

ACADEMIC CURRICULA
UNDERGRADUATE/ INTEGRATED
POST GRADUATE DEGREE
PROGRAMMES

(With exit option of Diploma)

(Choice Based Flexible Credit System)

Regulations 2021

Volume – 1

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SRM
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

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(Deemed to be University u/s 3 of UGC Act, 1956)

Kattankulathur, Chengalpattu District 603203,

Tamil Nadu, India

23. B.Tech. in Computer Science and Engineering with Specialization in Computer Networking

23. (a) Mission of the Department

Mission Stmt – 1	<i>To impart knowledge in cutting edge Computer Science and Engineering technologies in par with industrial standards</i>
Mission Stmt – 2	<i>To collaborate with renowned academic institutions to uplift innovative research and development in Computer Science and Engineering and its allied fields to serve the needs of society</i>
Mission Stmt – 3	<i>To demonstrate strong communication skills and possess the ability to design computing systems individually as well as part of a multidisciplinary teams</i>
Mission Stmt – 4	<i>To instill societal , safety, cultural, environmental, and ethical responsibilities in all professional activities</i>
Mission Stmt – 5	<i>To Identify and address the Knowledge, Professional Skills, Professional Aptitude in the field of Networking</i>

23. (b) Program Educational Objectives (PEO)

PEO – 1	<i>Graduates will be able to perform in technical/managerial roles ranging from design, development, problem solving to production support in software industries and R&D sectors.</i>
PEO – 2	<i>Graduates will be able to successfully pursue higher education in reputed institutions.</i>
PEO – 3	<i>Graduates will have the ability to adapt, contribute and innovate new technologies and systems in the key domains of Computer Science and Engineering.</i>
PEO – 4	<i>Graduates will possess skills to design and maintain computer and communication systems.</i>
PEO – 5	<i>Graduates will have the ability to develop tools incorporating the skills acquired in computer networking and its related domains</i>

23. (c) Mission of the Department to Program Educational Objectives (PEO) Mapping

	Mission Stmt. - 1	Mission Stmt. - 2	Mission Stmt. - 3	Mission Stmt. - 4	Mission Stmt. - 5
PEO - 1	3	-	-	-	1
PEO - 2	-	-	2	-	-
PEO - 3	-	3	3	-	-
PEO - 4	-	-	-	2	3
PEO - 5	-	-	-	3	

3 – High Correlation, 2 – Medium Correlation, 1 – Low Correlation

23. (d) Mapping Program Educational Objectives (PEO) to Program Outcomes (PO)

	Program Outcomes (PO)												Program Specific Outcomes (PSO)		
	1	2	3	4	5	6	7	8	9	10	11	12	PSO-1	PSO-2	PSO-3
	Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern Tool Usage	The engineer and society	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning			
PEO - 1	3	-	-	1	-	2	-	3	2	3	-	-	-	-	2
PEO - 2	-	2	2	-	3	-	3	2	-	-	-	-	2	-	-
PEO - 3	-	3	3	2	-	-	-	-	-	2	-	3	-	2	-
PEO - 4	-	2	3	-	-	3	2	-	2	-	2	2	-	2	-
PEO - 5	-	-	-	-	-	3	-	-	3	3	3	3	-	-	3

3 – High Correlation, 2 – Medium Correlation, 1 – Low Correlation

PSO – Program Specific Outcomes (PSO)

PSO - 1	<i>To understand, analyze, design, and develop computing solutions by applying fundamental concepts of computer science and engineering.</i>
PSO - 2	<i>To apply computing principles, skills and practices to develop solutions using logical and reasoning skills, for real life problems.</i>
PSO - 3	<i>To identify and utilize hardware and software to develop network infrastructure for communications.</i>

23. (e) Program Structure: B.Tech. in Computer Science and Engineering with Specialization in Computer Networking

