

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

M.Sc. (Computer Science)

(Based on NEP 2020 framework)
(To be implemented from the Academic Year 2026-27)

M. Sc. Part I Semester I

| Course Type | Course Code | Course | Course / Paper Title | Hours / Week | Credit | CIA | ESE | Total |
|------------------------------------|-------------|------------------------------|---|--------------|-----------|------------|------------|------------|
| Major Mandatory (4 + 4+4+2) | 26CsCmpP111 | Major Paper 1 (Theory) | Design and Analysis of Algorithm | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP112 | Major Paper 2 (Theory) | Artificial Intelligence | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP113 | Major Paper 3 (Theory) | Advanced Database Concepts | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP114 | Major Paper 4 (Theory) | Data Mining and Data Engineering | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP115 | Major Paper 5 (Practical) | Lab Course on Advanced Database Concepts | 4 | 2 | 25 | 25 | 50 |
| | 26CsCmpP116 | Major Paper 6 (Practical) | Lab Course on Artificial Intelligence and Advanced Python | 4 | 2 | 25 | 25 | 50 |
| | 26CsCmpP117 | Major Paper 7 (Practical) | Project on Emerging Trends | 4 | 2 | 25 | 25 | 50 |
| Major Electives (4) | 26CsCmpP121 | Major Elective 1 (Theory) | Software Testing and Quality Assurance | 4 | 4 | 50 | 50 | 100 |
| | 26CsCmpP122 | Major Elective 2 (Theory) | DOT NET | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP123 | Major Elective 2 (Practical) | Lab Course on DOT NET | 4 | 2 | 25 | 25 | 50 |
| RM (4) | 26CsCopP131 | RM Section 1 | Research Methodology and Research Using Artificial Intelligence | 2 | 4 | 50 | 50 | 100 |
| | | RM Section 2 | | 2 | | | | |
| Total | | | | 30 | 22 | 275 | 275 | 550 |
| Extra Credit Course | 26CpHrtP201 | Non-CGPA Course | Human Rights I | 1 | 1 | - | 25 | 25 |

M. Sc. Part I Semester II

| Course Type | Code | Course | Course / Paper Title | Hours / Week | Credit | CIA | ESE | Total |
|--|-------------|---------------------------------|--|--------------|-----------|------------|------------|------------|
| Major Mandatory (4 + 4+4+2) | 26CsCmpP211 | Major Paper 1 (Theory) | UNIX Internals | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP212 | Major Paper 2 (Theory) | Machine Learning | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP213 | Major Paper 3 (Theory) | Cloud Computing | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP214 | Major Paper 4 (Theory) | Full Stack Development I (MERN/MEAN) | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP215 | Major Paper 4 (Practical) | Lab Course on Machine Learning & Cloud Computing | 4 | 2 | 25 | 25 | 50 |
| | 26CsCmpP216 | Major Paper 4 (Practical) | Lab Course on Advanced JavaScript | 4 | 2 | 25 | 25 | 50 |
| | 26CsCmpP217 | Major Paper 4 (Practical) | Lab Course on Full Stack Development I (MERN/MEAN) | 4 | 2 | 25 | 25 | 50 |
| Major Electives (4) | 26CsCmpP221 | Major Elective 1 (Theory) | Information System Security | 4 | 4 | 50 | 50 | 100 |
| | 26CsCmpP222 | Major Elective 2 (Theory) | Agile Methodology and Design Thinking | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP223 | Major Elective 2 (Practical) | Lab Course on Agile Methodology and Design Thinking | 4 | 2 | 25 | 25 | 50 |
| OJT(4) | 26CsCmpP204 | OJT | On Job Training | 8 | 4 | 50 | 50 | 100 |
| Total | | | | 34 | 22 | 275 | 275 | 550 |
| Extra Credit Course | 26CpHrtP201 | Non-CGPA Course | Human Rights II | 1 | 1 | - | 25 | 25 |

M. Sc. Part II Semester III

| Course Type | Code | Course | Course / Paper Title | Hours / Week | Credit | CIA | ESE | Total |
|------------------------------------|-------------|---------------------------|---|--------------|-----------|------------|------------|------------|
| Major Mandatory (4 + 4+4+2) | 26CsCmpP311 | Major Paper 1 (Theory) | Business Intelligence | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP312 | Major Paper 2 (Theory) | Deep learning | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP313 | Major Paper 3 (Theory) | Blockchain Technology | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP314 | Major Paper 4 (Theory) | Full Stack Development II (MERN/MEAN) | 2 | 2 | 25 | 25 | 50 |
| | 26CsCmpP315 | Major Paper 5 (Practical) | Lab Course on Deep Learning | 4 | 2 | 25 | 25 | 50 |
| | 26CsCmpP316 | Major Paper 6 (Practical) | Lab Course on DevOps | 4 | 2 | 25 | 25 | 50 |
| | 26CsCmpP317 | Major Paper 7 (Practical) | Lab Course on Full Stack Development II (MERN/MEAN) | 4 | 2 | 25 | 25 | 50 |
| Major Electives (4) | 26CsCmpP321 | Major Elective 1 (Theory) | Natural Language Processing | 4 | 4 | 50 | 50 | 100 |
| | 26CsCmpP322 | Major Elective 2 (Theory) | Emerging Trends in Computer Science | 4 | 4 | 50 | 50 | 100 |
| RP (4) | 26CsCmpP304 | RP | Research Project I | 8 | 4 | 50 | 50 | 100 |
| Total | | | | 32 | 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. Part II Semester IV

| Course Type | Code | Course | Course / Paper Title | Hours / Week | Credit | CIA | ESE | Total |
|---|-------------|-----------------|---|--------------|-----------|------------|------------|------------|
| Major Mandatory (4 + 4 + 4 + 4) | 26CsCmpP411 | Major Paper | Industrial / Institutional Training (Project) | 32 | 16 | 200 | 200 | 400 |
| RP (6) | 26CsCmpP404 | RP | Research Project II | 12 | 6 | 75 | 75 | 150 |
| Total | | | | 44 | 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