

ACADEMIC CURRICULA

UNDERGRADUATE DEGREE PROGRAMMES

Bachelor of Technology

(B.Tech. - Four Years)

(Choice Based Flexible Credit System)

Regulations 2018

Volume - 1

(Revised in March 2019)



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, Kancheepuram District 603203, Tamil Nadu,
India**

17. B.Tech. in Computer Science and Engineering with Specialization in Information Technology /B.Tech in Information Technology

17. (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

17. (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 create local and global impact of computing on individuals, organizations, and society
PEO - 6	Graduates will use current techniques, skills and tools necessary for computing practice.

17. (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	H	H	H	H	H
PEO - 2	L	H	H	H	H
PEO - 3	H	H	M	L	H
PEO - 4	M	H	M	H	H
PEO - 5	H	H	L	H	H
PEO - 6	H	L	L	H	H

H – High Correlation, M – Medium Correlation, L – Low Correlation

17. (d) Mapping Program Educational Objectives (PEO) to Program Learning Outcomes (PLO)

	Program Learning Outcomes (PLO)												Program Specific Outcomes (PSO)		
	Graduate Attributes (GA)														
	Engineering Knowledge	Problem Analysis	Design & Development	Analysis, Design, Research	Modern Tool Usage	Society & Culture	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PSO - 1	PSO - 2	PSO - 3
PEO - 1	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
PEO - 2	H	H	H	H	H	L	L	H	L	H	L	H	H	H	H
PEO - 3	H	H	H	H	H	L	L	L	L	L	H	H	H	H	H
PEO - 4	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
PEO - 5	H	L	L	H	H	L	L	L	L	L	H	H	H	H	H
PEO - 6	L	L	L	L	H	L	L	L	L	L	H	H	H	H	H

H – High Correlation, M – Medium Correlation, L – Low Correlation

PSO – Program Specific Outcomes (PSO)

PSO - 1	Ability to Utilize Concepts and Practices in Information Technology
PSO - 2	Evaluate and Administer Information Technology Systems
PSO - 3	Effective Integration of Information Technology Systems and Practices

17. (e) Program Structure: B.Tech. in Computer Science and Engineering with Specialization in Information Technology / B. Tech in Information Technology