Humanities & Social Sciences including Management Courses (H)					
Course Code	Course Title	Hours / Week			
		L	T	P	C
21LEH101T	Communicative English	2	1	0	3
21LEH102T	Chinese	2	1	0	3
21LEH103T	French				
21LEH104T	German				
21LEH105T	Japanese				
21LEH106T	Korean				
21LEH107T	Spanish				
21LEH108T	Russian				
21GNH101J	Philosophy of Engineering	1	0	2	2
21PDH209T ¹	Social Engineering	2	0	0	2
21GNH401TA	Behavioral Psychology	2	1	0	3
Total Credits					13
Engineering Science Courses (S)					
Course Code	Course Title	Hours / Week			
		L	T	P	C
21EES101T	Electrical and Electronics Engineering	3	1	0	4
21MES101L ¹	Basic Civil and Mechanical Workshop	0	0	4	2
21MES102L ¹	Engineering Graphics and Design	0	0	4	2
21CSS101J	Programming for Problem Solving	3	0	2	4
21CSS201T	Computer Organization and Architecture	3	1	0	4
21DCS201P ¹	Design Thinking and Methodology	1	2	0	3
21CSS303T	Data Science	2	0	0	2
Total Credits					21
Professional Elective Courses (E) (Any 8 Courses)					
Course Code	Course Title	Hours / Week			
		L	T	P	C
21CSE253T	Internet of Things	2	1	0	3
21CSE273T	Distributed Operating Systems	2	1	0	3
21CSE274T	Pervasive Computing	2	1	0	3
21CSE306P ¹	Applied Generative AI	2	1	0	3
21CSE315P ¹	Data Orchestration and Management in Cloud Ecosystems	2	1	0	3
21CSE347T	Network Protocols and Programming	2	1	0	3
21CSE348T	Network Routing Algorithms	2	1	0	3
21CSE349T	Optical Networks	2	1	0	3
21CSE350T	Principles of Cloud Computing	2	1	0	3
21CSE357T	Distributed Computing	2	1	0	3
21CSE360TA	Parallel Computing and GPU Programming	2	1	0	3
21CSE364T	Data Centric Networking and System Design	2	1	0	3
21CSE402P ¹	Intelligent Systems for IoT Applications	2	1	0	3
21CSE456T	Software Defined Networks	2	1	0	3
21CSE457T	Service Oriented Architecture	2	1	0	3
21CSE458T	Wireless and Mobile Communication	2	1	0	3
21CSE459T	Wireless Sensor Networks	2	1	0	3
21CSE466T	Network Design and Management	2	1	0	3
21CSE450T	Network Security	2	1	0	3
Total Credits					24
Basic Science Courses (B)					
Course Code	Course Title	Hours / Week			
		L	T	P	C
21PYB102J	Semiconductor Physics and Computational Methods	3	1	2	5
21CYB101J	Chemistry	3	1	2	5
21MAB101T	Calculus and Linear Algebra	3	1	0	4
21MAB102T	Advanced Calculus and Complex Analysis	3	1	0	4
21MAB206T	Numerical Methods and Analysis	3	1	0	4
21MAB204T	Probability and Queueing Theory	3	1	0	4
21MAB302T	Discrete Mathematics	3	1	0	4
21BTB102T	Introduction to Computational Biology	2	0	0	2
Total Credits					32
Professional Core Courses (C)					
Course Code	Course Title	Hours / Week			
		L	T	P	C
21CSC101T	Object Oriented Design and Programming	2	1	0	3
21CSC201J	Data Structures and Algorithms	3	0	2	4
21CSC202J	Operating Systems	3	0	2	4
21CSC203P ¹	Advanced Programming Practice	3	1	0	4
21CSC204J	Design and Analysis of Algorithms	3	0	2	4
21CSC205P ¹	Database Management Systems	3	1	0	4
21CSC206T	Artificial Intelligence	2	1	0	3
21CSC301T	Formal Language and Automata	3	0	0	3
21CSC302J	Computer Networks	3	0	2	4
21CSC303J	Software Engineering and Project Management	2	0	2	3
21CSC311J	Wireless Networks	2	0	2	3
21CSC312J	Mobile Adhoc Networks	2	0	2	3
Total Credits					42
Open Elective Courses (O) (Any 3 courses)					
Course Code	Course Title	Hours / Week			
		L	T	P	C
21CSO351T	Web Programming	2	1	0	3
21CSO352T	Python Programming	2	1	0	3
21CSO353T	Mobile Application Development	2	1	0	3
21CSO354T	Data Analytics	2	1	0	3
Total Credits					09
Non Credit Courses (M)					
Course Code	Course Title	Hours / Week			
		L	T	P	C
21PDM101L ¹	Professional Skills and Practices	0	0	2	0
21PDM102L ¹	General Aptitude	0	0	2	
21PDM201L ¹	Verbal Reasoning	0	0	2	
21PDM202L ¹	Critical and Creative Thinking Skills	0	0	2	
21PDM301L ¹	Analytical and Logical Thinking Skills	0	0	2	
21PDM302L ¹	Employability Skills and Practices	0	0	2	
21CYM101T ¹	Environmental Science	1	0	0	0
21LEM101T ¹	Constitution of India	1	0	0	0

