

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**

20. B.Tech. in Computer Science and Business Systems

(In Collaboration with TCS)

20. (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

20. (b) Program Educational Objectives (PEO)

PEO - 1	Graduates will be able to perform in technical/managerial roles by thorough understanding of contemporary technologies
PEO - 2	Graduates will be able to successfully pursue higher education in reputed institutions where information technology businesses are a priority
PEO - 3	Graduates will be able to apply technology abstraction and common business principles
PEO - 4	Graduates will be able to demonstrate innovation abilities.
PEO - 5	Graduates will be able to demonstrate ethics and responsibility and have accumulated life values

20. (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	M	M	H

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

20. (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	H	H	H	H	M	M	H	H	H	H	H	H	H	H

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

PSO – Program Specific Outcomes (PSO)

PSO - 1	Ability to understand client requirements and suggest solutions
PSO - 2	Ability to create innovative Software for business and service orientations
PSO - 3	Ability to utilize Logic & Reasoning Skills

20. (e) Program Structure: B.Tech. in Computer Science and Business Systems

1. Humanities & Social Sciences including Management Courses (H)						2. Basic Science Courses (B)					
Course Code	Course Title	Hours/ Week				Course Code	Course Title	Hours/ Week			
		L	T	P	C			L	T	P	C
18MBH161T	Business Communication & Value Science - I	2	0	0	2	18PYB161J	Fundamentals of Physics	2	0	2	3
18MBH162T	Business Communication & Value Science - II	2	0	0	2	18MAB165T	Discrete Mathematics	3	1	0	4
18MBH163T	Fundamentals of Economics	2	0	0	2	18MAB166T	Probability and Statistics	3	0	0	3
18MBH261T	Introduction to Innovation, Intellectual Property rights, Management and Entrepreneurship	3	0	0	3	18MAB163T	Linear Algebra	3	1	0	4
18MBH262J	Design Thinking	2	0	2	3	18MAB167J	Statistical Modeling	3	0	2	4
18MBH361T	Business Communication & Value Science – III	2	0	0	2	18MAB261J	Operations Research	2	0	2	3
18MBH362T	Business Communication & Value Science - IV	2	0	0	2	Total Learning Credits					21
18MBH363T	Fundamentals of Management	2	0	0	2	4. Professional Core Courses (C)					
18MBH364T	Business Strategy	2	0	0	2	Course Code	Course Title	Hours/ Week			
18MBH365T	Financial and Cost Accounting	2	0	0	2			L	T	P	C
18MBH461T	Financial Management	2	0	0	2	18CSC161J	Fundamentals of Computer Science	3	0	4	5
18MBH462T	Human Resource Management	2	0	0	2	18CSC162J	Data Structures and Algorithms	3	0	4	5
18MBH463J	Services Science and Service Operational Management	3	0	2	4	18CSC261T	Formal Language and Automata Theory	3	0	0	3
18MBH464J	Information Technology Project Management	3	0	2	4	18CSC262J	Computer Organization and Architecture	3	0	2	4
18MBH465T	Marketing Research and Marketing Management	2	0	0	2	18CSC263J	Object Oriented Programming	2	0	4	4
Total Learning Credits					36	18CSC264J	Computational Statistics	3	0	2	4
