ACADEMIC CURRICULA

POST GRADUATE DEGREE PROGRAMMES

Master of Technology

(Choice Based Flexible Credit System)

Regulations 2021

Volume - 21 Curriculum



SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

(Deemed to be University u/s 3 of UGC Act, 1956)
Kattankulathur, Chengalpattu District 603203,
Tamil Nadu, India

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY Kattankulathur, Chengalpattu District 603203, Tamil Nadu, India

21 M.Tech in Computer Science and Engineering with Specialization in Fullstack

21. (a) Department Vision Statement

Stmt - 1	To become a world-class department in imparting high-quality knowledge and providing students with a unique learning	l
	and research experience in Computer Science and Engineering.	l

21. (b) Department Mission Statement

Stmt - 1	To impart knowledge in cutting edge technologies in part with industrial standards.
Stmt - 2	To collaborate with renowned academic institutions in research and development.
Stmt - 3	To instill soci <mark>etal and ethical respo</mark> nsibilities in all professional activities.

21. (c) Program Education Objectives (PEO)

PEO - 1	Graduates will be able to demonstrate their knowledge and skills acquired in Computer Science and Engineering domain
PEO - 2	Graduates will be able to successfully pursue their research in reputed institutions
PEO - 3	Graduates will have the proficiency to adapt, contribute and innovate new technologies and systems in their job domains with appropriate professional skills
PEO - 4	Graduates will be ethically and socially responsible solution providers and entrepreneurs in Computer Science and other engineering disciplines.
PEO - 5	Graduates will have the ability to excel in their career producing outstanding contribution in Computer Science and fullstack applications.

21. (d) Consistency of PEO's with Mission of the Department

	Mission Stmt 1	Mission Stmt 2	Mission Stmt 3
PEO - 1	3	2011年 - 3 min 2011年 市	,
PEO - 2	2	3.	2
PEO - 3	3	2	2
PEO - 4	2	2	3
PEO - 5	3	2	- 6.5

21. (e) PO – Program Outcomes

PO - 1	An ability to independently carry out research /investigation and development work to solve practical problems.
PO - 2	An ability to write and present a substantial technical report/document.
PO - 3	Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

21. (f) Consistency of PEO's with Program Outcomes (PO)

	Program Outcomes (PO)								
	1	2	3						
PEO - 1	3	2	3						
PEO - 2	3	3	2						
PEO - 3	2	2	2						
PEO - 4	2	2	2						
PEO - 5	2	2	3						

^{3 -} High Correlation, 2 - Medium Correlation, 1 - Low Correlation

21. (g) Programme Structure: M.Tech in Computer Science and Engineering with Specialization in Fullstack

