ACADEMIC CURRICULA

UNDERGRADUATE/ INTEGRATED POST GRADUATE DEGREE PROGRAMME

(With exit option of Diploma)

(Choice Based Flexible Credit System)

Regulations 2021

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

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

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

Kattankulathur, Chengalpattu District 603203,

Tamil Nadu, India

15. B.Tech.in Computer Science and Engineering

15. (a) Mission of the Department

Mission Stmt – 1	*To impart knowledge in cutting edge Computer Science and Engineering technologies in par with industrial standards.*
Mission Stmt – 2	*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*
Mission Stmt – 3	*To demonstrate strong communication skills and possess the ability to design computing systems individually as well as part of a multidisciplinary teams.*
Mission Stmt – 4	*To instill societal, safety, cultural, environmental, and ethical responsibilities in all professional activities*
Mission Stmt – 5	*To produce successful Computer Science and Engineering graduates with personal and professional responsibilities and commitment to lifelong learning*

15. (b) Program Educational Objectives (PEO)

PEO – 1	*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.*
PEO – 2	*Graduates will be able to successfully pursue higher education in reputed institutions.*
PEO – 3	*Graduates will have the ability to adapt, contribute and innovate new technologies and systems in the key domains of Computer Science and Engineering.*
PEO – 4	*Graduates will be ethically and socially responsible solution providers and entrepreneurs in Computer Science and other engineering disciplines.*
PEO – 5	*Graduates will possess the additional skills in core computer science discipline with knowledge of Hardware, Software, Programming and Logic & Reasoning.*

15. (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

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

	Program Outcomes (PO)											
	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*		
PEO – 2		*2*	*2*		*3*		*3*	*2*				
PEO – 3		*3*	*3*	*2*						*2*		*3*
PEO – 4		*2*	*3*			*3*	*2*		*2*		*2*	*2*
PEO – 5						*3*			*3*	*3*	*3*	*3*

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

15. (e) Program Structure: B.Tech. in Computer Science and Engineering

1. 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				
21GNH101J	Philosophy of Engineering	1	0	2	2
21PDH201T	Social Engineering	2	0	0	2
21GNH401T	Behavioral Psychology	2	1	0	3
	Total Credits				**13**

2. 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
21MAB201T	Transforms and Boundary Value Problems	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**

3. Engineering Science Courses (S)

Course Code	Course Title	Hours/ Week L	T	P	C
21MES101L	Basic Civil and Mechanical Workshop	0	0	4	2
21MES102L	Engineering Graphics and Design	0	0	4	2
21EES101T	Electrical and Electronics Engineering	3	1	0	4
21CSS101J	Programming for Problem Solving	3	0	2	4
21CSS201T	Computer Organization and Architecture	3	1	0	4
21DCS201P	Design Thinking and Methodology	1	0	4	3
21CSS303T	Data Science	2	0	0	2
	Total Credits				**21**

4. 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	Advanced Programming Practice	3	1	0	4
21CSC204J	Design and Analysis of Algorithms	3	0	2	4
21CSC205P	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
21CSC304J	Compiler Design	2	0	2	3
21CSC305P	Machine Learning	2	1	0	3
	Total Credits				**42**

5. Professional Elective Courses (E)
(Any 8 Elective Courses)

Course Code	Course Title	Hours/ Week L	T	P	C
21CSE251T	Digital Image Processing	2	1	0	3
21CSE252T	Biometrics	2	1	0	3
21CSE253T	Internet of Things	2	1	0	3
21CSE254T	Bio Inspired Computing	2	1	0	3
21CSE255T	Computer Graphics and Animation	2	1	0	3
21CSE351T	Computational Logic	2	1	0	3
21CSE352T	Neuro Fuzzy and Genetic Programming	2	1	0	3
21CSE353T	Augmented, Virtual and Mixed Reality	2	1	0	3
21CSE354T	Full Stack Web Development	2	1	0	3
21CSE355T	Data Mining and Analytics	2	1	0	3
21CSE356T	Natural Language Processing	2	1	0	3
21CSE357T	Distributed Computing	2	1	0	3
21CSE358T	Network Security Cryptography and	2	1	0	3
21CSE359T	Information Storage and Management	2	1	0	3
21CSE360T	High Performance Computing	2	1	0	3
21CSE361T	Database Security and Privacy	2	1	0	3
21CSE362T	Cloud Computing	2	1	0	3
21CSE451T	Pattern Recognition Techniques	2	1	0	3
21CSE452T	Semantic Web	2	1	0	3
21CSE453T	Speech Recognition	2	1	0	3
21CSE454T	Computer Vision	2	1	0	3
21CSE455T	Social Network Analysis	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
21CSE460T	Network Protocols and Algorithms	2	1	0	3
	Total Credits				**24**

3. 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				**9**

7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)

