

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 . (Electronic Science)

(Based on NEP 2020 framework)

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

CC (2)	CC-II Course	23CpCopUU2001/ 23CpCopUU2011 / 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				28	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)	23ScEleU3101	Linear and Digital Integrated Circuits	2	4	40	60	100
	Major Paper 6 (Practical)	23ScEleU3102	Lab Course on 23ScEle3101	4	4	40	60	100
Major Electives	-							
Minor (4)	Minor Paper II (Theory +Practical)	23ScEleU3301	Introduction to Analog and Digital Electronics (T+P)	2	4	40	60	100
				4				
OE (2)	Theory	23ScEleU3401	LED Lighting Solutions	2	2	20	30	50
VSC (2)	Major Specific Practical III	23ScEleU3501	Lab Course on Simulation of Analog and Digital Circuits	4	2	20	30	50
SEC (2)	--		--	--	--	--	--	--
AEC(2),	English Theory	23CoCopU3703	English Communication Skills II	2	2	20	30	50
VEC (2)	--		--	--	--	--	--	--
IKS (2)	--		--	--	--	--	--	--
FP/CEP (2)	FP –I	23ScEleU3002	Electronics Project I	4	2	20	30	50
CC(2)	CC III	23CoCopU3001	Fitness	2	2	20	30	50
Total				26	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)	23ScEleU4101	Microprocessor and Microcontroller	2	4	40	60	100
	Major Paper 8 (Practical)	23ScEleU4102	Lab Course on 23ScEle4101	4	4	40	60	100
Major Electives	-							
Minor (4)	Minor Paper III (Theory + Practical)	23ScEleU4301	Sensors, Actuators and Data converters (T + P)	2	4	40	60	100
				4				

OE (2)	Theory	23ScEleU4401	Security and surveillance systems	2	2	20	30	50
VSC (2)	--		--	--	--	--	--	--
SEC (2)	Skill Paper III (Practical)	23ScEleU4601	Lab Course on Design, Build and Test Electronic Systems	4	2	20	30	50
AEC(2),	MIL Theory	23CoCopU4701 / 23CoCopU4702	MIL-II (Hindi) / MIL-II (Marathi)	2	2	20	30	50
VEC (2)	--		--	--	--	--	--	--
IKS (2)	--		--	--	--	--	--	--
FP / CEP(2)	CEP –I	23ScEleU4003	E- waste Management	4	2	20	30	50
CC(2)	CC-4	23CoCopU4001	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)	23ScEleU5101	Electronic Instrumentation and Process Control	2	4	40	60	100
	Major Paper 10 (Theory)	23ScEleU5102	Digital systems design using Verilog	2	4	40	60	100
	Major Paper 11 (Practical)	23ScEleU5103	Lab Course on 23ScEle5101 & 23ScEle5102	4	2	20	30	50
Major Electives	Elective I (Theory + Practical)	23ScEleU5201	C and MATLAB programming (T + P)	2	4	40	60	100
				4				
	Elective II (Theory + Practical)	23ScEleU5202	Power Electronics (T + P)	2	4	40	60	100
				4				
Minor (4)	Minor Paper IV (Theory + Practical)	23ScEleU5301	C- programming for Arduino (T + P)	2	4	40	60	100
				4				
OE (2)	--		--	--	--	--	--	--
VSC (2)	Major Specific Practical IV	23ScEleU5501	Lab Course on Industrial Automation with PLC and HMI	4	2	20	30	50
SEC (2)	--		--	--	--	--	--	--
AEC(2),	--		--	--	--	--	--	--
VEC (2)	--		--	--	--	--	--	--
IKS (2)	--		--	--	--	--	--	--
FP / CEP(2)	FP –II	23ScEleU5002	Electronics Project II	4	2	20	30	50
Total				30	22	220	330	550

Semester 6 (Third Year)

Course Type	Course	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	ES E	Total
Major Mandatory (4 + 4 + 2)	Major Core Paper 12 (Theory) Section 1	23ScEleU6101	Electronics Communication and Fundamentals of Nano-electronics	2	4	40	60	100
	Major Core Paper 12 (Theory) Section 2			2				
	Major Paper 13 (Theory)	23ScEleU6102	Advanced Microcontroller : PIC	2	4	40	60	100
	Major Paper 14 (Practical)	23ScEleU6103	Lab Course on 23ScEle6101 & 23ScEle6102	4	2	20	30	50
Major Electives	Elective III (Theory + Practical)	23ScEleU6201	Advanced Communication & IoT (T + P)	2	4	40	60	100
				4				
	Elective IV (Theory + Practical)	23ScEleU6202	Python programming for Raspberry Pi (T + P)	2	4	40	60	100
				4				
Minor (4)	Minor Paper V (Theory + Practical)	23ScEleU6301	Electronics Technology in Agriculture (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	23ScEleU6004	On Job Training	8	4	40	60	100
Total				30	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