	Professional Core Courses (C)						Professional Elective Courses (E) (Any 7 Courses)				
Course				ırs/		Course	Course		ours		
		Week						Veel			
Code	Title Discrete Mathematics and Probability	L	I	Р	С	Code	Title Computer Networking	3	T 0	P 0	C 3
21MAC503T	Theory	3	1	1 0	4	21C3E3341	Front End Development			U	
	Advanced Data Structures and	+-	1		1	21CSF585T	Technologies	3	0	0	3
21CSC551J	Algorithms	3	() 2	4		REST APIs Development using		_	_	_
21CSC550J	Database Technology	3	() 2	4		Spring Framework	3	0	0	3
	Full Stack Development Frameworks	3	(21CSE587T	Full Stack Application Development	3	0	Λ	2
	Web Technologies	3	(4		using React and Spring Framework	3	U	0	3
21IPC501J ²		2	1				Deploying Full Stack Application	3	0	0	3
21CSC601T 1		3	(0 0			Mobile Application Development	3	0	0	3
	Total Credits	3			27		Agile and DevOps	3	0	0	3
			Л		ш	21CSE595T		3	0	0	3
		-				21CSE642T	Cloud Native Application	2	1	0	3
	Project Work, Internship In					040050407	Development			_	
In	dustry / Higher Technical Institutions	` '					Microservices and Service Based Architectures	3	0	0	3
Course	Course		lou				Web and Social Media Analytics	3	0	0	3
		٠ ٧	۷e				Server-Side Programming	3	0	0	3
Code	Title	L	T		C		Cloud Computing with Blockchain	3	0	0	3
21CSP301L	Specialization Project	0	0	40	20	21CSE600T	¹ Journal Publication	0	0	0	3
21CSP502L	(OR) Specialization Project	0	0	30	15		Total Credits	3			21
21CSP503L	, ,	0	0			100					
21001 000L	Total Credits	U	U	10	20		Onen Fleetive Courses (O)				
	(C)	- 17		47%	7		Open Elective Courses (O)	Шо	urs/	,	
	100% assessment by the Department	(¹)				Course Code	Course Title	W	eek		
	100% assessment by the Department		lou	irs/		Code	TILLE		TIF		C
Course	Course			41.		21CSO621T Cyber Security		_		Р	_
Course	Course		Ne			21CSO621T	Cyber Security	3	0 (0	3
Code	Title	۱ L	Τ	Р	С	21CSO622T	Big Data Analytics	3	0 (0	3
Code 21CSC601T	Title Case Studies	L 3	T 0	P 0	3	21CSO622T	Big Data Analytics Data Sciences	3 3 3	0 (0 (0 0 0	3 3
Code	Title Case Studies	۱ L	Τ	P 0		21CSO622T	Big Data Analytics Data Sciences	3	0 (0 (0 0 0	3
Code 21CSC601T	Title Case Studies Journal Publication	3 0	T 0	P 0	3	21CSO622T	Big Data Analytics Data Sciences	3 3 3	0 (0 (0 0 0	3 3
Code 21CSC601T	Title Case Studies	3 0	T 0	P 0 0	3	21CSO622T 21CSO623T	Big Data Analytics Data Sciences Tot	3 3 3 al Cr	0 (0 (redit	0 0 0	3 3
Code 21CSC601T 21CSE600T	Title Case Studies Journal Publication Course Delivery by online mode (3)	1 3 0	0 0 ours	P 0 0 0 s/	3	21CSO622T 21CSO623T	Big Data Analytics Data Sciences	3 3 3 al Cr	0 (0 0 (0 0 (0	0 0 0 ts	3 3
Code 21CSC601T 21CSE600T	Title Case Studies Journal Publication Course Delivery by online mode (3)	L 3 0	0 0 ours	P 0 0 0 s/ k	3	21CSO622T 21CSO623T	Big Data Analytics Data Sciences Tot sessment by Open Book Examinatic	3 3 3 al Cr	0 (0 (0 (redit	0 0 0 ts	3 3
Code 21CSC601T 21CSE600T Course Code	Title Case Studies Journal Publication Course Delivery by online mode (3) Course Title	L 3 0	0 0 ours	P 0 0 0 s/	3 3 C	21CSO622T 21CSO623T Asi	Big Data Analytics Data Sciences Tot sessment by Open Book Examinatic Course	3 3 3 al Cr	0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0	0 0 0 0 tts	3 3
Code 21CSC601T 21CSE600T Course Code	Title Case Studies Journal Publication Course Delivery by online mode (3) Course Title REST APIs Development using Spring	L 3 0 Hc W	0 0 ours	P 0 0 0 s/ k	3	21CSO622T I 21CSO623T I Ass Course Code	Big Data Analytics Data Sciences Tot sessment by Open Book Examinatio Course Title	3 3 3 al Cr	0 0 0 0 redit	0 0 0 0 tts	3 3 3 C
Code 21CSC601T 21CSE600T Course Code 21CSE586T ³	Title Case Studies Journal Publication Course Delivery by online mode (3) Course Title REST APIs Development using Spring Framework	L 3 0 Hc W	0 0 ours /ee	P	3 3 C 3	21CSO622T I 21CSO623T I Ass Course Code	Big Data Analytics Data Sciences Tot sessment by Open Book Examinatic Course	3 3 3 al Cr	0 0 0 0 redit	0 0 0 0 tts	3 3
Code 21CSC601T 21CSE600T Course Code 21CSE586T ³ 21CSE587T ³	Title Case Studies Journal Publication Course Delivery by online mode (3) Course Title REST APIs Development using Spring Framework Full Stack Application Development	1 L 3 0 Hcc W L 3	0 0 ours /ee	P	3 3 C	Ass Course Code 21IPC501J	Big Data Analytics Data Sciences Tot sessment by Open Book Examinatio Course Title Research Methodology	3 3 3 al Cr Ho W L	0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0	0 0 0 0 tts	3 3 3 C