1. Humanities & Social Sciences including Management Courses (H)						
Course Code	Course Title	Hours/ Week				
		L	T	P	C	
18LEH101J	English	2	0	2	3	
18LEH102J	Chinese					
18LEH103J	French					
18LEH104J	German	2	0	2	3	
18LEH105J	Japanese					
18LEH106J	Korean					
18PDH101T	General Aptitude	0	0	2	1	
18PDH102T	Management Principles for Engineers	2	0	0	2	
18PDH103T	Social Engineering	2	0	0	2	
18PDH201T	Employability Skills & Practices	0	0	2	1	
Total Learning Credits					12	
2. Basic Science Courses (B)						
Course Code	Course Title	Hours/ Week				
		L	T	P	C	
18PYB103J	Physics: Semiconductor Physics	3	1	2	5	
18CYB101J	Chemistry	3	1	2	5	
18MAB101T	Calculus and Linear Algebra	3	1	0	4	
18MAB102T	Advanced Calculus and Complex Analysis	3	1	0	4	
18MAB201T	Transforms and Boundary Value Problems	3	1	0	4	
18MAB204T	Probability and Queueing Theory	3	1	0	4	
18MAB302T	Discrete Mathematics for Engineers	3	1	0	4	
18BTB101T	Biology	2	0	0	2	
Total Learning Credits					32	
4. Professional Core Courses (C)						
Course Code	Course Title	Hours/ Week				
		L	T	P	C	
18CSC201J	Data Structures and Algorithms	3	0	2	4	
18CSC202J	Object Oriented Design and Programming	3	0	2	4	
18CSC203J	Computer Organization and Architecture	3	0	2	4	
18CSC204J	Design and Analysis of Algorithms	3	0	2	4	
18CSC205J	Operating Systems	3	0	2	4	
18CSC206J	Software Engineering and Project Management	3	0	2	4	
18CSC207J	Advanced Programming Practice	3	0	2	4	
18CSC301T	Formal Language and Automata	3	0	0	3	
18CSC302J	Computer Networks	3	0	2	4	
18CSC303J	Database Management Systems	3	0	2	4	
18CSC304J	Compiler Design	3	0	2	4	
18CSC305J	Artificial Intelligence	3	0	2	4	
18CSC350T	Comprehension	0	1	0	1	
18CSC208L	Competitive Professional Skills-I	0	0	2	1	
18CSC306L	Competitive Professional Skills-II	0	0	2	1	
18CSC307L	Competitive Professional Skills-III	0	0	2	1	
Total Learning Credits					51	
6. Open Elective Courses (O)						
Course Code	Course Title	Hours/ Week				
		L	T	P	C	
18CSO101T	IT Infrastructure Management	3	0	0	3	
18CSO102T	Mobile Application Development	3	0	0	3	
18CSO103T	System Modeling and Simulation	3	0	0	3	
18CSO104T	Free and Open Source Softwares	3	0	0	3	
18CSO105T	Android Development	3	0	0	3	
18CSO106T	Data Analysis using Open Source Tool	3	0	0	3	
18CSO107T	IOS Development	3	0	0	3	
Total Learning Credits					12	
7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)						
Course Code	Course Title	Hours/ Week				
		L	T	P	C	
18CSP101L	Massive Open Online Course - I					
18CSP102L	Industrial Training-I	0	0	2	1	
18CSP103L	Seminar - I					
18CSP104L	Massive Open Online Course - II					
18CSP105L	Industrial Training-II	0	0	2	1	
18CSP106L	Seminar - II					
18CSP107L	Minor Project	0	0	6	3	
18CSP108L	Internship (4-6 weeks)					
18CSP109L	Project	0	0	20	10	
18CSP110L	Semester Internship					
Total Learning Credits					15	
8. Mandatory Courses (M)						
Code	Course Title	L	T	P	C	
18PDM101L	Professional Skills and Practices	0	0	2	0	
18PDM201L	Competencies in Social Skills					
18PDM203L	Entrepreneurial Skill Development	0	0	2	0	
18PDM202L	Critical and Creative Thinking Skills					
18PDM204L	Business Basics for Entrepreneurs	0	0	2	0	
18PDM301L	Analytical and Logical Thinking Skills	0	0	2	0	
18PDM302L	Entrepreneurship Management					
18LEM101T	Constitution of India	1	0	0	0	
18LEM102J	Value Education	1	0	1	0	
18GNM101L	Physical and Mental Health using Yoga	0	0	2	0	
18GNM102L	NSS					
18GNM103L	NCC	0	0	2	0	
18GNM104L	NSO					
18LEM109T	Indian Traditional Knowledge	1	0	0	0	
18LEM110L	Indian Art Form	0	0	2	0	
18CYM101T	Environmental Science	1	0	0	0	

17. (f) Program Articulation: B.Tech. in Computer Science and Engineering with Specialization in Information Technology / B. Tech in Information Technology

