

Progressive Education Society's
Modern College of Arts, Science and Commerce (Autonomous),
Shivajinagar, Pune 5

(An Autonomous College Affiliated to Savitribai Phule Pune University)

Framework of Syllabus

For

B.Sc . (Botany)

(Based on NEP 2020 framework)

(To be implemented from the Academic Year 2023-24)

Semester 1 (First Year)

Course Type	Course	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	ES E	Total
Major Mandatory (4 + 2)	Major Paper 1 (Theory) Section 1	23ScBotU1101	Phycology and Mycology	2	4	40	60	100
	Major Paper 1 (Theory) Section 2			2				
	Major Paper 2 (Practical)	23ScBotU1102	Lab Course on 23ScBotU1101	4	2	20	30	50
Major Electives	-							
Minor	-							
OE (2 + 2)		23ScBotU1401	Organic Farming	2	4	40	60	100
		23CpCopU1402	Democracy, Election and Governance	2				
VSC (2)	Major Specific Practical I	23ScBotU1501	Lab Course on Microbial Biotechnology	4	2	20	30	50
SEC (2)	Skill Paper 1 (Practical)	23ScBotU1601	Lab Course on Mushroom Cultivation and Biofertilizer Technology	4	2	20	30	50
AEC(2),	MIL	23CpCopU1701	MIL-I (Hindi) / MIL-I (Marathi)	2	2	20	30	50
		23CpCopU1702						
VEC (2)	EVS Theory	23CpCopU1801	Environment Science I	2	2	20	30	50
IKS (2)	Generic IKS	23CpCopU1901	Generic IKS	2	2	20		50
CC (2)	CC-I Course	23CpCopU1001	Online Course Based on Yoga	2	2	20	30	50
Total				28	22	220	330	550

Semester 2 (First Year)

Course Type	Course	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 2)	Major Paper 3 (Theory) Section 1	23ScBotU2101	Biomolecules and Cell Biology	2	4	40	60	100
	Major Paper 3 (Theory) Section 2			2				
	Major Paper 4 (Practical)	23ScBotU2102	Lab Course on 23ScBotU2101	4	2	20	30	50
Major Electives	-							
Minor	Minor Paper I (Practical)	23ScBotU2301	Lab Course on Fundamentals of Botany	4	2	20	30	50
OE (2 + 2)	Theory	23ScBotU2401	Gardening Practices and Maintenance	2	4	40	60	100
		23CpCopU2402	Fundamentals of Music	2				
VSC (2)	Major Specific Practical II	23ScBotU2501	Lab Course on Plant Tissue Culture	4	2	20	30	50
SEC (2)	Skill Paper 1I (Practical)	23ScBotU2601	Lab Course on Seed Technology	4	2	20	30	50
AEC(2),	English Theory	23CpCopU2703	English Communication Skills I	2	2	20	30	50
VEC (2)	EVS Theory	23CpCopU2801	Environment Science II	2	2	20	30	50
IKS (2)	–	–	–	–	–	–	–	–
CC (2)	CC-II Course	23CpCopU2001 / 23CpCopU2011 / 23CpCopU2021 / 23CpCopU2031 / 23CpCopU2041 / 23CpCopU2051 / 23CpCopU2061 / 23CpCopU2071	Physical Education / Cultural Activities / NSS / NCC / Fine Arts / Applied Arts / Visual Arts / Performing Arts	2	2	20	30	50
Total				30	22	220	330	550

Semester 3 (Second Year)

Course Type	Course	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4)	Major Core Paper 5 (Theory + Practical)	23ScBotU3101	Archegoniate (T + P)	6	4	40	60	100
	Major Paper 6 (Practical)	23ScBotU3102	Lab on Reproductive Biology of Angiosperms	4	2	20	30	50
	Major Paper 7 (Theory) (Major Specific IKS)	23ScBotU1901	Ayurvedic Science of Nutrition and Diet	2	2	20	30	50
Major Electives	-							
Minor (4)	Minor Paper II (Theory + Practical)	23ScBotU3301	Morphology of Angiosperms (T + P)	6	4	40	60	100
OE (2)	Theory	23ScBotU3401	Herbal Medicine	2	2	20	30	50
VSC (2)	Major Specific Practical III	23ScBotU3501	Lab Course on Herbal Technology	4	2	20	30	50
SEC (2)	-		--	--	--	--	--	--
AEC(2),	English Theory	23CpCopU3703	English Communication Skills II	2	2	20	30	50
VEC (2)	--		--	--	--	--	--	--
IKS (2)	--		--	--	--	--	--	--
FP/CEP (2)	FP –I	23ScBotU3002	Field Project I	4	2	20	30	50
CC(2)	CC III	23CpCopU3001	Fitness	2	2	20	30	50
Total				32	22	220	330	550

Semester 4 (Second Year)