Code 21CSC601T 21CSE600T Course Code 21CSE586T ³ 21CSE587T ³	Title Case Studies Journal Publication Course Delivery by online mode (³) Course Title REST APIs Development using Spring Framework Full Stack Application Development using React and Spring Framework	L 3 0 W L 3 3	ours /eee T	s/ k P 0 0	3 3 C 3	Ass Course Code 21IPC501J	Big Data Analytics Data Sciences Tot sessment by Open Book Examinatio Course Title Research Methodology burses may be studied under MOOC p	3 3 3 al Cr Ho W L	0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0	0 0 0 0 tts	3 3 3 C
Code 21CSC601T 21CSE600T Course Code 21CSE586T ³ 21CSE588T ³	Title Case Studies Journal Publication Course Delivery by online mode (³) Course Title REST APIs Development using Spring Framework Full Stack Application Development using React and Spring Framework Deploying Full Stack Application	HC W 1 3 3 3 3 3	0 0 0 (ee T 0	P	3 3 C 3 3	Ass Course Code 21IPC501J 2 All elective cod 1 100% asses	Big Data Analytics Data Sciences Tot Sessment by Open Book Examination Course Title Research Methodology Durses may be studied under MOOC possment by the Department	3 3 3 al Cr Ho W L	0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0	0 0 0 0 tts	3 3 3 C
Code 21CSC601T 21CSE600T Course Code 21CSE586T ³ 21CSE588T ³ 21CSE590T ³	Title Case Studies Journal Publication Course Delivery by online mode (3) Course Title REST APIs Development using Spring Framework Full Stack Application Development using React and Spring Framework Deploying Full Stack Application Agile and DevOps	Ho W L 3 3 3 3 3 3	0 0 0 (eee T 0 0	P 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C 3 3 3 3 3 3	Ass Course Code 21IPC501J All elective cc 1 100% asses 2 Assessment	Big Data Analytics Data Sciences Tot sessment by Open Book Examinatio Course Title Research Methodology burses may be studied under MOOC p	3 3 3 al Cr Ho W L	0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0	0 0 0 0 tts	3 3 3 C
Code 21CSC601T 21CSE600T Course Code 21CSE586T ³ 21CSE588T ³ 21CSE590T ³ 21CSE595T ³	Title Case Studies Journal Publication Course Delivery by online mode (3) Course Title REST APIs Development using Spring Framework Full Stack Application Development using React and Spring Framework Deploying Full Stack Application Agile and DevOps Web 3.0	Hc W 1 3 3 3 3 3 3 3 3	0 0 0 0 0 0 0	P	C C 3 3 3 3 3 3 3	Ass Course Code 21IPC501J All elective cc 1 100% asses 2 Assessment	Big Data Analytics Data Sciences Tot sessment by Open Book Examination Course Title Research Methodology Durses may be studied under MOOC possment by the Department at by Open Book Examination	3 3 3 al Cr Ho W L	0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0	0 0 0 0 tts	3 3 3 C
Code 21CSC601T 21CSE600T Course Code 21CSE586T ³ 21CSE588T ³ 21CSE590T ³ 21CSE595T ³ 21CSE595T ³ 21CSE642T ³	Title Case Studies Journal Publication Course Delivery by online mode (3) Course Title REST APIs Development using Spring Framework Full Stack Application Development using React and Spring Framework Deploying Full Stack Application Agile and DevOps Web 3.0 Cloud Native Application Development	HC W 3 3 3 3 3 3 2 2	0 0 0 (eee T 0 0	P 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C 3 3 3 3 3 3 3 3 3	Ass Course Code 21IPC501J All elective cc 1 100% asses 2 Assessment	Big Data Analytics Data Sciences Tot sessment by Open Book Examination Course Title Research Methodology Durses may be studied under MOOC possment by the Department at by Open Book Examination	3 3 3 al Cr Ho W L	0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0	0 0 0 0 tts	3 3 3 C
Code 21CSC601T 21CSE600T Course Code 21CSE586T ³ 21CSE588T ³ 21CSE590T ³ 21CSE595T ³ 21CSE642T ³ 21CSE644T ³	Title Case Studies Journal Publication Course Delivery by online mode (3) Course Title REST APIs Development using Spring Framework Full Stack Application Development using React and Spring Framework Deploying Full Stack Application Agile and DevOps Web 3.0	Ho W L 3 3 3 3 3 2 3	0 0 0 (eee T 0 0 0 0 0	P 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C C 3 3 3 3 3 3 3	Ass Course Code 21IPC501J All elective cc 1 100% asses 2 Assessment	Big Data Analytics Data Sciences Tot sessment by Open Book Examination Course Title Research Methodology Durses may be studied under MOOC possment by the Department at by Open Book Examination	3 3 3 al Cr Ho W L	0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0	0 0 0 0 tts	3 3 3 C

