

Progressive Education Society's
Modern College of Arts, Science and Commerce (Autonomous),
Shivajinagar, Pune - 5

(An Autonomous College Affiliated to Savitribai Phule Pune University, Pune: 7)

Framework of Syllabus

For

M.Sc. (Computer Application)
(Based on NEP 2020 framework)
(To be implemented from the Academic Year 2026-27)

M. Sc. (CA) Part I Semester I

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4+4+2)	26CsCmaP111	Major Paper 1 (Theory)	Design and Analysis of Algorithms	4	4	50	50	100
	26CsCmaP112	Major Paper 2 (Theory)	Artificial Intelligence	4	4	50	50	100
	26CsCmaP113	Major Paper 3 (Theory)	Python Programming	4	4	50	50	100
	26CsCmaP114	Major Paper 4 (Practical)	Lab on Python Programming	4	2	25	25	50
Major Electives (4)	26CsCmaP121	Major Elective 1 (Theory)	Software Development Engineering in Testing	4	4	50	50	100
	26CsCmaP122	Major Elective 2 (Theory)	Advanced Database Concepts	4	4	50	50	100
RM (4)	26CsCopP122	RM Section 1	Research Methodology & Research using Artificial Intelligence	2	4	50	50	100
		RM Section 2		2				
Total				24	22	275	275	550
Extra Credit Course	26CpHrtP101	Non-CGPA Course	Human Rights I	1	1	-	25	25

M. Sc. (CA) Part I Semester II

Course Type	Course Code	Course	Course / Paper Title	Hours /Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4+4+2)	26CsCmaP211	Major Paper 1 (Theory)	Advanced Operating System	4	4	50	50	100
	26CsCmaP212	Major Paper 2 (Theory)	Information System Security	4	2	25	25	50
	26CsCmaP213	Major Paper 3 (Practical)	Lab on DOT NET and Advanced Operating System	8	4	50	50	100
	26CsCmaP214	Major Paper 4 (Practical)	Project	4	2	25	25	50
	26CsCmaP215	Major Paper 5 (Theory)	DOT NET	4	2	25	25	50
Major Electives (4)	26CsCmaP221	Major Elective 1 (Theory)	Agile Methodology and Design Thinking	4	4	50	50	100
	OR							
	26CsCmaP222	Major Elective 2 (Theory)	Cloud Computing	2	2	25	25	50
	26CsCmaP223	Major Elective 2 (Practical)	Lab course on Cloud Computing	4	2	25	25	50
OJT (4),	26CsCmaP204	OJT	On Job Training	8	4	50	50	100
Total				28	22	275	275	550
Extra Credit Course	26CpHrtP201	Non-CGPA Course	Human Rights II	1	1	-	25	25

M. Sc. (CA) Part II Semester III

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4+4+2)	26CsCmaP311	Major Paper 1 (Theory)	Mobile Technologies	4	4	50	50	100
	26CsCmaP312	Major Paper 2 (Theory)	Full Stack Development I (MERN/MEAN)	4	4	50	50	100
	26CsCmaP313	Major Paper 3 (Theory)	Block Chain Technology	4	4	50	50	100
	26CsCmaP314	Major Paper 4 (Practical)	Lab on Mobile Technologies and Full Stack Development	4	2	25	25	50
Major Electives (4)	26CsCmaP321	Major Elective 1 (Theory)	Machine Learning and Deep Learning	2	2	25	25	50
	26CsCmaP322	Major Elective 1 (Practical)	Lab on Machine Learning and Deep Learning	4	2	25	25	50
	OR							
	26CsCmaP323	Major Elective 2 (Theory)	Business Intelligence	4	4	50	50	100
RP (4)	26CsCmaP304	RP	Research Project I	8	4	50	50	100
Total				28	22	275	275	550
Extra Credit Course	26CpCysP301	Non-CGPA Course	Cyber Security I	2	2	-	50	50
	26CpSkdP302	Non-CGPA Course	Skill Development I	2	2	-	50	50
	26CpPolP303	Non-CGPA Course	Introduction to Indian Constitution	2	2	-	50	50

M. Sc. (CA) Part II Semester IV

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4 + 4)	26CsCmaP411	Major Project 1	Industrial / Institutional Training	32	16	200	200	400
RP (4)	26CsCmaP404	RP	Research Project II	12	6	75	75	150
Total				22	22	275	275	550
Extra Credit Course	26CpCysP401	Non-CGPA Course	Cyber Security II	2	2	-	50	50
	26CpSkdP402	Non-CGPA Course	Skill Development II	2	2	-	50	50

OJT: On Job Training; Internship/Apprenticeship; **FP:** Field Project; **RM:** Research Methodology; **RP:** Research Project