

*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)**

Choice Based Credit System (CBCS) Syllabus Under National Education  
Policy (NEP)

**To be implemented from Academic Year 2024-2025**

## Level 4.5 (First Year) Semester I

CourseType	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	ESE	Total
Subject 1 T(2) + (T/P) (2) Or T(4)	24ScEleU1101	Fundamentals of Analog and Digital Electronics	2		2		20	30	50
	24ScEleU1102	Lab Course on 24ScEleU1101		2		4	20	30	50
Subject 2 T(2)+ (T/P) (2) or T(4)	24ScEleU1201	<<Subject 2 Theory>>	2		2		20	30	50
	24ScEleU1202	<<Subject 2 Practical>>		2		4	20	30	50
Subject 3 T(2)+ (T/P) (2) or T(4)	24ScEleU1301	<<Subject 3 Theory>>	2		2		20	30	50
	24ScEleU1302	<<Subject 3 Practical>>		2		4	20	30	50
IKS T(2)	24CpCopU1901	Generic IKS	2		2		20	30	50
GE/OE (T/P) (2)	24ScEleU1401	Lab Course on Fundamentals of Computer Hardware and Software		2		4	20	30	50
SEC (P) (2)	24ScEleU1601	Lab Course on Basic Electronics	2			4	20	30	50
AEC T(2)	24CpCopU1701 / 24CpCopU1702	MIL-I (Hindi) / MIL-I (Marathi)	2		2		20	30	50
VEC T (2)	24CpCopU1801	Environmental Science	2		2		20	30	50
<b>Total</b>			<b>14</b>	<b>08</b>	<b>14</b>	<b>16</b>			<b>550</b>

## Level 4.5 (First Year) Semester II

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	ESE	Total
Subject 1 T(2) + T/P(2) or T(4)	24ScEleU2101	Principles of Analog and Digital Circuits	2		2		20	30	50
	24ScEleU2102	Lab Course on 24ScEleU2101		2		4	20	30	50
Subject 2 T(2) + P(2)	24ScEleU2201	<<Subject 2 Theory>>	2		2		20	30	50
	24ScEleU2202	<<Subject 2 Practical>>		2		4	20	30	50
Subject 3 T(2) + P(2)	24ScEleU2301	<<Subject 3 Theory>>	2		2		20	30	50
	24ScEleU2302	<<Subject 3 Practical>>		2		4	20	30	50
GE/OE (T/P)(2)	24ScEleU2401	Lab Course on Information Technology for everyone		2		4	20	30	50
SEC P(2)	24ScEleU2601	Lab Course on PCB Design and Fabrication		2		4	20	30	50
AEC T(2)	24CpCopU2703	English Communication Skills I	2		2		20	30	50
VEC T(2)	24CpCopU2801	Democracy, Election and Governance	2		2		20	30	50
CC(2)	24CpCopU2001/24CpCopU2011 /24CpCopU2021 /24CpCopU2031 /24CpCopU2041 /24CpCopU2051 /24CpCopU2061 /24CpCopU2071	Physical Education / Cultural Activities / NSS/NCC / Fine Arts / Applied Arts / Visual Arts / Performing Arts	2		2		20	30	50
<b>Total</b>			<b>12</b>	<b>10</b>	<b>12</b>	<b>20</b>			<b>550</b>

### Level 5.0 (Second Year) Semester III

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T(2+2 or 4), (T/P)(2)	24ScEleU3101	Linear Integrated Circuits	2		2		20	30	50
	24ScEleU3102	Digital Integrated Circuits	2		2		20	30	50
	24ScEleU3103	Lab Course on 24ScEleU3101 & 24ScEleU3102		2		4	20	30	50
VSC P(2)	24ScEleU3501	Lab Course on Simulation of Analog and Circuits-I		2		4	20	30	50
IKS (T/P)(2)	24ScEleU3901	Development of Electronic Communication in India	2		2		20	30	50
FP P(2)	24ScEleU3002	Field Project-I		2		4	20	30	50
Minor (T/P)(2+2 or 4)	24ScEleU3301	Instrumentation and Electronic Communication	2		2		20	30	50
	24ScEleU3302	Lab Course on 24ScEleU3301		2		4	20	30	50
GE/OE (T/P) (2)	24ScEleU3401	Lab Course on Electronic Fundamentals		2		4	20	30	50
AEC T(2)	24CpCopU3703	English Communication Skills II	2		2		20	30	50
CC T(2)	24CpCopU3001	Online Course on Yoga	2		2		20	30	50
<b>Total</b>			<b>12</b>	<b>10</b>	<b>12</b>	<b>20</b>			<b>550</b>