21. (h) Implementation Plan: M.Tech in Computer Science and Engineering with specialization in Fullstack

Semester - I						Semester - II												
Code	Course Title	Hours/ Week											Code	Course Title		lour Vee		
			Т	Р	С			L	Τ	Р	С							
21MAC503T	Discrete Mathematics and Probability Theory	3	1	0	4	21CSC550J 21CSC511J	Database Technology Web Technologies	3	0	2	4							
21CSC551J	Advanced Data Structures and Algorithms	3	0	2	4	Professional Elective-1		_	3									
21CSC553J	Full Stack Development Frameworks	3	0	2	4	Total Credits				3 11/17								
21IPC501J ²	Research Methodology	2	1	2	4						,							
					3	Semester - IV												
	Total Credits				16/19		Competer 11	I	lour	s/								
	Semester - III					Code	Course Title		Wee		С							
Code	Course Title		Hou We	ek		21CSP501L	Specialization Project	0	0	40	_							
		L	T	Р		240005021	(OR)	Λ	Λ	20	15							
21CSC601T 1	Case Studies	3	0	0	3		Specialization Project	0	0	30								
	Professional Elective-2				3	21CSP503L	Domain Internship	0	U	10	5							
					3	r		_			3							
					3		T	L			3							
3							Total Credits				20/26							
	Total Credits	;			6/15	# Students mu	ust register either 21CSP501L or 210	CSP	502	L ar	d							
						121CSP503L b	oth in fourth semester											

Offered and can be enrolled in both ODD & EVEN semester										
Code	Course Title		lours Neel	С						
		L	Τ	Р						
				3						
	Professional Elective-4				3					
	Professional Elective-5				3					
	Professional Elective-6									
21CSE600T 1	21CSE600T ¹ Journal Publication				3					
	Professional Elective-7									
	Open Elective	3	0	0	3					

21. (i) Program Articulation Matrix: M.Tech in Computer Science and Engineering with Specialization in Fullstack

0	Course Name		ramme Outco	Outcomes		
Course Code	Course Name	1	2	3		
21MAC503T	Discrete Mathematics and Probability Theory	3	3	-		
21CSC551J	Advanced Data Structures and Algorithms	3	•	-		
21CSC550J	Database Technology	2.3	3	3		
21CSC553J	Full Stack Development Frameworks	2.5	2	2.3		
21CSC511J	Web Technologies					
	Case Studies					
	Computer Networking	2.4	-	2.3		
21CSE585T	Front End Development Technologies	1.7	1	3		
21CSE586T	REST APIs Development using Spring Framework	3	1	3		
	Full Stack Application Development using React and Spring Framework	3	1	3		
	Deploying Full Stack Application	1.8	1	2		
	Mobile Application Development	2.8	3	3		
21CSE590T	Agile and DevOps	3	3	3		
21CSE595T		2.6	2	1.5		
	Cloud Native Application Development	2.7	2	3		
21CSE643T	Microservices and Service Based Architectures	2	,	2.8		
21CSE644T	Web and Social Media Analytics	3	2	2.5		
	Server-Side Programming	1	1	3		
21CSE653T	Cloud Computing with Blockchain	3	2	3		
21CSE6 <mark>00T</mark>	Journal Publication					
21IPC <mark>501</mark> J	Research Methodology	3	2.6	-		
	Open Elective	F 7-1				
21CSP501L	Specialization Project	N 7/				
	Specialization Project					
2 <mark>1CSP503</mark> L	Domain Internship					
	Program Average					





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