3. Engineering Science Courses (S)						18CSC265J	Software Engineering	3	0	2	4
Course Code	Course Title	Hours/ Week				18CSC266J	Operating Systems	3	0	2	4
		L	T	P	C	18CSC267J	Database Management Systems	3	0	2	4
18EES161J	Principles of Electrical Engineering	2	0	2	3	18CSC268J	Software Design with Unified Modeling Language	2	0	2	3
18EES162J	Principles of Electronics	2	0	2	3	18CSC361J	Design and Analysis of Algorithms	3	0	2	4
Total Learning Credits					6	18CSC362J	Compiler Design	3	0	2	4
5. Professional Elective Courses (E) (Any 5 Elective Courses)						18CSC363J	Computer Networks	3	0	2	4
Course Code	Course Title	Hours/ Week				18CSC364J	Information Security	3	0	2	4
		L	T	P	C	18CSC365J	Artificial Intelligence	3	0	2	4
	Professional Elective - 1					18CSC461J	Usability Design of Software Applications	2	0	2	3
18CSE361J	Conversational Systems	2	0	2	3	18CSC462J	Information Technology Workshop using Scilab	1	0	2	2
18CSE362J	Cloud, Microservices & Application	2	0	2	3	Total Learning Credits					65
18CSE363J	Machine Learning	2	0	2	3	Open Elective Courses (O) (Any 1 Courses)					
	Professional Elective - 2					Course Code	Course Title	Hours/ Week			
18CSE364J	Robotics and Embedded Systems	2	0	2	3			L	T	P	C
18CSE365J	Modern Web Applications	2	0	2	3	18CSO161T	Behavioral Economics	2	1	0	3
18CSE366J	Data Mining and Analytics	2	0	2	3	18CSO162T	Computational Finance & Modeling	2	1	0	3
	Professional Elective - 3					18CSO163T	Psychology	2	1	0	3
18CSE467J	Enterprise Systems	2	0	2	3	Total Learning Credits					3
18CSE468J	Advance Finance	2	0	2	3	7. Project Work, Seminar, Internship In Industry/ Higher Technical Institutions (P)					
18CSE469J	Image Processing and Pattern Recognition	2	0	2	3	Course Code	Course Title	Hours/ Week			
	Professional Elective - 4							L	T	P	C
18CSE461J	Cognitive Science & Analytics	2	0	2	3	18CSP361L	Mini Project – I	0	0	2	1
18CSE462J	Introduction to Internet of Things	2	0	2	3	18CSP461L	Project Evaluation – I	0	0	6	3
18CSE463J	Cryptology	2	0	2	3	18CSP462L	Project Evaluation – II	0	0	20	10
	Professional Elective - 5					Total Learning Credits					14
18CSE464J	Quantum Computation & Quantum Information	2	0	2	3	8. Mandatory Courses (M)					
18CSE465J	Advanced Social, Text and Media Analytics	2	0	2	3	Code	Course Title	Hours/ Week			
18CSE466J	Mobile Computing	2	0	2	3			L	T	P	C
Total Learning Credits					15	18GNM101L	Physical and Mental Health using Yoga	0	0	2	0
8. Mandatory Courses (M)						18GNM102L	NSS				
Code	Course Title	Hours/ Week				18GNM103L	NCC	0	0	2	0
		L	T	P	C	18GNM104L	NSO				
18PDM101L	Professional Skills and Practices	0	0	2	0	18LEM109T	Indian Traditional Knowledge	1	0	0	0
18PDM201L	Competencies in Social Skills	0	0	2	0	18LEM110L	Indian Art Form	0	0	2	0
18PDM202L	Critical and Creative Thinking Skills	0	0	2	0	18CYM101T	Environmental Science	1	0	0	0
18PDM301L	Analytical and Logical Thinking Skills	0	0	2	0						
18LEM101T	Constitution of India	1	0	0	0						
18LEM102J	Value Education	1	0	1	0						
18LEM103J											
18LEM104J	Chinese / French / German / Japanese/ Korean	2	0	2	0						
18LEM105J											
18LEM106J											
18LEM107J											