Course Code	Course Name	Program Learning Outcomes (PLO)														
		Graduate Attributes											PSO			
		Engineering Knowledge	Problem Analysis	Design & Development	Analysis, Design, Research	Modern Tool Usage	Society & Culture	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PSO - 1	PSO - 2	PSO - 3
18CSS101J	Programming for Problem Solving	H	H	M	M	H	L	L	M	H	M	L	H	L	H	H
18CSC201J	Data Structures and Algorithms	H	H	H	H	M	L	L	M	H	M	M	H	L	H	H
18CSC202J	Object Oriented Design and Programming	H	H	H	H	M	L	M	H	M	M	M	H	L	H	H
18CSC203J	Computer Organization and Architecture	H	M	H	M	L	L	M	L	L	M	L	M	H	M	M
18CSC204J	Design and Analysis of Algorithms	H	H	H	H	M	M	L	M	M	M	M	H	L	H	H
18CSC205J	Operating Systems	H	H	H	H	M	L	M	H	M	M	M	H	H	M	M
18CSC206J	Software Engineering and Project Management	H	H	H	H	H	H	H	H	H	H	H	H	L	H	M
18CSC207J	Advanced Programming Practice	H	H	M	M	H	L	L	M	H	M	L	H	L	H	H
18CSC301T	Formal Language and Automata	H	H	H	H	L	L	L	L	M	M	L	H	H	H	H
18CSC302J	Computer Networks	H	H	H	H	M	L	M	H	M	M	M	H	H	H	M
18CSC303J	Database Management Systems	H	H	H	H	M	L	M	H	M	M	M	H	H	H	M
18CSC304J	Compiler Design	H	H	H	H	M	L	L	M	M	L	H	H	H	H	H
18CSC305J	Artificial Intelligence	H	H	H	H	M	M	L	L	M	M	L	H	H	H	H
18CSC208L	Competitive Professional Skills-I	H	H	H	H	H	L	L	M	H	M	M	H	H	H	H
18CSC306L	Competitive Professional Skills-II	H	H	H	H	H	L	L	M	H	M	M	H	H	H	H
18CSC307L	Competitive Professional Skills-III	H	H	H	H	H	L	L	M	H	M	M	H	H	H	H
18CSE361T	Web Programming	L	M	H	L	H	L	L	L	L	L	L	M	M	L	L
18CSE362T	Integrative Programming and Technology	L	M	H	L	H	L	L	L	L	L	L	L	L	L	H
18CSE364T	System Administration and Maintenance	L	L	L	H	L	L	M	H	L	L	L	M	L	L	L
18CSE365T	Fundamentals of Virtualization	L	L	L	H	H	L	L	L	L	L	L	L	L	M	L
18CSE360T	Information Storage and Management	L	L	L	M	L	L	H	L	L	L	M	L	L	H	L
18CSE366T	Human Computer Interaction	L	L	L	M	H	L	L	L	M	L	L	L	L	M	L
18CSE397T	Computational Data Analysis	L	L	L	H	H	L	L	L	L	L	L	L	M	L	L
18CSE452T	Network Protocols and Programming	H	L	H	L	L	L	L	L	L	L	L	L	L	L	L
18CSE451T	Wireless Sensor Networks	L	L	L	H	L	L	L	L	L	L	L	L	L	H	M
18CSE461T	Internet Security and Cyber Forensics	L	M	L	H	L	L	M	L	L	L	L	L	L	M	M
18CSE462T	Data Centre Administration and Management	L	M	L	H	L	L	H	L	L	L	M	L	L	L	M
18CSE463T	IT Service Management and Operations	L	H	L	H	L	L	M	L	L	M	L	L	L	L	L
18CSE464T	Computer Graphics and Game programming	L	L	H	L	H	L	L	L	H	L	L	L	L	M	L
18CSE465T	Computational Media	L	L	H	L	H	L	L	L	H	L	L	L	L	M	L
18CSP101L	Massive Open Online Course - I	H	M	M	M	M	M	M	M	H	H	H	M	H	H	H
18CSP102L	Industrial Training-I	H	M	M	M	M	M	M	M	H	H	H	M	H	H	H
18CSP103L	Seminar - I	H	M	M	M	M	M	M	M	H	H	H	M	H	H	H
18CSP104L	Massive Open Online Course - II	H	M	M	M	M	M	M	M	H	H	H	M	H	H	H
18CSP105L	Industrial Training-II	H	M	M	M	M	M	M	M	H	H	H	M	H	H	H
18CSP106L	Seminar - II	H	M	M	M	M	M	M	M	H	H	H	M	H	H	H
18CSP107L	Minor Project	H	H	H	H	H	M	M	H	H	H	H	H	H	M	M
18CSP108L	Internship (4-6 weeks)	H	H	H	H	H	M	M	H	H	H	H	H	H	M	M
18CSP109L	Project	H	H	H	H	H	M	M	H	H	H	H	H	H	M	M
18CSP110L	Semester Internship	H	H	H	H	H	M	M	H	H	H	H	H	H	M	M
	Program Average	H	H	M	H	M	L	M	L	M	M	M	H	M	M	M

17. (g) Implementation Plan: B.Tech. in Computer Science and Engineering with Specialization in Information Technology / B. Tech in Information Technology

Semester - I					
Code	Course Title	Hours/ Week			C
		L	T	P	
18LEH101J	English	2	0	2	3
18MAB101T	Calculus and Linear Algebra	3	1	0	4
18PYB103J	Physics: Semiconductor Physics	3	1	2	5
18MES101L	Engineering Graphics and Design	1	0	4	3
18EES101J	Basic Electrical and Electronics Engineering	3	1	2	5
18PDM101L	Professional Skills and Practices	0	0	2	0
18LEM101T	Constitution of India	1	0	0	0
18GNM101L	Physical and Mental Health using Yoga	0	0	2	0
Total Learning Credits					20