Course Code	Course Title	Hours/ Week L	T	P	C
21GNP301L	Community Connect	0	0	2	1
21CSP302L	Project	0	0	6	3
21CSP303T	MOOC	3	0	0	
21CSP401L	Major Project	0	0	30	15
21CSP402L	Internship				
	Total Credits				**19**

Mandatory Courses (M)

Code	Course Title	L	T	P	C
21PDM101L	Professional Skills and Practices	0	0	2	0
21PDM102L	General Aptitude	0	0	2	0
21PDM201L	Verbal Reasoning	0	0	2	0
21PDM202L	Critical and Creative Thinking Skills	0	0	2	0
21PDM301L	Analytical and Logical Thinking Skills	0	0	2	0
21PDM302L	Employability Skills and Practices	0	0	2	0
21CYM101T	Environmental Science	1	0	0	0
21LEM101T	Constitution of India	1	0	0	0
21LEM201T	Professional Ethics	1	0	0	0
21LEM202T	Universal Human Values	1	0	0	0
21LEM301T	Indian Art Form	1	0	0	0
21LEM302T	Indian Traditional Knowledge	1	0	0	0
21GNM101L	Physical and Mental Health using Yoga	0	0	2	0
21GNM102L	NSS				
21GNM103L	NCC				
21GNM104L	NSO				
	Total Credits				**0**

15. (f) Implementation Plan: B.Tech. in Computer Science and Engineering

Semester – I

Code	Course Title	Hours/ Week L	T	P	C
21LEH102T	Chinese	2	1	0	3
21LEH103T	French				
21LEH104T	German				
21LEH105T	Japanese				
21LEH106T	Korean				
21LEH107T	Spanish				
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	Basic Civil and Mechanical Workshop	0	0	4	2
21PDM101L	Professional Skills and Practices	0	0	2	0
21GNM101L	Physical and Mental Health using Yoga	0	0	2	0
21GNM102L	NSS				
21GNM103L	NCC				
21GNM104L	NSO				
	Total Credits				**22**

Semester – II

Code	Course Title	Hours/ Week L	T	P	C
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	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	Environmental Science*	1	0	0	0
21PDM102L	General Aptitude*	0	0	2	0
21LEM101T	Constitution of India	1	0	0	0
	Total Credits				**21**

Semester – III

Code	Course Title	Hours/ Week L	T	P	C
21MAB201T	Transforms and Boundary Value Problems	3	1	0	4
21DCS201P	Design Thinking and Methodology	1	0	4	**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	Advanced Programming Practice	3	1	0	4
21LEM201T	Professional Ethics	1	0	0	0
21PDM201L	Verbal Reasoning	0	0	2	0
	Total Credits				**23**

Semester – IV

Code	Course Title	Hours/ Week L	T	P	C
21MAB204T	Probability and Queueing Theory	3	1	0	4
21CSC204J	Design and Analysis of Algorithms	3	0	2	4
21CSC205P	Database Management Systems	3	1	0	4
21CSC206T	Artificial Intelligence	2	1	0	3
E	Professional Elective-I				3
21PDH201T	Social Engineering	2	0	0	2
21PDM202L	Critical and Creative Thinking Skills	0	0	2	0
21LEM202T	Universal Human Values	1	0	0	0
	Total Credits				**20**

Semester – V

Code	Course Title	Hours/ Week L	T	P	C
21MAB302T	Discrete Mathematics	3	1	0	4
21CSC301T	Formal Language and Automata	3	0	0	3
21CSC302J	Computer Networks	3	0	2	4
21CSC305P	Machine Learning	2	1	0	3
E	Professional Elective – II				3
O	Open Elective – I				3
21GNP301L	Community Connect	0	0	2	1
21PDM301L	Analytical and Logical Thinking Skills	0	0	2	0
21LEM301T	Indian Art Form	1	0	0	0
	Total Credits				21

Semester – VI

Code	Course Title	Hours/ Week L	T	P	C
21CSS303T	Data Science	2	0	0	2
21CSC303J	Software Engineering and Project Management	2	0	2	3
21CSC304J	Compiler Design	2	0	2	3
E	Professional Elective – III				3
E	Professional Elective – IV				3
O	Open Elective – II				3
21CSP302L	Project	0	0	6	3
21CSP303T	MOOC	3	0	0	
21PDM302L	Employability Skills and Practices	0	0	2	0
21LEM302T	Indian Traditional Knowledge	1	0	0	0
	Total Credits				**20**

Semester – VII

Code	Course Title	Hours/ Week L	T	P	C
21GNH401T	Behavioral Psychology	2	1	0	3
E	Professional Elective – V				3
E	Professional Elective – VI				3
E	Professional Elective – VII				3
E	Professional Elective – VIII				3
O	Open Elective –III				3
	Total Credits				**18**

Semester – VIII

Code	Course Title	Hours/ Week L	T	P	C
21CSP401L	Major Project	0	0	30	15
21CSP402L	Internship				
	Total Credits				**15**