

**Progressive Education Society's
Modern College of Arts, Science and Commerce (Autonomous),
Ganeshkhind, Pune 411016**



Two Year Degree Program in Computer Science

(Faculty of Science & Technology)

Syllabi for M.Sc. (Computer Science) Part-I

Choice Based Credit System Syllabus

To be implemented from Academic Year 2022-2023

Title of the Course: M.Sc. (Computer Science)

Preamble: This syllabus is credit-based system to be implemented from the academic year 2022-2023. 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.

Duration: 2 years

Eligibility:

- Bachelor of Computer science (B.C.S) with 50% marks for Unreserved category and 45% marks for Reserved Category
- BSc (Computer Science) with 50% marks
- Bachelor of Engineering in Computer Science/ Information Technology/Electronics/ Telecommunication with 50% marks
- BSc. In IT or BSC in entire Computer science with 50% marks
- B. Voc in software Development/Information Technology with 50% marks
- BSc. Degree with Computer Science as Principal subject or Computer Science as one of the subject at T.Y.BSc. Level for student with general BSC with 50%

Course Structure:

**Modern College of Arts, Science and Commerce (Autonomous), Ganeshkhind, Pune 411016
M.Sc. (Computer Science) Year I Semester I**

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment			
					IA	CE	Total	
I Year Sem-I	Core Compulsory Theory Paper	22-CSUT111	Paradigm of Programming Language	4	30	70	100	
		22-CSUT112	Design and Analysis of Algorithms	4	30	70	100	
		22-CSUT113	Database Technologies	4	30	70	100	
	Choice Based Optional Paper	22-CSDT114A	Cloud computing	2	15	35	50	
		22-CSDP114A	Cloud Computing Practical	2	15	35	50	
		OR						
		22- CSDT114B	Artificial Intelligence	2	15	35	50	
		22-CSDP114B	Artificial Intelligence Practical	2	15	35	50	
		OR						
		22- CSDT114C	Web Services	2	15	35	50	
		22- CSDP114C	Web Services Practical	2	15	35	50	
Code Compulsory Practical Paper	22- CSUP115	PPL and Database Technologies Practical	4	30	70	100		

Extra Credit (Mandatory)			
Course Type	Course Code	Course Name	Credit
Extra Credit Theory Paper	22-191	Human Rights-I	1
	22-192	Introduction to Cyber Security/ Information Security-I	1

IA :- Internal Assessment, CE :- College Examination

Modern College of Arts, Science and Commerce (Autonomous), Ganeshkhind, Pune 411016
M.Sc. (Computer Science) Year I Semester II

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment			
					IA	CE	Total	
I Year Sem-II	Core Compulsory Theory Paper	22-CSUT121	Advanced Operating System	4	30	70	100	
		22-CSUT122	Mobile Technologies	4	30	70	100	
		22-CSUT123	Software Project Management	4	30	70	100	
	Choice Based Optional Paper	22-CSDT124A	Project	2	15	35	50	
		22-CSDP124A	Project related Assignments	2	15	35	50	
		OR						
		22- CSDT124B	Human Computer Interaction	2	15	35	50	
		22-CSDP124B	Human Computer Interaction Practical	2	15	35	50	
		OR						
		22- CSDT124C	Soft Computing	2	15	35	50	
		22- CSDP124C	Soft Computing Practical	2	15	35	50	
Core Compulsory Practical Paper	22- CSUP115	Practical on Advanced OS & Mobile Technologies	4	30	70	100		

Extra Credit (Mandatory)			
Course Type	Course Code	Course Name	Credit
Extra Credit Theory Paper	22-291	Human Rights-II	1
	22-292	Introduction to Cyber Security/ Information security -II	1

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Modern College of Arts, Science and Commerce (Autonomous), Ganeshkhind, Pune 411016
M.Sc. (Computer Science) Year II Semester III

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment			
					IA	CE	Total	
II Year Sem-III	Core Compulsory Theory Paper	23-CSUT231	Software Architecture and Design Pattern	4	30	70	100	
		23-CSUT232	Machine Learning	4	30	70	100	
		23-CSUT233	Web Frameworks	4	30	70	100	
	Choice Based Optional Paper	23-CSDT234A	Big Data Analytics	2	15	35	50	
		23-CSDP234A	Big Data Analytics Practical	2	15	35	50	
		OR						
		23- CSDT234B	Web Analytics	2	15	35	50	
		23-CSDP234B	Web Analytics Practical	2	15	35	50	
		OR						
		23- CSDT234C	Project	2	15	35	50	
		23- CSDP234C	Project related Assignments	2	15	35	50	
Core compulsory Practical Paper	23- CSUP235	Practical on CSUT231, CSUT232 and CSUT233	4	30	70	100		

Extra Credit (Mandatory)			
Course Type	Course Code	Course Name	Credit
Extra Credit Theory Paper	23-392	Introduction to Cyber Security/ Information security-III	1
	23-394	Skill Development-I	2
	23-395	Introduction to Constitution	2

**Modern College of Arts, Science and Commerce (Autonomous), Ganeshkhind, Pune 411016
M.Sc. (Computer Science) Year II Semester IV**

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment		
					IA	CE	Total
II Year Sem-IV	Core	23-CSUIT241	Industrial Training /Institutional project	20	150	350	500

Extra Credit (Mandatory)			
Course Type	Course Code	Course Name	Credit
Extra Credit Theory Paper	23-492	Introduction to Cyber Security/ Information security-IV	1
	23-494	Skill Development-II	2

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