ACADEMIC CURRICULA

POST GRADUATE DEGREE PROGRAMMES

Master of Technology

(Choice Based Flexible Credit System)

Regulations 2021

Volume – 21 Curriculum

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

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Kattankulathur, Chengalpattu District 603203,

Tamil Nadu, India

13. M.Tech in Artificial Intelligence

13. (a) Department Vision Statement

Stmt - 1	*To build a world-renowned academic platform in Computational Intelligence by providing unique learning and research experiences in collaboration with industries and world-class universities.*

13. (b) Department Mission Statement

Stmt - 1	*To envision in creating, acquiring, and disseminating engineering knowledge on computational intelligence to elevate a student into a professional by imparting knowledge on mathematics, computing sciences, artificial intelligence, and software engineering along with the skills of cognitive computing.*
Stmt - 2	*To offer a unique learning environment through world class faculty, curriculum, modernized lab facilities, and an interactive classroom environment with real-time experience from industrial experts that leads to a computing career in the latest technologies.*
Stmt - 3	*To uplift the innovative research and development in computational intelligence and its allied fields by collaborating with renowned academic institutions and industries.*
Stmt - 4	*To produce graduates who are global innovators and leaders in the development of computational intelligence-based systems, along with the commitment to ethical responsibilities and lifelong learning.*

13. (c) Program Education 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 be able to analyze the problems by applying the principles of computer science, mathematics, and scientific investigation and to design and implement industry accepted solutions using latest AI technologies to meet ever changing developments in computer science*

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

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

13. (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.*

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

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

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

13. (g) Programme Structure: M.Tech in Artificial Intelligence

Professional Core Courses (C)

Course Code	Course Title	Hours/ Week L	T	P	C
21CSC569J	Fundamentals of Artificial Intelligence	3	0	2	4
21CSC529T	Inferential Statistics	2	1	0	3
21CSC555J	Machine Learning Algorithms	3	0	2	4
21CSC558J	Deep Learning Approaches	3	0	2	4
21CSC571J	Reinforcement Learning Algorithms	3	0	2	4
21IPC501J [2]	Research Methodology	2	1	2	4
21CSC601T [1]	Case Studies	3	0	0	3
	Total Credits				**26**

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

Course Code	Course Title	Hours/ Week L	T	P	C
21CSP501L	Specialization Project	0	0	40	20
	(OR)				
21CSP502L	Specialization Project	0	0	30	15
21CSP503L	Domain Internship	0	0	10	5
	Total Credits				**20**

Course Delivery by online mode ([3])

Course Code	Course Title	Hours/ Week L	T	P	C
21CSE583T [3]	Natural Language Processing and its Applications	3	0	0	3
21CSE584T [3]	Time Series Analysis and Forecasting	2	1	0	3
21CSE591T [3]	Advanced Data Visualization	2	1	0	3
21CSE639T [3]	Blockchain Technologies	2	1	0	3
21CSE633T [3]	Computer Vision on Edge Computing	2	1	0	3
21CSE647T [3]	Artificial Intelligence for Ambient Systems	3	0	0	3
21CSE656T [3]	Social Media Analytics	2	1	0	3
21CSE658T [3]	Large Language Models	3	0	0	3

Assessment by Open Book Examination ([2])

Course Code	Course Title	Hours/ Week L	T	P	C
21IPC501J [2]	Research Methodology	2	1	2	4

Professional Elective Courses (E) (Any 7 Courses)

Course Code	Course Title	Hours/ Week L	T	P	C
21AIE536T	Artificial Intelligence Engines	3	0	0	3
21CSE524T	Computer Vision Techniques	2	1	0	3
21AIE538T	Artificial Intelligence for Industrial Applications	3	0	0	3
21AIE541T	Multimodal Machine Learning	3	0	0	3
21CSE543T	Brain Machine Interface: Science, Technology and Application	3	0	0	3
21CSE549T	Decision Making Under Uncertainty	3	0	0	3
21CSE548T	Spatial and Temporal Computing	3	0	0	3
21CSE583T [3]	Natural Language Processing and its Applications	3	0	0	3
21CSE584T [3]	Time Series Analysis and Forecasting	2	1	0	3
21CSE591T [3]	Advanced Data Visualization	2	1	0	3
21AIE532T	Soft Computing and its Applications	3	0	0	3
21CSE639T [3]	Blockchain Technologies	2	1	0	3
21CSE633T [3]	Computer Vision on Edge Computing	2	1	0	3
21CSE647T [3]	Artificial Intelligence for Ambient systems	3	0	0	3
21CSE656T [3]	Social Media Analytics	2	1	0	3
21CSE658T [3]	Large Language Models	3	0	0	3
21CSE600T [1]	Journal Publication	0	0	0	3
	Total Credits				**21**

