

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. (Computer 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) Sem : I

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)	24CsCmpU1101	Programming in 'C'	2		2		20	30	50
	24CsCmpU1102	Lab Course on 24CsCmpU1101		2		4	20	30	50
Subject 2 T(2)+ (T/P) (2) or T(4)	24CsMatU1201	Discrete Mathematics	2		2		20	30	50
	24CsMatU1202	Lab Course on 24CsMatU1201		2		4	20	30	50
Subject 3 T(2)+ (T/P) (2) or T(4)	24CsEleU1301	Basics of Electronics Components and Circuits	2		2		20	30	50
	24CsEleU1302	Lab course on 24CsEleU1301		2		4	20	30	50
IKS T(2)	24CpCopU1901	Generic IKS	2		2		20	30	50
GE/OE (T/P) (2)	24CsCopU1401	Computer Fundamentals	2		2		20	30	50
SEC (P) (2)	24CsStaU1601	Lab Course on Statistical Analysis using R Programming I		2		4	20	30	50
AEC T(2)	24CpCopU1701 / 24CpCopU1702	MIL-I (Hindi) / MIL-I (Marathi)	2		2		20	30	50

VEC T (2)	24CpCopU18 01	Environmental Science	2		2		20	30	50
Total			14	08	14	16			550

Level:- 4.5 (First Year) Sem : 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)	24CsCmpU21 01	Advanced 'C' Programming	2		2		20	30	50
	24CsCmpU21 02	Lab Course on 24CsCmpU2101		2		4	20	30	50
Subject 2 T(2)+ P(2)	24CsMatU220 1	Matrix Theory	2		2		20	30	50
	24CsMatU220 2	Lab Course on 24CsMatU2201		2		4	20	30	50
Subject 3 T(2)+ P(2)	24CsEleU230 1	Basics of Electronic Instrumentation	2		2		20	30	50
	24CsEleU230 2	Lab course on 24CsEleU2301		2		4	20	30	50
GE/OE (T/P) (2)	24CsCopU240 1	Digital Marketing	2		2		20	30	50
SEC P(2)	24CsStaU260 1	Lab Course on Statistical Analysis using R Programming II		2		4	20	30	50

AEC T(2)	24CpCopU27 03	English Communication Skills I	2		2		20	30	50
VEC T(2)	24CpCopU28 01	Democracy, Election and Governance	2		2		20	30	50
CC (2)	24CpCopU20 01/ 24CpCopU20 11 / 24CpCopU20 21 / 24CpCopU20 31 / 24CpCopU20 41 / 24CpCopU20 51 / 24CpCopU20 61 / 24CpCopU20 71	Physical Education / Cultural Activities / NSS / NCC / Fine Arts / Applied Arts / Visual Arts / Performing Arts	2		2		20	30	50
Total			14	08	14	16			550

Level:- 5.0 (Second Year) Sem:III

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	ESE	Total
Major Core T(2+2 or 4), (T/P)(2)	24CsCmpU3101	Data Structures	2		2		20	30	50
	24CsCmpU3102	Database Management System	2		2		20	30	50
	24CsCmpU3103	Lab Course on 24CsCmpU3101 and 24CsCmpU3102		2		4	20	30	50
VSC P(2)	24CsCmpU3501	Lab Course on Scripting Languages		2		4	20	30	50
IKS (T/P)(2)	24CsCopU3901	Vedic Maths and Computer Fundamentals	2		2		20	30	50
FP P(2)	24CsCmpU3002	Field Project I		2		4	20	30	50
Minor (T/P) (2+2 or 4)	24CsEleU3301 / 24CsMatU3301	Intel 8051 and Raspberry Pi / Advanced Discrete Mathematics	2		2		20	30	50
	24CsEleU3302 / 24CsMatU3302	Lab Course on 24CsEleU3301 / Lab Course on 24CsMatU3301		2		4	20	30	50
GE/OE (T/P) (2)	24CsCopU3401	Cyber Security	2		2		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
Total			14	08	14	16			550

