

**JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY**  
**DEPARTMENT OF COMPUTER APPLICATIONS**  
**M.SC. COMPUTER SCIENCE**

**Course Curriculum**

Semester 1								
				Credit Structure				
S. No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	25M41CA111	PCC	Data Structures and Basic Algorithms	3	0	0	3	3
2	25M45CA111	PCC	Data Structures and Basic Algorithms Lab	0	0	1	1	2
3	25M11MA111	PCC	Discrete Mathematics	3	0	0	3	3
4	25M41CA112	PCC	Operating Systems & System Programming	3	0	0	3	3
5	25M45CA112	PCC	Operating Systems & System Programming lab	0	0	1	1	2
6	25M41CA113	PCC	Python Programming	3	0	0	3	3
7	25M45CA113	PCC	Python Programming Lab	0	0	1	1	2
8	25M21CA111	PEC	Elective-I	3	0	0	3	3
9	25M21HS111	SEC	Soft Skills	2	0	0	2	2
10	25M49CA111	Qualifying	Bridge Course (C-Language)	0	0	0	0	2
Total credits							20	25

Semester 2								
				Credit Structure				
S. No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	25MSCXXX	PCC	Computer Networks & Security	3	0	0	3	3
2	25MSCXXX	PCC	Computer Networks & Security Lab	0	0	1	1	2
3	25MSCXXX	PCC	Database Systems & Advanced SQL	3	0	0	3	3
4	25MSCXXX	PCC	Database Systems & Advanced SQL Lab	0	0	1	1	2
5	25MSCXXX	PCC	Software Engineering & DevOps	3	0	0	3	3
6	25MSCXXX	PCC	Software Engineering & DevOps Lab	0	0	1	1	2
7	25MSCXXX	PCC	OOP's Programming with Java	3	0	0	0	3
8	25MSCXXX	PCC	OOP's Programming with Java Lab	0	0	1	2	2
9	25MSCXXX	PEC	Elective-II	3	0	0	3	3
10	25MSCXXX	HSC	HSC-I	2	0	0	2	2
Total credits							21	25

Semester 3								
				Credit Structure				
S. No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	25MSCXXX	PCC	Algorithm Design & Problem Solving Techniques	3	0	0	3	3
2	25MSCXXX	PCC	Algorithm Design & Problem Solving Techniques Lab	0	0	1	1	2
3	25MSCXXX	PCC	Web Technologies & Full Stack Development	3	0	0	3	3
4	25MSCXXX	PCC	Web Technologies & Full Stack Development Lab	0	0	1	1	2
5	25MSCXXX	PCC	Data Exploration and Visualization	3	0	0	3	3
6	25MSCXXX	PCC	Data Exploration and Visualization Lab	0	0	1	1	2
7	25MSCXXX	PEC	Elective-III	3	0	0	3	3
8	25MSCXXX	PEC	Elective-IV	3	0	0	3	3
9	25MSCXXX	OE	Open Elective	3	0	0	3	3
10	25MSCXXX	OE	Open Elective Lab	0	0	1	1	2
Total credits							22	26

Semester 4								
				Credit Structure				
S. No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	25MSCXXX	Dissertation/Major Project	Term Paper (5)	0	0	5	5	5
2	25MSCXXX		Dissertation (12)	0	0	12	12	12
Total credits							17	17

Sr. No.	Course Code & Definitions	Credit Distributions
1	PCC: Professional Core Course	43
2	PEC: Professional Elective Course	12
3	SEC: Skill Enhancement Course	2
4	HSC: Humanities and Social Sciences Course	2
5	OE: Open Elective	4
6	Dissertation/ Major Project	17
Total		80

<b>Elective-I</b>	<b>L-T-P</b>	<b>Credits</b>
Cloud Computing	3-0-0	3
AI Fundamentals	3-0-0	3
Computer Architecture	3-0-0	3
<b>Elective-II</b>	<b>L-T-P</b>	<b>Credits</b>
Machine Learning	3-0-0	3
Distributed Systems	3-0-0	3
<b>Elective-III</b>	<b>L-T-P</b>	<b>Credits</b>
Blockchain & IOT	3-0-0	3
NLP	3-0-0	3
Big Data Analytics	3-0-0	3
Theory of Computation	3-0-0	3
<b>Elective-IV</b>	<b>L-T-P</b>	<b>Credits</b>
Computer Graphics and Vision	3-0-0	3
Cybersecurity	3-0-0	3
Data Mining & Data Warehousing	3-0-0	3
Parallel and High Performance Computing	3-0-0	3

<b>Open Electives</b>	<b>L-T-P</b>	<b>Credits</b>
Mathematical and Statistical Foundations for Computation Intelligence	3-0-0	4
Quantum Computing	3-0-0	4
Speech Processing and Recognition	3-0-0	4
Edge and Federated Learning	3-0-0	4