

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

M.Sc. Zoology

(Based on NEP 2020 framework)

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

Semester 1 (First Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4+4+2)	23ScZooP111	Major Paper 1 (Theory)	Biochemistry and Molecular Biology	4	4	50	50	100
	23ScZooP112	Major Paper 2 (Theory)	Cell Biology and Developmental Biology	4	4			
	23ScZooP113	Major Paper 3 (Theory)	Lab Course on 23ScZooP111, 23ScZooP112 & 23ScZooP114	8	4			
	23ScZooP114	Major Paper 4 (Theory)	Freshwater Zoology	2	2	25	25	50
Major Electives (4)	23ScZooP121	Major Elective 1 (Theory)	Fundamentals of Systematics and Environmental Biology	4	4	50	50	100
	23ScZooP122	Major Elective 2 (Theory)	Fundamentals of Systematics and Aquaculture	4				
RM (4)	23ScZooP131	RM Paper 1 Section 1	Research Methodology Basics & Research in Biological Techniques	2	4	50	50	100
		RM Paper 2 Section 2		2				
OJT(4),			–	–	–	–	–	–
Total				26	22	175	175	350

Semester 2 (First Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4+4+2)	23ScZooP211	Major Paper 1 (Theory)	Metabolic Pathways and Advanced Genetics	4	4	50	50	100
	23ScZooP212	Major Paper 2 (Theory)	Physiology and Endocrinology	4	4	50	50	100
	23ScZooP213	Major Paper 3 (Practical)	Lab Course on 23ScZooP211, 23ScZooP212 & 23ScZooP214	8	4	50	50	100
	23ScZooP214	Major Paper 4 (Theory)	Basic Entomology and Biodiversity	2	2	25	25	50
Major Electives (4)	23ScZooP221	Major Elective 1 (Theory)	Biostatistics and Animal Biotechnology	4	4	50	50	100
	23ScZooP222	Major Elective 2 (Theory)	Biostatistics and Medical Microbiology	4				
RM (4)		–	–	–	–	–	–	–
		–	–	–				
OJT(4),	23ScZooP241	OJT	On Job Training	8	4	50	50	100
Total				30	22	175	175	350

Semester 3 (Second Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4+4+2)	23ScZooP311	Major Paper 1 (Theory)	Entomology and Insect Physiology and Biochemistry	4	4	50	50	100
	23ScZooP312	Major Paper 2 (Theory)	Immunology and Histochemistry	4	4	50	50	100
	23ScZooP313	Major Paper 3 (Practical)	Lab Course on 23ScZooP31, 23ScZooP312 & 23ScZooP314	8	4	50	50	100
	23ScZooP314	Major Paper 4 (Theory)	rDNA Technology	2	2	25	25	50
Major Electives (4)	23ScZooP321	Major Elective 1 (Theory)	Bioinformatics and Genomics and Proteomics	4	4	50	50	100
	23ScZooP322	Major Elective 2 (Theory)	Bioinformatics and Parasitology	4				
RP (4)	23ScZooP351	RP	Research Project I	8	4	50	50	100
OJT(4),								
Total				30	22	175	175	350

Semester 4 (Second Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4+4+2)	23ScZooP411	Major Paper 1 (Theory)	Bacterial and Phage Genetics and Genetic Toxicology	4	4	50	50	100
	23ScZooP412	Major Paper 2 (Theory)	Animal Tissue Culture and Mammalian Reproductive Physiology	4	4	50	50	100
	23ScZooP413	Major Paper 3 (Practical)	Lab Course on 23ScZooP411, 23ScZooP412 & 23ScZooP414	8	4	50	50	100
	23ScZooP414	Major Paper 4(Theory)	Evolution	2	2	25	25	50
Major Electives (4)	23ScZooP421	Major Elective 1 (Theory)	Ecology and Animal Behaviour	4	4	50	50	100
	23ScZooP422	Major Elective 2 (Theory)	Ecology and Pest Control	4				
RP (4)	23ScZooP451	RP	Research Project II	12	6	75	75	150
OJT(4),								
Total				22	22	175	175	350

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