



RAMAKRISHNA MISSION VIDYAMANDIRA

Department of Computer Science and Electronics

Syllabus for B.Sc. Computer Science

SEMESTER- I

Course Code	Course Title	Credits	Marks	No. of Hours/Week		
				L	T	P
100-level Course	Major Course	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
1CMSCO1	Computer Fundamentals	3	75	3		
	C Programming Laboratory	1	25			2
100-level Course	Minor Course (For other Departments)	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
1CMSCO1	Computer Fundamentals	3	75	3		
	C Programming Laboratory	1	25			2
	Skill Enhancement Course (SEC)	Continuous Assessment: 50 Practical: 25				
1CMSSEC1	Digital Electronics	2	50	2		
	Digital Electronics Laboratory	1	25			2
	Value Added Course (VAC)	Continuous Assessment: 50 (1CMSVAC1) End Semester Examination: 50 (1INSVAC1)				
1CMSVAC1	Introduction to Python	2	50			4
1INSVAC1	ICSH	2	50	2		
	Ability Enhancement Course (AEC)	End Semester Examination: 50				
1INSAEC1	(Provided by Institute)	2	50	2		
	Multidisciplinary Course (Provided by Institute)	End Semester Examination: 50				
1INSMDC1	Environmental Science	3	50	3		
	Art and Culture					



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SEMESTER- II

Course Code	Course Title	Credits	Marks	No. of Hours/Week		
				L	T	P
100-level Course	Major Course	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
2CMSCO1	Data Structure	3	75	3		
	Data Structure Laboratory	1	25			2
100-level Course	Minor Course (For other Departments)	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
2CMSCO1	Data Structure	3	75	3		
	Data Structure Laboratory	1	25			2
	Skill Enhancement Course (SEC)	Continuous Assessment: 50 Practical: 25				
2CMSSEC1	Computer Aided Data Visualization	2	50	2		
	Computer Aided Data Visualization Laboratory	1	25			2
	Value Added Course (VAC)	Continuous Assessment: 50 (1CMSVAC1) End Semester Examination: 50 (1INSVAC1)				
2CMSVAC1	Object Oriented Programming using JAVA	2	50			4
2INSVAC1	ICSH	2	50	2		
	Ability Enhancement Course (AEC)	End Semester Examination: 50				
2INSAEC1	(Provided by Institute)	2	50	2		
	Multidisciplinary Course (Provided by Institute)	End Semester Examination: 50				
2INSMDC1	Environmental Science	3	50	3		
	Art and Culture					



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SEMESTER– III

Course Code	Course Title	Credits	Marks	No. of Hours/Week		
				L	T	P
200-level Course	Major Course	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
3CMSMJC1	Web Programming	3	75	3		
	Web Programming Laboratory	1	25			2
3CMSMJC2	Microprocessor and Computer Organization	3	75	3		
	Microprocessor and Computer Organization Laboratory	1	25			2
200-level Course	Minor Course (For other Departments)	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
3CMSMIC1	Computer Fundamentals and C Programming	3	75	3		
	Computer Fundamentals and C Programming Laboratory	1	25			2
	Skill Enhancement Course (SEC)	Continuous Assessment: 50 Practical: 25				
3CMSSEC1	Numerical Methods	2	50	2		
	Numerical Methods Laboratory	1	25			2
	Ability Enhancement Course (AEC)	End Semester Examination: 50				
3INSAEC1	(Provided by Institute)	2	50	2		
	Multidisciplinary Course (Provided by Institute)	End Semester Examination: 50				
3INSMDC1	Environmental Science	3	50	3		
	Art and Culture					



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SEMESTER– IV

Course Code	Course Title	Credits	Marks	No. of Hours/Week		
				L	T	P
200-level Course	Major Course	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
4CMSMJC1	Design and Analysis of Algorithms	3	75	3		
	Design and Analysis of Algorithms Laboratory	1	25			2
4CMSMJC2	Operating Systems	3	75	3		
	Operating Systems Laboratory	1	25			2
4CMSMJC3	Database Management Systems	3	75	3		
	Database Management Systems Laboratory	1	25			2
4CMSMJC4	Computational Mathematics	3	75	3		
	Computational Mathematics Tutorial	1	25		2	
200-level Course	Minor Course (For other Departments)	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
4CMSMIC1	Digital Electronics	3	75	3		
	Digital Electronics Laboratory	1	25			2
	Ability Enhancement Course (AEC)	End Semester Examination: 50				
4INSAEC1	(Provided by Institute)	2	50	2		



