

*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. (Mathematics)**

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)	24ScMatU1101	Algebra	2		2		20	30	50
	24ScMatU1102	Lab Course on 24ScMatU1101		2		4	20	30	50
Subject 2 T(2)+ (T/P) (2) or T(4)	24ScMatU1201	<<Subject 2 Theory>>	2		2		20	30	50
	24ScMatU1202	<<Subject 2 Practical>>		2		4	20	30	50
Subject 3 T(2)+ (T/P) (2) or T(4)	24ScMatU1301	<<Subject 3 Theory>>	2		2		20	30	50
	24ScMatU1302	<<Subject 3 Practical>>		2		4	20	30	50
IKS T(2)	24CpCopU1901	Generic IKS	2		2		20	30	50
GE/OE (T/P) (2)	24ScMatU1401	Fundamentals of Mathematics	2		2		20	30	50
SEC (P) (2)	24ScMatU1601	Lab Course on Analytical Geometry		2		2	20	30	50
AEC T(2)	24CpCopU1701 / 24CpCopU1702	MIL-I (Hindi) / MIL-I (Marathi)	2		2		20	30	50
VECT (2)	24CpCopU1801	Environmental Science	2		2		20	30	50
<b>Total</b>			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)	24ScMatU2101	Calculus	2		2		20	30	50
	24ScMatU2102	Lab Course on 24ScMatU2101		2		4	20	30	50
Subject 2 T(2)+ P(2)	24Sc***U2201	<<Subject 2 Theory>>	2		2		20	30	50
	24Sc***U2302	<<Subject 2 Practical>>		2		4	20	30	50
Subject 3 T(2)+ P(2)	24Sc***U2301	<<Subject 3 Theory>>	2		2		20	30	50
	24Sc***U2302	<<Subject 3 Practical>>		2		4	20	30	50
GE/OE (T/P)(2)	24ScMatU2401	Business Mathematics	2		2		20	30	50
SEC P(2)	24ScMatU2601	Lab course on Logic		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 /	Physical Education / Cultural Activities / NSS / NCC / Fine Arts /	2		2		20	30	50

	24CpCopU2041 / 24CpCopU2051 / 24CpCopU2061 / 24CpCopU2071	Applied Arts / Visual Arts / Performing Arts							
<b>Total</b>			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	EE	Total
Major Core T(2+2 or 4), (T/P)(2)	24ScMatU3101	Multivariate Calculus	4		4		20	30	50
	24ScMatU3102	Lab Course on 24ScMatU3101		2		4	20	30	50
VSC P(2)	24ScMatU3501	Lab Course on Discrete Mathematics		2		4	20	30	50
IKS (T/P)(2)	24ScMatU3901	Ancient Indian Mathematics	2		2		20	30	50
FP P(2)	24ScMatU3002	Field Project I		2		4	20	30	50
Minor (T/P)(2+2 or 4)	24ScMatU3301	Numerical Methods and Its Applications	2		2	4	20	30	50
	24ScMatU3302	Lab Course on 24ScMatU3301		2		4	20	30	50
GE/OE (T/P)(2)	24ScMatU3401	Financial Mathematics	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
<b>Total</b>			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	EE	Total
Major Core T(2+2 or 4), (T/P)(2)	24ScMatU4101	Linear Algebra	4		4		20	30	50
	24ScMatU4102	Lab Course on 24ScMatU4101		2		4	20	30	50
VSC P(2)	24ScMatU4501	Lab Course on Computational Geometry		2		4	20	30	50
CEP P(2)	24ScCopU4003	Community Engagement Project		2		4	20	30	50
Minor (T/P)(2+2 or 4)	24ScMatU4301	Linear Algebra	2		2		20	30	50
	24ScMatU4302	Lab Course on 24ScMatU4301		2		4	20	30	50
GE/OE (T/P)(2)	24ScMatU4401	Basics of Operations Research	2		2		20	30	50
SEC P(2)	24ScMatU4601	Lab Course on SciLab		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>			12	10	12	20			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	EE	Total
Major Core T(2+2+2+2or 4 + 2+2 or 4 + 4) P(2+2 or 4)	24ScMatU5101	Real Analysis	4		4		40	60	100
	24ScMatU5102	Abstract Algebra	4		4		40	60	100
	24ScMatU5103	Vector Calculus	2		2		20	30	50
	24ScMatU5104	Lab Course on 24ScMatU5101 & 24ScMatU5102		2		4	20	30	50
Major Elective (T/P) (2+2 or 4)	24ScMatU5201	Operations Research	2		2		20	30	50
	24ScMatU5202	Lab Course on 24ScMatU5201		2		4	20	30	50
	24ScMatU5203	Metric Spaces	2		2		20	30	50
	24ScMatU5204	Lab Course on 24ScMatU5203		2		4	20	30	50
VSC P(2)	24ScMatU5501	Lab Course on Computer Oriented Numerical Methods		2		4	20	30	50
FP (2)	24ScMatU5001	Field Project II		2		4	20	30	50
Minor (T/P) (2)	24ScMatU5302	Lab Course on Ordinary Differential Equations		2		4	20	30	50
<b>Total</b>			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	EE	Total
Major Core T(2+2+2+2 or 4+2+2 or 4+4) P(2+2 or 4)	24ScMatU6101	Complex Analysis	4		4		40	60	100
	24ScMatU6102	Differential Equations	4		4		40	60	100
	24ScMatU6103	Number Theory	2		2		20	30	50
	24ScMatU6104	Lab Course on 23ScMat6101 & 23ScMat6102		2		4	20	30	50
Major Elective (T/P) (2+2 or 4)	24ScMatU6201	Graph Theory	2		2		20	30	50
	24ScMatU6202	Lab Course on 24ScMatU6201		2		4	20	30	50
	24ScMatU6203	Laplace Transforms and Fourier Series	2		2		20	30	50
	24ScMatU6204	Lab Course on 24ScMatU6203		2		4	20	30	50
VSC P(2)	24ScMatU6501	Lab Course on Python		2		4	20	30	50
OJT P (2)	24ScMatU6004	On Job Training		4		8	40	60	100

<b>Total</b>			12	10	12	20			550
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