Title: Biostatistics Lab
5. Subject Code: BOT05E603, Course Title: Natural Resource Management
6. Subject Code: BOT05L605, Course Title: Natural Resource Management Lab
7. Subject Code: BOT05E604, Course Title: Industrial & Environmental microbiology
8. Subject Code: BOT05L606, Course Title: Industrial & Environmental microbiology Lab
9. Subject Code: BOT05P601, Course Title: Project

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*A Project/Dissertation work may be chosen in lieu of a discipline specific elective paper