

*Progressive Education Society's*  
**Modern College of Arts, Science and Commerce (Autonomous),**

**Shivajinagar, Pune 5**

**(An Autonomous College Affiliated to SavitribaiPhule Pune University)**

## **Framework of Syllabus**

**For**

**M.Sc. (Computer Science)**

(Based on NEP 2020 framework)

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

### Semester 1 (First Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
<b>Major Mandatory (4 + 4+4+2)</b>	23CsCmpP111	Major Paper 1 (Theory)	Programming Languages (Python)	4	4	50	50	100
	23CsCmpP112	Major Paper 2 (Theory)	Design and Analysis of Algorithm	4	4	50	50	100
	23CsCmpP113	Major Paper 3 (Theory)	Advanced Database Techniques	4	4	50	50	100
	23CsCmpP114	Major Paper 4 (Practical)	Lab Course on 23CsCmpP111 & 23CsCmpP113	4	2	25	25	50
<b>Major Electives (4)</b>	23CsCmpP121	Major Elective 1 (Theory+ Practical)	DOT NET ( T + P)	2	4	50	50	100
				4				
	23CsCmpP122	Major Elective 2 (Theory + Practical)	Software Development Engineering Testing	2				
				4				
<b>RM (4)</b>	23CsCopP131	RM Section 1	Research Methodology & Artificial Intelligence	2	4	50	50	100
		RM Section 2		2				
<b>OJT(4),</b>		–	–	–	–	–	–	–
<b>Total</b>				24	22	275	275	550

### Semester 2 (First Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
<b>Major Mandatory (4 + 4+4+2)</b>	23CsCmpP211	Major Paper 1 (Theory)	Advanced Operating Systems (UNIX/Linux Internals)	4	4	50	50	100
	23CsCmpP212	Major Paper 2 (Theory)	Mobile Computing (Android)	4	4	50	50	100
	23CsCmpP213	Major Paper 3 (Theory)	Data Mining and Data Warehousing	4	4	50	50	100
	23CsCmpP214	Major Paper 4 (Practical)	Lab Course on 23CsCmpP211 & 23CsCmpP212	4	2	25	25	50
<b>Major Electives (4)</b>	23CsCmpP221	Major Elective 1 (Theory)	Information System Security	4	4	50	50	100
	23CsCmpP222	Major Elective 2 (Theory)	Software Project Management	4				
<b>RM (4)</b>		–	–	–	–	–	–	–
		–	–	–				
<b>OJT(4),</b>	23CsCmpP204	OJT	On Job Training-Project	8	4	50	50	100
<b>Total</b>				28	22	275	275	550

### Semester 3 (Second Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
<b>Major Mandatory (4 + 4+4+2)</b>	23CsCmpP311	Major Paper 1 (Theory)	Cloud Computing	4	4	50	50	100
	23CsCmpP312	Major Paper 2 (Theory)	UI/UX	4	4	50	50	100
	23CsCmpP313	Major Paper 3 (Theory)	Machine Learning	4	4	50	50	100
	23CsCmpP314	Major Paper 4 (Practical)	Lab Course on 23CsCmpP311 & 23CsCmpP312	4	2	25	25	50
<b>Major Electives (4)</b>	23CsCmpP321	Major Elective 1 (Theory)	Block chain Technology	4	4	50	50	100
	23CsCmpP322	Major Elective 2 (Theory)	Soft Computing	4				
<b>RP (4)</b>	23CsCmpP304	RP	Research Project I	8	4	50	50	100
<b>OJT(4),</b>								
<b>Total</b>				28	22	275	275	550

### Semester 4 (Second Year)

Course Type	Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
<b>Major Mandatory (4 + 4+4+2)</b>	23CsCmpP411	Major Paper	Industrial Training	6	12	150	150	300
<b>Major Electives (4)</b>	23CsCmpP421	Major Elective 1 (Theory)	Deep Learning	4	4	50	50	100
	23CsCmpP421	Major Elective 2 (Theory)	Big Data Analytics	4				
<b>RP (4)</b>	23CsCmpP404	RP	Research Project II	12	6	75	75	150
<b>OJT(4),</b>								
<b>Total</b>				22	22	275	275	550

OJT : On Job Training: Internship/Apprenticeship

FP : Field Project

RM: Research Methodology

RP: Research Project