Semester - II					
Code	Course Title	Hours/ Week			C
		L	T	P	
18LEH10XJ	Chinese / French / German / Japanese/ Korean	2	0	2	3
18MAB102T	Advanced Calculus and Complex Analysis	3	1	0	4
18CYB101J	Chemistry	3	1	2	5
18CSS101J	Programming for Problem Solving	3	0	4	5
18MES103L	Civil and Mechanical Engineering Workshop	1	0	4	3
18PDH101T	General Aptitude	0	0	2	1
18LEM102J	Value Education	1	0	1	0
18GNM102L	NSS	0	0	2	0
18GNM103L	NCC				
18GNM104L	NSO				
Total Learning Credits					21

Semester - III								
Code	Course Title	Hours/ Week			C			
		L	T	P				
18MAB201T	Transforms and Boundary Value Problems	3	1	0	4			
18BTB101T	Biology	2	0	0	2			
18CSS201J	Analog and Digital Electronics	3	0	2	4			
18CSC201J	Data Structures and Algorithms	3	0	2	4			
18CSC202J	Object Oriented Design and Programming	3	0	2	4			
18CSC203J	Computer Organization and Architecture	3	0	2	4			
18PDH102T	Management Principles for Engineers	2	0	0	2			
18PDM201L	Competencies in Social Skills	0	0	2	0			
18PDM203L	Entrepreneurial Skill Development	0	0	2	0			
Total Learning Credits								
24								

Semester - IV					
Code	Course Title	Hours/ Week			C
		L	T	P	
18MAB204T	Probability and Queueing Theory	3	1	0	4
18CSS202J	Computer Communications	2	0	2	3
18CSC204J	Design and Analysis of Algorithms	3	0	2	4
18CSC205J	Operating Systems	3	0	2	4
18CSC206J	Software Engineering and Project Management	3	0	2	4
18CSC207J	Advanced Programming Practice	3	0	2	4
18CSC208L	Competitive Professional Skills-I	0	0	2	1
18PDH103T	Social Engineering	2	0	0	2
18PDM202L	Critical and Creative Thinking Skills	0	0	2	0
18PDM204L	Business Basics for Entrepreneurs				
18CYM101T	Environmental Science				
Total Learning Credits					26

Semester - V					
Code	Course Title	Hours/ Week			C
		L	T	P	
18MAB302T	Discrete Mathematics for Engineers	3	1	0	4
18CSC301T	Formal Language and Automata	3	0	0	3
18CSC302J	Computer Networks	3	0	2	4
18CSC306L	Competitive Professional Skills-II	0	0	2	1
	Professional Elective – 1	3	0	0	3
	Professional Elective – 2	3	0	0	3
	Open Elective – 1	3	0	0	3
18CSP101L	Massive Open Online Course - I	0	0	2	1
18CSP102L	Industrial Training-I				
18CSP103L	Seminar - I				
18PDM301L	Analytical and Logical Thinking Skills	0	0	2	0
18PDM302L	Entrepreneurship Management				
18LEM109T	Indian Traditional Knowledge				
Total Learning Credits					22

Semester - VI					
Code	Course Title	Hours/ Week			C
		L	T	P	
18CSC303J	Database Management Systems	3	0	2	4
18CSC304J	Compiler Design	3	0	2	4
18CSC305J	Artificial Intelligence	3	0	2	4
18CSC350T	Comprehension	0	1	0	1
18CSC307L	Competitive Professional Skills-III	0	0	2	1
	Professional Elective – 3	3	0	0	3
	Professional Elective – 4	3	0	0	3
	Open Elective – 2	3	0	0	3
18CSP104L	Massive Open Online Course - II	0	0	2	1
18CSP105L	Industrial Training-II				
18CSP106L	Seminar - II				
18PDH201T	Employability Skills and Practices	0	0	2	1
18LEM110L	Indian Art Form	0	0	2	0
Total Learning Credits					25

Semester - VII					
Code	Course Title	Hours/ Week			C
		L	T	P	
	Professional Elective – 5	3	0	0	3
	Professional Elective – 6	3	0	0	3
	Open Elective – 3	3	0	0	3
18CSP107L	Minor Project	0	0	6	3
18CSP108L	Internship (4-6 weeks)				
Total Learning Credits					12

Semester - VIII					
Code	Course Title	Hours/ Week			C
		L	T	P	
18CSP109L	Project	0	0	20	10
18CSP110L	Semester Internship				
Total Learning Credits					10