Semester – I					
Course Code	Course Title	Hours / Week			C
		L	T	P	
21LEH102T	Chinese	2	1	0	3
21LEH103T	French				
21LEH104T	German				
21LEH105T	Japanese				
21LEH106T	Korean				
21LEH107T	Spanish				
21LEH108T	Russian				
21GNH101J	Philosophy of Engineering	1	0	2	2
21MAB101T	Calculus and Linear Algebra	3	1	0	4
21CYB101J	Chemistry	3	1	2	5
21BTB102T	Introduction to Computational Biology	2	0	0	2
21CSS101J	Programming for Problem Solving	3	0	2	4
21MES101L ¹	Basic Civil and Mechanical Workshop	0	0	4	2
21PDM101L ¹	Professional Skills and Practices	0	0	2	0
21GNM101L ¹	Physical and Mental Health using Yoga	0	0	2	0
21GNM102L ¹	National Service Scheme				
21GNM103L ¹	National Cadet Corps				
21GNM104L ¹	National Sports Organization				
Total Credits 22					
Semester – II					
Course Code	Course Title	Hours / Week			C
		L	T	P	
21LEH101T	Communicative English	2	1	0	3
21MAB102T	Advanced Calculus and Complex Analysis	3	1	0	4
21PYB102J	Semiconductor Physics and Computational Methods	3	1	2	5
21MES102L ¹	Engineering Graphics and Design	0	0	4	2
21EES101T	Electrical and Electronics Engineering	3	1	0	4
21CSC101T	Object Oriented Design and Programming	2	1	0	3
21CYM101T ¹	Environmental Science	1	0	0	0
21PDM102L ¹	General Aptitude	0	0	2	0
21LEM101T ¹	Constitution of India	1	0	0	0
Total Credits 21					
Semester – III					
Course Code	Course Title	Hours / Week			C
		L	T	P	
21MAB206T	Numerical Methods and Analysis	3	1	0	4
21DCS201P ¹	Design Thinking and Methodology	1	2	0	3
21CSS201T	Computer Organization and Architecture	3	1	0	4
21CSC201J	Data Structures and Algorithms	3	0	2	4
21CSC202J	Operating Systems	3	0	2	4
21CSC203P ¹	Advanced Programming Practice	3	1	0	4
21LEM201T ¹	Professional Ethics	1	0	0	0
21PDM201L ¹	Verbal Reasoning	0	0	2	0
Total Credits 23					
Semester – IV					
Course Code	Course Title	Hours / Week			C
		L	T	P	
21MAB204T	Probability and Queueing Theory	3	1	0	4
21CSC204J	Design and Analysis of Algorithms	3	0	2	4
21CSC205P ¹	Database Management Systems	3	1	0	4
21CSC206T	Artificial Intelligence	2	1	0	3
E	Professional Elective-I				3
21PDH209T ¹	Social Engineering	2	0	0	2
21PDM202L ¹	Critical and Creative Thinking Skills	0	0	2	0
21LEM202T ¹	Universal Human Values-II: Understanding Harmony and Ethical Human Conduct	2	1	0	3
Total Credits 23					
Semester – V					
Course Code	Course Title	Hours / Week			C
		L	T	P	
21MAB302T	Discrete Mathematics	3	1	0	4
21CSC301T	Formal Language and Automata	3	0	0	3
21CSC302J	Computer Networks	3	0	2	4
21CSC311J	Wireless Networks	2	0	2	3
E	Professional Elective – II				3
O	Open Elective – I				3
21GNP301L ¹	Community Connect	0	0	2	1
21PDM301L ¹	Analytical and Logical Thinking Skills	0	0	2	0
21LEM301T ¹	Indian Art Form	1	0	0	0
Total Credits 21					
Semester – VI					
Course Code	Course Title	Hours / Week			C
		L	T	P	
21CSS303T	Data Science	2	0	0	2
21CSC303J	Software Engineering and Project Management	2	0	2	3
21CSC312J	Mobile Adhoc Networks	2	0	2	3
E	Professional Elective – III				3
E	Professional Elective – IV				3
O	Open Elective – II				3
21CSP302L ¹	Project	0	0	6	3
21CSP303T ¹	MOOC	3	0	0	3
21PDM302L ¹	Employability Skills and Practices	0	0	2	0