Level:- 5.0 (Second Year) Sem:IV

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	ESE	Total
Major Core T(2+2 or 4), (T/P)(2)	24CsCmpU4101	Advanced Data Structures	2		2		20	30	50
	24CsCmpU4102	Advanced Database Management System	2		2		20	30	50
	24CsCmpU4103	Lab Course on 24CsCmpU4101 & 24CsCmpU4102		2		4	20	30	50
VSC P(2)	24CsCmpU4501	Lab Course on OOP using C++		2		4	20	30	50
CEP P(2)	24CpCopU4003	Community Engagement Project		2		4	20	30	50
Minor (T/P)(2+2 or 4)	24CsEleU4301 / 24CsMatU4301	Analog and Advanced Digital Communication / Groups and Coding Theory	2		2		20	30	50
	24CsEleU4302 / 24CsMatU4302	Lab Course on 24CsEleU4301 / Lab Course on 24CsMatU430		2		4	20	30	50
GE/OE (T/P) (2)	24CsCopU4401	Web Designing	2		2		20	30	50
SEC T(2)	24CsStaU4601	Data Mining	2		2		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
Total			14	08	14	16			550

Level:- 5.5 (Third Year) Sem:-V

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	ESE	Total
Major Core T(2+2+2+2 or 4 + 2+2 or 4 + 4) P(2+2 or 4)	24CsCmpU5101	Operating System Concepts	2		2		20	30	50
	24CsCmpU5102	Programming in Java	2		2		20	30	50
	24CsCmpU5103	Object Oriented Software Engineering	2		2		20	30	50
	24CsCmpU5104	Theory of Computer Science	2		2		20	30	50
	24CsCmpU5105	Lab Course on 24CsCmpU5101		2		4	20	30	50
	24CsCmpU5106	Lab Course on 24CsCmpU5102		2		4	20	30	50
Major Elective (T/P) (2+2 or 4)	24CsCmpU5201	Android Programming	2		2		20	30	50
	24CsCmpU5202	Lab Course on 24CsCmpU5201		2		4	20	30	50
	24CsMatU5203	Numerical Methods using SciLab	2		2		20	30	50
	24CsMatU5204	Lab Course on 24CsMatU5203		2		4	20	30	50
	24CsEleU5205	Embedded System Design with Raspberry Pi	2		2		20	30	50
	24CsEleU5206	Lab Course on 24CsEleU5205		2		4	20	30	50
VSC P(2)	24CsCmpU5501	Lab Course on Application Design & Development		2		4	20	30	50
FP (2)	24CsCmpU5001	Field Project II		2		4	20	30	50
Minor (T/P) (2)	24CsMatU5302	Applied Sciences IX (Operations Research)	2		2		20	30	50
Total			12	10	12	20			550

Level:- 5.5 (Third Year) Sem:-VI

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	ESE	Total
Major Core T(2+2+2+2 or 4+2+2 or 4+4) P(2+2 or 4)	24CsCmpU6101	Web Technology	2		2		20	30	50
	24CsCmpU6102	Python Programming	2		2		20	30	50
	24CsCmpU6103	Software Project Management	2		2		20	30	50
	24CsCmpU6104	Introduction to Data Analytics	2		2		20	30	50
	24CsCmpU6105	Lab Course on 24CsCmpU6101		2		4	20	30	50
	24CsCmpU6106	Lab Course on 24CsCmpU6102 & Project		2		4	20	30	50
Major Elective (T/P) (2+2 or 4)	24CsCmpU6201	Big Data Analytics	2		2		20	30	50
	24CsCmpU6202	Lab Course on 24CsCmpU6201		2		4	20	30	50
	24CsMatU6203	Computational Geometry	2		2		20	30	50
	24CsMatU6204	Lab Course on 24CsMatU6203		2		4	20	30	50
	24CsEleU6205	IoT Based System Design	2		2		20	30	50
	24CsEleU6206	Lab Course on 24CsEleU6205		2		4	20	30	50
VSC P(2)	24CsEleU6501	Lab Course on Basics of IoT		2		4	20	30	50
OJT (2)	24CsCmpU6004	On Job Training		4		8	40	60	100
Total			10	12	10	24			550