

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. Electronic Science
(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	ES E	Total
Major Mandatory (4 + 4+4+2)	23ScEleP1101	Major Paper 1 (Theory)	Analog Circuit Design	4	4	50	50	100
	23ScEleP1102	Major Paper 2 (Theory)	Advanced Digital system designing using Verilog	4	4			
	23ScEleP1103	Major Paper 3 (Practical)	Electronic Practical Lab 1	8	4			
	23ScEleP1104	Major Paper 4 (Theory)	Electronic Instrumentation System	2	2	25	25	50
Major Electives (4)	23ScEleP1201	Major Elective 1 (T)	Network circuits analysis and synthesis	4	4	50	50	100
	23ScEleP1202	Major Elective 2 (T)	Sensors in Automation	4				
RM (4)		RM Paper 1	Research Methodology Core	2	2	50	50	100
		RM Paper 2	Research Methodology Department Specific Paper	2	2			
OJT(4),		–	–	–	–	–	–	–
Total				26	22	275	275	550

Semester 2 (First Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ES E	Total
Major Mandatory (4 + 4+4+2)	23ScEleP2101	Major Paper 1 (Theory)	Advanced Microcontrollers and its application	4	4	50	50	100
	23ScEleP2102	Major Paper 2 (Theory)	Electromagnetic Fields and Antennas	4	4			
	23ScEleP2103	Major Paper 3 (Practical)	Electronic Practical Lab 2	8	4			
	23ScEleP2104	Major Paper 4 (Theory)	Advanced Electronic communication Systems	2	2	25	25	50
Major Electives (4)	23ScEleP2201	Major Elective 1 (T)	Solid State Devices	4	4	50	50	100
	23ScEleP2202	Major Elective 2 (T)	Nanoelectronics	4	4			
RM (4)		–	–	–	–	–	–	–
		–	–	–				
OJT(4),	23ScEleP2041	OJT	On Job Training	8	4	50	50	100
Total				30	22	275	275	550

Semester 3 (Second Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ES E	Total
Major Mandatory (4 + 4+4+2)	23ScEleP3101	Major Paper 1 (Theory)	IoT based automation using Arduino and Raspberry Pi	4	4	50	50	100
	23ScEleP3102	Major Paper 2 (Theory)	Digital Signal Processing	4	4			
	23ScEleP3103	Major Paper 3 (Practical)	Electronic Practical Lab 3	8	4			
	23ScEleP3104	Major Paper 4 (Theory)	Robotics and its Applications	2	2	25	25	50
Major Electives (4)	23ScEleP3201	Major Elective 1 (T)	Electronic Technology in Agriculture	4	4	50	50	100
	23ScEleP3202	Major Elective 2 (T)	Microwave Engineering	4				
RP (4)	23ScEleP3051	RP	Research Project I	8	4	50	50	100
OJT(4),								
Total				30	22	275	275	550

Semester 4 (Second Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ES E	Total
Major Mandatory (4 + 4+4+2)	23ScEleP4101	Major Paper 1 (Theory)	Industry 4.0	4	4	50	50	100
	23ScEleP4102	Major Paper 2 (Theory)	Process Control Systems	4	4			
	23ScEleP4103	Major Paper 3 (Theory)	E waste management	4	4			
Major Electives (4)	23ScEleP4201	Major Elective 1 (T)	Power Electronics & Renewable Energy Systems	4	4	50	50	100
	23ScEleP4202	Major Elective 2 (T)	Automotive Electronics	4	4			
RP (4)	23ScEleP4051	RP	Research Project II	12	6	75	75	150
OJT(4),								
Total				28	22	275	275	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