Savitribai Phule Pune University

(Formerly University of Pune)

Two Year Degree Program in Computer Science

(Faculty of Science & Technology)

Revised Syllabi for

M.Sc. (Computer Science) Part-I

(For Colleges Affiliated to Savitribai Phule Pune University)

Choice Based Credit System Syllabus

To be implemented from Academic Year 2019-2020

<div align="center">**Title of the Course: M.Sc. (Computer Science)**</div>

Preamble:

This syllabus is the extension of the existing syllabus which is currently being taught to M.Sc. (Computer Science) of Savitribai Phule Pune University for the last few years, but modified to be placed within the credit based system to be implemented from the academic year 2019-2020. However, there are few changes incorporated in the existing syllabus.

It is believed that the proposed changes as part of the credit based system will bring a qualitative change in the way M.Sc. (Computer Science) is taught, which will offer a more enriched learning experience. It aims to provide technology-oriented students with the knowledge and ability to develop creative solutions, and better understand the effects of future developments of computer systems and technology on people and society.

The syllabus is about developing skills to learn new technology, grasping the concepts and issues behind its use and the use of computers.

Course Structure:

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment		
					IA	UE	Total
I Year Sem-I	Core Compulsory Theory Paper	CSUT111	Paradigm of Programming Language	4	30	70	100
		CSUT112	Design and Analysis of Algorithms	4	30	70	100
		CSUT113	Database Technologies	4	30	70	100
	Choice Based Optional Paper	CSDT114A	Cloud computing	2	15	35	50
		CSDP114A	Cloud Computing Practical	2	15	35	50
		OR					
		CSDT114B	Artificial Intelligence	2	15	35	50
		CSDP114B	Artificial Intelligence Practical	2	15	35	50
		OR					
		CSDT114C	Web Services	2	15	35	50
		CSDP114C	Web Services Practical	2	15	35	50
	Core Compulsory Practical Paper	CSUP115	PPL and Database Technologies Practical	4	30	70	100

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment		
					IA	UE	Total
I Year Sem-II	Core Compulsory Theory Paper	CSUT121	Advanced Operating System	4	30	70	100
		CSUT122	Mobile Technologies	4	30	70	100
		CSUT123	Software Project Management	4	30	70	100
	Choice Based Optional Paper	CSDT124A	Project	2	15	35	50
		CSDP124A	Project related Assignments	2	15	35	50
		OR					
		CSDT124B	Human Computer Interaction	2	15	35	50
		CSDP124B	Human Computer Interaction Practical	2	15	35	50
		OR					
		CSDT124C	Soft Computing	2	15	35	50
		CSDP124C	Soft Computing Practical	2	15	35	50
	Core Compulsory Practical Paper	CSUP125	Practical on Advanced OS & Mobile Technologies	4	30	70	100

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment		
					IA	UE	Total
II Year Sem-III	Core Compulsory Theory Paper	CSUT231	Software Architecture and Design Pattern	4	30	70	100
		CSUT232	Machine Learning	4	30	70	100
		CSUT233	Evolutionary Algorithms	4	30	70	100
	Choice Based Optional Paper	CSDT234A	Big Data	2	15	35	50
		CSDP234A	Big Data Practical	2	15	35	50
			OR				
		CSDT234B	Web Analytics	2	15	35	50
		CSDP234B	Web Analytics Practical	2	15	35	50
			OR				
		CSDT234C	Project	2	15	35	50
		CSDP234C	Project related Assignments	2	15	35	50
	Core Compulsory Practical Paper	CSUP235	Practical on Software Architecture and Design Pattern and Machine Learning	4	30	70	100

Year/ Sem	Subject	Paper	Title of Paper	Credit	% of Assessment		
					IA	UE	Total
II Year Sem-IV	Core	CSUIT241	Industrial Training /Institutional project	20			

IA :- Internal Assessment, UE :- University Examination

Equivalence of Previous Syllabus:

Old Subject	New Subject
Principles of Programming Languages	Paradigm of Programming Language
Advanced Networking	No Equivalence
Distributed Database Concepts	Database Technologies
Design and Analysis of Algorithms	Design and Analysis of Algorithms
Network Programming	No Equivalence
Digital Image Processing	No Equivalence
Advanced Operating Systems	Advanced Operating Systems
Data Mining and Data Warehousing	Big Data
Project	Project
Programming With DOT NET	No Equivalence
Artificial Intelligence	Artificial Intelligence
Advance Design and Analysis of Algorithms	Evolutionary Algorithms
Software Metrics & Project Management	Software Project Management
Mobile Computing	Mobile Technologies
Soft Computing	Soft Computing
Project	Project
Web Services	Web Services
Database and System Administrator	No Equivalence
Functional Programming	No Equivalence
Business Intelligence	No Equivalence
Industrial Training /Institutional project	Industrial Training /Institutional project
Parallel Computing	No Equivalence
Embedded System	No Equivalence
Software Quality Assurance	No Equivalence
Modeling and Simulation	No Equivalence

Practical paper implementation strategy:

Subject	Platform
PPL	Linux
Database Technologies	Linux
AI	Linux
Web Services	Linux/Windows
Cloud Computing	Linux

Note : Any version of Linux (Fedora/ Redhat/ Ubuntu etc) can be used as per your comfort.