

*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**

## **Post Graduate Diploma in Data 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>	23CsCdsP111	Major Paper 1 (Theory)	Python for Data Science	4	4	50	50	100
	23CsCdsP112	Major Paper 2 (Theory)	Mathematics and Statistics for Data Science	4	4	50	50	100
	23CsCdsP113	Major Paper 3 (Theory)	Big Data Analytics	4	4	50	50	100
	23CsCdsP114	Major Paper 4 (Practical)	Lab Course on 23CsCdsP1101 & 23CsCdsP1103	4	2	25	25	50
<b>Major Electives (4)</b>	23CsCdsP121	Major Elective 1 (Theory)	Software Development Engineering in Testing	4	4	50	50	100
		Major Elective 2 (Theory)	Advanced Database Concepts	4				
	23CsCdsP122	RM Section 1	Research Methodology Basics & Research in Artificial Intelligence	2	4	50	50	100
	RM Section 2	2						
<b>RM (4)</b>								
<b>OJT(4),</b>		–	–	–	–	–	–	–
<b>Total</b>				24	22	175	175	350

## 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>	23CsCdsP211	Major Paper 1 (Theory)	Machine Learning	4	4	50	50	100
	23CsCdsP212	Major Paper 2 (Theory)	Business Intelligence	4	4	50	50	100
	23CsCdsP213	Major Paper 3 (Theory)	Data Analytics	4	4	50	50	100
	23CsCdsP214	Major Paper 4 (Practical/Theory)	Lab Course on 23CsCdsP2101	2	2	25	25	50
<b>Major Electives (4)</b>	23CsCdsP221	Major Elective 1 (Theory)	Deep learning	4	4	50	50	100
	23CsCdsP222	Major Elective 2 (Theory)	Software Project Management	4				
<b>RM (4)</b>		–	–	–	–	–	–	–
	23CsCdsP204	–	–	–				
<b>OJT(4),</b>	23CsCdsP211	OJT	On Job Training	8	4	50	50	100
<b>Total</b>				26	22	175	175	350

OJT : On Job Training: Internship/Apprenticeship

FP : Field Project

RM: Research Methodology

RP: Research Project