## Level 5.0 (Second Year) Semester IV

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T (2+2 or 4), (T/P)(2)	24ScEleU4101	Fundamentals of Microcontroller	2		2		20	30	50
	24ScEleU4102	Interfacing To 8051	2		2		20	30	50
	24ScEleU4103	Lab Course on 24ScEleU4101 & 24ScEleU4102		2		4	20	30	50
VSC P(2)	24ScEleU4501	Lab Course on Simulation of Analog and Circuits-II		2		4	20	30	50
CEP P(2)	24ScCopU4003	Community Engagement Project		2		4	20	30	50
Minor (T/P) (2+2 or4)	24ScEleU4301	Sensors, Actuators and DataConverters	2		2		20	30	50
	24ScEleU4302	Lab Course on 24ScEleU4301		2		4	20	30	50
GE/OE (T/P)(2)	24ScEleU4401	Lab Course on Electronic Instruments		2		4	20	30	50
SEC T(2)	24ScEleU4601	Lab Course on Electronic Systems		2		4	20	30	50
AEC T(2)	24CpCopU4701 / 24CpCopU4702	MIL-II (Hindi) / MIL-II (Marathi)	2		2		20	30	50
CC T(2)	24CpCopU4001	Health and Wellness	2		2		20	30	50
<b>Total</b>			<b>10</b>	<b>12</b>	<b>10</b>	<b>20</b>			<b>550</b>

## Level 5.5 (Third Year) Semester V

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T(2+2+2+2 or 4 + 2+2 or 4 + 4) P(2+2 or 4)	24ScEleU5101	Electronic Instrumentation	2		2		20	30	50
	24ScEleU5102	Fundamentals of Process Control	2		2		20	30	50
	24ScEleU5103	Digital System Design	2		2		20	30	50
	24ScEleU5104	Realization of Digital System with Verilog	2		2		20	30	50
	24ScEleU5104	Lab Course on 24ScEleU5101 & 24ScEleU5102		2		4	20	30	50
	24ScEleU5105	Lab Course on 24ScEleU5103 & 24ScEleU5104		2		4	20	30	50
Major Elective (T/P)(2+2 or 4)	24ScEleU5201	Signals and systems	2		2		20	30	50
	24ScEleU5202	Lab Course on 24ScEleU5201		2		4	20	30	50
	<b>OR</b>								
	24ScEleU5203	Principles of Power Electronics	2		2		20	30	50
	24ScEleU5204	Lab Course on 24ScEleU5203		2		4	20	30	50
VSC P(2)	24ScEleU5501	Lab Course on Embedded C		2		4	20	30	50
FP (2)	24ScEleU5001	Field Project-II		2		4	20	30	50
Minor (T/P) (2)	24ScEleU5302	Lab Course on C Programming for Arduino		2		4	20	30	50
<b>Total</b>			<b>10</b>	<b>12</b>	<b>10</b>	<b>24</b>			<b>550</b>

## Level 5.5 (Third Year) Semester VI

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T (2+2+2+2 or 4+2+2 or 4+4) P(2+2 or 4)	24ScEleU6101	Electronics Communication systems	2		2		20	30	50
	24ScEleU6102	Fundamentals of Nanoelectronics	2		2		20	30	50
	24ScEleU6103	PIC Microcontroller: Architecture and Programming	2		2		20	30	50
	24ScEleU6104	Interfacing with PIC Microcontroller	2		2		20	30	50
	24ScEleU6105	Lab Course on 24ScEleU6101 & 24ScEleU6102		2		4	20	30	50
	24ScEleU6106	Lab Course on 24ScEleU6103 & 24ScEleU6104		2		4	20	30	50
Major Elective (T/P)(2+2 or 4)	24ScEleU6201	Advanced Communication & IoT	2		2		20	30	50
	24ScEleU6202	Lab Course on 24ScEleU6201		2		4	20	30	50
	24ScEleU6203	Raspberry Pi programming with Python	2		2		20	30	50
	24ScEleU6204	Lab Course on 24ScEleU6203		2		4	20	30	50
VSC P(2)	24ScEleU6501	Lab Course on Industrial Automation		2		4	20	30	50
OJT (2)	24ScEleU6004	On Job Training		4		8	40	60	100
<b>Total</b>			<b>10</b>	<b>08</b>	<b>10</b>	<b>16</b>			<b>550</b>