20. (f) Program Articulation: B.Tech. in Computer Science and Business Systems

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
18PYB161J	Fundamentals of Physics	H	H	H	H	H	M	L	M	H	M	M	H	H	H	M
18MAB161T	Discrete Mathematics	H	H	H	H	M	L	L	L	M	M	L	H	H	H	H
18MAB162T	Probability and Statistics	H	H	H	H	M	M	L	L	M	M	L	H	H	H	H
18MAB163T	Linear Algebra	M	H	M	H	M	M	L	M	M	M	M	H	L	H	H
18MAB164J	Statistical Modeling	M	H	H	H	H	M	L	M	M	M	M	H	L	H	H
18MAB261J	Operations Research	H	H	H	M	H	M	L	M	H	M	M	H	L	H	H
18EES161J	Principles of Electrical Engineering	H	H	H	H	H	L	L	M	H	H	L	H	H	H	H
18EES162J	Principles of Electronics	H	H	H	H	H	L	H	H	H	H	H	H	H	H	H
18MBH161T	Business Communication & Value Science – I	H	H	M	M	H	H	L	M	H	M	L	H	L	H	H
18MBH162T	Business Communication & Value Science – II	H	H	H	H	M	L	L	M	H	M	M	H	L	H	H
18MBH163T	Fundamentals of Economics	H	H	H	H	H	M	L	M	H	H	M	H	L	H	H
18MBH261T	Introduction to Innovation, Intellectual Property rights, Management and Entrepreneurship	H	M	H	M	L	L	L	M	L	L	L	M	H	M	M
18MBH262J	Design Thinking	H	H	H	H	M	M	L	M	M	M	M	H	L	H	H
18MBH361T	Business Communication & Value Science – III	H	H	H	H	H	M	L	M	H	M	M	H	H	H	M
18MBH362T	Business Communication & Value Science – IV	H	H	H	H	H	H	H	H	H	H	H	H	L	H	M
18MBH363T	Fundamentals of Management	H	H	M	M	H	L	L	M	H	M	L	H	L	H	H
18MBH364T	Business Strategy	H	H	H	H	L	L	L	L	M	M	L	H	H	H	H
18MBH365T	Financial and Cost Accounting	H	H	H	H	H	M	L	M	H	M	M	H	H	H	M
18MBH461T	Financial Management	H	H	H	H	H	M	L	M	H	M	M	H	H	H	M
18MBH462T	Human Resource Management	H	H	H	H	M	L	L	L	M	M	L	H	H	H	H
18MBH463J	Services Science and Service Operational Management	H	H	H	H	M	M	L	L	M	M	L	H	H	H	H
18MBH464J	Information Technology Project Management	M	H	M	H	M	M	L	M	M	M	M	H	L	H	H
18MBH465T	Marketing Research and Marketing Management	M	H	H	H	H	M	L	M	M	M	M	H	L	H	H
18CSC161J	Fundamentals of Computer Science	H	H	H	M	H	M	L	M	H	M	M	H	L	H	H
18CSC162J	Data Structures and Algorithms	H	H	H	H	H	L	L	M	H	H	L	H	H	H	H
18CSC261T	Formal Language and Automata Theory	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
18CSC262J	Computer Organization and Architecture	H	H	H	H	H	M	L	M	H	M	M	H	H	H	M
18CSC263J	Object Oriented Programming	M	H	H	H	M	M	H	M	H	M	M	H	H	H	H
18CSC264J	Computational Statistics	H	H	H	H	H	M	M	M	M	M	M	H	L	H	H
18CSC265J	Software Engineering	H	H	H	H	H	H	L	M	H	M	M	H	M	H	H
18CSC266J	Operating Systems	H	H	H	H	M	H	H	M	H	M	H	H	H	M	H
18CSC267J	Database Management Systems	H	H	H	H	M	M	M	M	M	H	L	H	H	H	H
18CSC268J	Software Design with Unified Modeling Language	H	H	H	H	M	M	M	M	M	H	L	H	H	H	H
18CSC361J	Design and Analysis of Algorithms	H	H	H	H	M	M	M	M	M	H	L	H	H	H	H
18CSC362J	Compiler Design	H	H	H	H	H	L	L	M	H	H	L	H	H	H	H
18CSC363J	Computer Networks	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
18CSC364J	Information Security	H	H	H	H	H	M	M	M	M	H	M	H	H	H	H
18CSC365J	Artificial Intelligence	M	H	H	H	H	M	L	M	M	H	M	H	M	H	H
18CSC461J	Usability Design of Software Applications	H	H	H	H	M	H	H	H	M	H	M	H	H	H	H
18CSC462J	Information Technology Workshop using Scilab	M	H	H	H	H	M	M	M	M	H	M	H	H	H	H
18CSP361L	Mini Project – I	H	M	M	M	M	M	M	M	H	H	H	M	H	H	H
18CSP461L	Project Evaluation – I	H	M	M	M	M	M	M	M	H	H	H	M	H	H	H
18CSP462L	Project Evaluation – II	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