Course Type	Course	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4)	Major Core Paper 8 (Theory) Section 1	23ScBotU4101	Plant Morphology and Anatomy	4	4	40	60	100
	Major Core Paper 8 (Theory) Section 2							
	Major Paper 09 (Practical)	23ScBotU4102	Lab Course on 23ScBotU4101	8	4	40	60	100
Major Electives	-							
Minor (4)	Minor Paper III (Theory) Practical	23ScBotU4301	Plant Ecology (T + P)	6	4	40	60	100
OE (2)	Theory	23ScBotU4401	Wine Technology	2	2	20	30	50
VSC (2)	--		--	--	--	--	--	--
SEC (2)	Skill Paper III (Practical)	23ScBotU4601	Lab Course on Fruit and Vegetable Processing and Preservation	4	2	20	30	50
AEC(2),	MIL	23CpCopU4701	MIL-II (Hindi) / MIL-II (Marathi)	2	2	20	30	50
		23CpCopU4702						
VEC (2)	--		--	--	--	--	--	--
IKS (2)	--		--	--	--	--	--	--
FP / CEP(2)	CEP –I	23ScBotU4003	Community Engagement Project I	4	2	20	30	50
CC(2)	CC-4	23CpCopU4001	Health and Wellness	2	2	20	30	50
Total				28	22	220	330	550

Semester 5 (Third Year)

Course Type	Course	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4 + 2)	Major Core Paper 10 (Theory) Section 1	23ScBotU5101	Paleobotany and Plant Systematics	2	4	40	60	100
	Major Core Paper 10 (Theory) Section 2			2				
	Major Paper 11 (Theory) Section 1	23ScBotU5102	Genetics and Plant Breeding	2	4	40	60	100
	Major Paper 11 (Theory) Section 2 Plant Breeding			2				
	Major Paper 12 (Practical)	23ScBotU5103	Lab Course on 23ScBotU5101 and 23ScBotU5102	4	2	20	30	50
Major Electives	Elective I (Theory + Practical)	23ScBotU5201	Ecology and Conservation (T + P)	2	4	40	60	100
				4				
	Elective II (Theory + Practical)	23ScBotU5202	Landscaping and Gardening (T + P)	2	4	40	60	100
				4				
Minor (4)	Minor Paper IV (Theory + Practical)	23ScBotU5301	Plant Physiology and Biochemistry (T + P)	2	4	40	60	100
				4				
OE (2)	--		--	--	--	--	--	--
VSC (2)	Major Specific Practical IV	23ScBotU5501	Lab Course on Phytochemical Techniques	4	2	20	30	50
SEC (2)	--		--	--	--	--	--	--
AEC(2),	--		--	--	--	--	--	--
VEC (2)	--		--	--	--	--	--	--
IKS (2)	--		--	--	--	--	--	--
FP / CEP(2)	FP –II (Project)	23ScBotU5002	Field Project II	4	2	20	30	50
Total				32	22	220	330	550

Semester 6 (Third Year)

Course Type	Course	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4 + 2)	Major Core Paper 13 (Theory) Section 1	23ScBotU6101	Molecular Biology and Plant Biotechnology	2	4	40	60	100
	Major Core Paper 13 (Theory) Section 2:			2				
	Major Paper 14 (Theory) Section 1	23ScBotU6102	Plant Physiology and Metabolism	2	4	40	60	100
	Major Paper 14 (Theory) Section 2			2				
	Major Paper 15 (Practical)	23ScBotU6103	Lab Course on 23ScBotU6101 & 23ScBotU6102	4	2	20	30	50
Major Electives	Elective III (Theory + Practical)	23ScBotU6201	Plant Analytical Techniques and Biostatistics (T + P)	2	4	40	60	100
				4				
	Elective IV (Theory + Practical)	23ScBotU6202	Industrial and Environmental Microbiology (T + P)	2	4	40	60	100
				4				
Minor (4)	Minor Paper V (Theory + Practical)	23ScBotU6301	Plant Biotechnology (T +P)	2	4	40	60	100
				4				
OE (2)	--		--	--	--	--	--	--
VSC (2)	--		--	--	--	--	--	--
SEC (2)	--		--	--	--	--	--	--
AEC(2),	--		--	--	--	--	--	--
VEC (2)	--		--	--	--	--	--	--
IKS (2)	--		--	--	--	--	--	--
FP / CEP(2)	--		--	--	--	--	--	--
OJT(4)	OJT	23CpCopU6004	On Job Training	8	4	40	60	100
Total				32	22	220	330	550

OE : Open Elective

AEC: Ability Enhancement Course

VEC: value Education Courses

CC : Co-Curricular Courses

IKS : Indian Knowledge System

OJT : On-Job Training

FP : Field Project

VSC : Vocational Skill Courses
CEP : Community Engagement Project