

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. (Zoology)

(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	ESE	Total
Major Mandatory (4 + 2)	Major Paper 1 (Theory)	23ScZooU1101	Systematics & Diversity of Life - Protists to Chordates	4	4	40	60	100
	Major Paper 2 (Practical)	23ScZooU1102	Lab Course on 23ScZooU1101	4	2	20	30	50
Major Electives	-							
Minor	-							
OE (2 + 2)	Theory	23ScZooU1401	Ornamental Freshwater Fish Production	2	4	40	60	100
		23CpCopU1402	Democracy, Election and Governance	2				
VSC (2)	Major Specific Practical I	23ScZooU1501	Lab Course on Aquaculture	4	2	20	30	50
SEC (2)	Skill Paper 1 (Practical)	23ScZooU1601	Lab Course on Good Laboratory Practices	4	2	20	30	50
AEC(2),	Theory	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)	Major Specific Theory	23CpCopU1901	Generic IKS	2	2	20	30	50
CC (2)	CC-I Course	23CpCopU1001	Online Course 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)	23ScZooU2101	Cell Biology and Histology	4	4	40	60	100
	Major Paper 4 (Practical)	23ScZooU2102	Lab Course on 23ScZooU2101	4	2	20	30	50
Major Electives	-							
Minor	Minor Paper I (Practical-I)	23ScZooU2301	Lab Course on Food, Nutrition and Health	4	2	20	30	50
OE (2 + 2)	Theory	23ScZooU2401	Exploring the Brain: Structure and Function	2	4	40	60	100
		23CpCopU2402	Fundamentals of Music	2				
VSC (2)	Major Specific Practical II	23ScZooU2501	Lab Course on Beekeeping	4	2	20	30	50
SEC (2)	Skill Paper II (Practical)	23ScZooU2601	Lab Course on Vermitechnology	4	2	20	30	50
AEC(2),	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 (Practical)	23ScZooU3101	Lab Course based on 23ScZooU3102	4	4	40	60	100
	Major Paper 6 (Theory) on	23ScZooU3102	Comparative Anatomy & Physiology of Chordates	2	2	20	30	50
	Major Paper 7 (Theory) (Major Specific IKS)	23ScZooU1901	Ancient Knowledge of Animal use in India	2	2	20	30	50
Major Electives	-							
Minor (4)	Minor Paper II	23ScZooU3301	Applied Zoology (T + P)	2	4	40	60	100
				4				
OE (2)	Theory	23ScZooU3401	Public Health and Hygiene	2	2	20	30	50
VSC (2)	Major Specific Practical III	23ScZooU3501	Lab Course on Sericulture	4	2	20	30	50
SEC (2)	--		--	--	--	--	--	--
AEC(2),	Theory	23CpCopU3703	English Communication Skills II	2	2	20	30	50
VEC (2)	--		--	--	--	--	--	--
IKS (2)	--		--	--	--	--	--	--
FP/CEP (2)	FP –I	23ScZooU3002	Zoology Field Project I	4	2	20	30	50
CC(2)	CC III	23CpCopU3001	Fitness	2	2	20	30	50
Total				28	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 7 (Theory)	23ScZooU4101	Genetics	2	4	40	60	100
	Major Paper 8 (Practical)	23ScZooU4102	Lab Course on 23ScZooU4101	4	4	40	60	100
Major Electives	-							
Minor (4)	Minor Paper III (Theory Practical)	23ScZooU4301	Environmental Biotechnology (T + P)	2	4	40	60	100
				4				
OE (2)	Theory	23ScZooU4401	Preventive Medicine	2	2	20	30	50
VSC (2)	--		--	--	--	--	--	--
SEC (2)	Skill Paper III (Practical)	23ScZooU4601	Lab Course on Animal Tissue Culture	4	2	20	30	50
AEC(2),	Theory	23CpCopU4701	MIL-II (Hindi) / MIL-II (Marathi)	2	2	20	30	50
		23CpCopU4702						
VEC (2)	--		--	--	--	--	--	--
IKS (2)	--		--	--	--	--	--	--
FP / CEP(2)	CEP -I	23ScZooU4003	Community Engagement Project I	4	2	20	30	50
CC(2)	CC-4	23CpCopU4001	Health and Wellness	2	2	20	30	50
Total				26	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 9 (Theory)	23ScZooU5101	Developmental Biology & Evolution	4	4	40	60	100
	Major Paper 10 (Theory)	23ScZooU5102	Biochemistry	4	4	40	60	100
	Major Paper 11 (Practical)	23ScZooU5103	Lab Course on 23ScZooU5101 & 23ScZooU5102	4	2	20	30	50
Major Electives	Elective I (Theory + Practical)	23ScZooU5201	Human Physiology (T + P)	2	4	40	60	100
				4				
	Elective II (Theory + Practical)	23ScZooU5202	Microbiology, Parasitology & Immunology (T + P)	2	4	40	60	100
				4				
Minor (4)	Minor Paper IV (Theory+ Practical)	23ScZooU5301	Vectors, Diseases and Control (T + P)	2	4	40	60	100
				4				
OE (2)	--		--	--	--	--	--	--
VSC (2)	Major Specific Practical IV	23ScZooU5501	Lab Course on Toxicology	4	2	20	30	50
SEC (2)	--		--	--	--	--	--	--
AEC(2),	--		--	--	--	--	--	--
VEC (2)	--		--	--	--	--	--	--
IKS (2)	--		--	--	--	--	--	--
FP / CEP(2)	FP –II		Zoology 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 12 (Theory)	23ScZooU6101	Ecology	4	4	40	60	100
	Major Paper 13 (Theory)	23ScZooU6102	Molecular Biology	4	4	40	60	100
	Major Paper 14 (Practical)	23ScZooU6103	Lab Course on 23ScZooU6101 & 23ScZooU6102	4	2	20	30	50
Major Electives	Elective III (Theory + Practical)	23ScZooU6201	Neuroscience (T + P)	2	4	40	60	100
				4				
	Elective IV (Theory + Practical)	23ScZooU6202	Biostatistics & Bioinformatics (T + P)	2	4	40	60	100
				4				
Minor (4)	Minor Paper V (Theory + Practical)	23ScZooU6301	Advanced Techniques in Biology (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	23ScZooU6004	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