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

20. (g) Implementation Plan: B.Tech. in Computer Science and Business Systems

Semester - I						Semester - II					
Code	Course Title	Hours/ Week			C	Code	Course Title	Hours/ Week			C
		L	T	P				L	T	P	
18MBH161T	Business Communication & Value Science - I	2	0	0	2	18MBH162T	Business Communication & Value Science - II	2	0	0	2
18PYB161J	Fundamentals of Physics	2	0	2	3	18MBH163T	Fundamentals of Economics	2	0	0	2
18MAB165T	Discrete Mathematics	3	1	0	4	18MAB163T	Linear Algebra	3	1	0	4
18MAB166T	Probability and Statistics	3	0	0	3	18MAB167J	Statistical Modeling	3	0	2	4
18EES161J	Principles of Electrical Engineering	2	0	2	3	18EES162J	Principles of Electronics	2	0	2	3
18CSC161J	Fundamentals of Computer Science	3	0	4	5	18CSC162J	Data Structures and Algorithms	3	0	4	5
18PDM101L	Professional Skills and Practices	0	0	2	0	18LEM102J	Value Education	1	0	1	0
18LEM101T	Constitution of India	1	0	0	0	18GNN102L	NSS / NCC / NSO	0	0	2	0
18GNN101L	Physical and Mental Health using Yoga	0	0	2	0	18GNN103L					
Total Learning Credits					20	18GNN104L					
						18LEM103J/ 18LEM104J/ 18LEM105J/ 18LEM106J/ 18LEM107J	Chinese / French / German / Japanese/ Korean	2	0	2	0
						Total Learning Credits					20
Semester - III						Semester - IV					
Code	Course Title	Hours/ Week			C	Code	Course Title	Hours/ Week			C
		L	T	P				L	T	P	
18MBH461T	Financial Management	2	0	0	2	18MBH261T	Introduction to Innovation, Intellectual Property rights, Management and Entrepreneurship	3	0	0	3
18MBH462T	Human Resource Management	2	0	0	2	18MBH465T	Marketing Research and Marketing Management	2	0	0	2
18CSC261T	Formal Language and Automata Theory	3	0	0	3	18MBH262J	Design Thinking	2	0	2	3
18CSC262J	Computer Organization and Architecture	3	0	2	4	18MAB261J	Operations Research	2	0	2	3
18CSC263J	Object Oriented Programming	2	0	4	4	18CSC266J	Operating Systems	3	0	2	4
18CSC264J	Computational Statistics	3	0	2	4	18CSC267J	Database Management Systems	3	0	2	4
18CSC265J	Software Engineering	3	0	2	4	18CSC268J	Software Design with Unified Modeling Language	2	0	2	3
18PDM201L	Competencies in Social Skills	0	0	2	0	18PDM202L	Critical and Creative Thinking Skills	0	0	2	0
Total Learning Credits					23	18CYM101T	Environmental Science	1	0	0	0
						Total Learning Credits					22
Semester - V						Semester - VI					
Code	Course Title	Hours/ Week			C	Code	Course Title	Hours/ Week			C
		L	T	P				L	T	P	
18MBH361T	Business Communication & Value Science - III	2	0	0	2	18MBH362T	Business Communication & Value Science - IV	2	0	0	2
18MBH363T	Fundamentals of Management	2	0	0	2	18MBH365T	Financial and Cost Accounting	2	0	0	2
18MBH364T	Business Strategy	2	0	0	2	18CSC365J	Artificial Intelligence	3	0	2	4
18CSC361J	Design and Analysis of Algorithms	3	0	2	4	18CSC364J	Information Security	3	0	2	4
18CSC362J	Compiler Design	3	0	2	4	18CSC363J	Computer Networks	3	0	2	4
	Professional Elective – 1	2	0	2	3		Professional Elective – 2	2	0	2	3
	Open Elective – 1	2	0	2	3		Professional Elective – 3	2	0	2	3
18CSP361L	Mini Project – I	0	0	2	1	18LEM110L	Indian Art Form	0	0	2	0
18PDM301L	Analytical and Logical Thinking Skills	0	0	2	0	Total Learning Credits					22
18LEM109T	Indian Traditional Knowledge	1	0	0	0						
Total Learning Credits					21						
Semester – VII						Semester - VIII					
Code	Course Title	Hours/ Week			C	Code	Course Title	Hours/ Week			C
		L	T	P				L	T	P	
18MBH463J	Services Science and Service Operational Management	3	0	2	4	18CSP462L	Project Evaluation – II	0	0	20	10
18MBH464J	Information Technology Project Management	3	0	2	4	Total Learning Credits					10
18CSC461J	Usability Design of Software Applications	2	0	2	3						
18CSC462J	Information Technology Workshop using Scilab	1	0	2	2						
	Professional Elective – 4	2	0	2	3						
	Professional Elective – 5	2	0	2	3						
18CSP461L	Project Evaluation – I	0	0	6	3						
Total Learning Credits					22						