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SEMESTER- V

Course Code	Course Title	Credits	Marks	No. of Hours/Week		
				L	T	P
300-level Course	Major Course	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
5CMSMJC1	Mathematics for Artificial Intelligence	3	75	3		
	Mathematics for Artificial Intelligence Tutorial	1	25			2
5CMSMJC2	Software Engineering	3	75	3		
	Software Engineering Laboratory	1	25			2
5CMSMJC3	Computer Networks	3	75	3		
	Computer Networks Laboratory	1	25			2
5CMSMJC4	Formal Language and Automata Theory	3	75	3		
	Formal Language and Automata Theory Tutorial	1	25		2	
200-level Course	Minor Course (For other Departments)	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
5CMSMIC1	Web Programming	3	75	3		
	Web Programming Laboratory	1	25			2
5CMSSUM1	Summer Internship					



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SEMESTER- VI

Course Code	Course Title	Credits	Marks	No. of Hours/Week		
				L	T	P
300-level Course	Major Course	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
6CMSMJC1	Artificial Intelligence	3	75	3		
	Artificial Intelligence Laboratory	1	25			2
6CMSMJC2	Machine Learning	3	75	3		
	Machine Learning Laboratory	1	25			2
6CMSMJC3	Introduction to High Performance Computing	3	75	3		
	Introduction to High Performance Computing Laboratory	1	25			2
6CMSMJC4	Compiler Design	3	75	3		
	Compiler Design Laboratory	1	25			2
200-level Course	Minor Course (For other Departments)	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
6CMSMIC1	Digital Electronics	3	75	3		
	Digital Electronics Laboratory	1	25			2



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SEMESTER– VII

Course Code	Course Title	Credits	Marks	No. of Hours/Week		
				L	T	P
400-level Course	Major Course	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
7CMSMJC1	Internet of Things	3	75	3		
	Internet of Things Laboratory	1	25			2
7CMSMJC2	Advanced Algorithms and Data Structures	3	75	3		
	Advanced Algorithms and Data Structures Laboratory	1	25			2
7CMSMJC3	Introduction to Blockchain Technology	3	75	3		
	Introduction to Blockchain Technology Tutorial	1	25		2	
7CMSMJC4	Elective 1	3	75	3		
	Elective 1 Laboratory	1	25			2
300-level Course	Minor Course (For other Departments)	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
7CMSMIC1	Web Programming	3	75	3		
	Web Programming Laboratory	1	25			2

List of Elective 1:

1. Digital Image Processing
2. Natural Language Processing
3. Deep Learning
4. Computational Geometry



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SEMESTER- VIII

Course Code	Course Title	Credits	Marks	No. of Hours/Week		
				L	T	P
400-level Course	Major Course	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
8CMSMJC1	Elective 2	3	75	3		
	Elective 2 Laboratory	1	25			2
	Without Research (Reading Project/ Project/ Live MOOC Course)	No Need to Pursue with Research Paper (8CMSMJR1) Attendance: 10 Continuous Assessment: 40 End Semester Examination: 50				
8CMSMJP1	Project 1 (Reading Project)	4	100	3		2
8CMSMJP2	Project 2 (Project Work/ Industry Internship)	4	100	3		2
8CMSMJP3	Project 3 (Live MOOC Course)	4	100	3		2
	With Research Dissertation: 100 marks Presentation: 75 marks Viva-voce: 50 marks Research Methodology and Ethics: Th (50), P (25)	No Need to Pursue without Research Papers (8CMSMJP2, 8CMSMJP2, 8CMSMJP3)				
8CMSMJR1	Research	12	300	9		6
300-level Course	Minor Course (For other Departments)	Attendance: 5 Continuous Assessment: 20 End Semester Examination: 50 Practical: 25				
8CMSMIC1	Data Structures	3	75	3		
	Data Structures Laboratory	1	25			2

List of Elective 2:

1. Cloud Computing
2. Soft Computing
3. Computer Vision
4. Big Data Analytics