Open Elective Courses (O)

Course Code	Course Title	Hours/ Week L	T	P	C
21CSO621T	Cyber Security	3	0	0	3
21CSO622T	Big Data Analytics	3	0	0	3
21CSO623T	Data Sciences	3	0	0	3
	Total Credits				3

100% assessment by the Department ([1])

Course Code	Course Title	Hours/ Week L	T	P	C
21CSC601T [1]	Case Studies	3	0	0	3
21CSE600T [1]	Journal Publication	0	0	0	3

All elective courses may be studied under MOOC platform

[1] *100% assessment by the Department*

[2] *Assessment by Open Book Examination*

[3] *Course Delivery through online mode*

13. (h) Implementation Plan: M.Tech in Artificial Intelligence

Semester - I

Code	Course Title	Hours/ Week			
		L	T	P	C
21CSC569J	Fundamentals of Artificial Intelligence	3	0	2	4
21CSC529T	Inferential Statistics	2	1	0	3
21CSC555J	Machine Learning Algorithms	3	0	2	4
21IPC501J [2]	Research Methodology	2	1	2	4
					3
Total Credits					**15/18**

Semester - II

Code	Course Title	Hours/ Week			
		L	T	P	C
21CSC558J	Deep Learning Approaches	3	0	2	4
21CSC571J	Reinforcement Learning Algorithms	3	0	2	4
	Professional Elective-1				3
					3
					3
Total Credits					**11/17**

Semester - III

Code	Course Title	Hours/ Week			
		L	T	P	C
21CSC601T [1]	Case Studies	3	0	0	3
	Professional Elective-2				3
					3
					3
					3
Total Credits					**6/15**

Semester - IV

Code	Course Title	Hours/ Week			
		L	T	P	C
21CSP501L	Specialization Project	0	0	40	20
	(OR)				
21CSP502L	Specialization Project	0	0	30	15
21CSP503L	Domain Internship	0	0	10	5
					3
					3
Total Credits					**20/26**

 # Students must register either 21CSP501L or 21CSP502L and 21CSP503L both in fourth semester

Offered and can be enrolled in both ODD & EVEN semester

Code	Course Title	Hours/ Week			C
		L	T	P	
	Professional Elective-3				3
	Professional Elective-4				3
	Professional Elective-5				3
	Professional Elective-6				3
21CSE600T [1]	Journal Publication	0	0	0	
	Professional Elective-7				3
	Open Elective	3	0	0	3

13. (i) Program Articulation Matrix: M.Tech in Artificial Intelligence

Course Code	Course Name	Programme Outcomes		
		1	2	3
21CSC569J	*Fundamentals of Artificial Intelligence*	*1.6*	*0.8*	*0.6*
21CSC529T	*Inferential Statistics*	*2*	*2*	*1.6*
21CSC555J	*Machine Learning Algorithms*	*1.8*	*2.8*	*2.6*
21CSC558J	*Deep Learning Approaches*	*2.5*	*2*	*2*
21CSC571J	*Reinforcement Learning Algorithms*	*2.2*	*0.8*	*0.6*
21CSC601T	*Case Studies*			
21AIE536T	*Artificial Intelligence Engines*			
21CSE524T	*Computer Vision Techniques*			
21AIE538T	*Artificial Intelligence for Industrial Applications*			
21AIE541T	*Multimodal Machine Learning*			
21CSE543T	*Brain Machine Interface: Science, Technology and Application*			
21CSE549T	*Decision Making Under Uncertainty*			
21CSE548T	*Spatial and Temporal Computing*			
21CSE583T	*Natural Language Processing and its Applications*	*3*	-	-
21CSE584T	*Time Series Analysis and Forecasting*	*2*	*2*	*2*
21CSE591T	*Advanced Data Visualization*	*2.8*	*1.2*	*0.6*
21AIE532T	*Soft Computing and its Applications*			
21CSE639T	*Blockchain Technologies*	*2*	*2*	*3*
21CSE633T	*Computer Vision on Edge Computing*	*2*	*2*	*2*
21CSE647T	*Artificial Intelligence for Ambient systems*	*1.2*	-	*1*
21CSE656T	*Social Media Analytics*	*3*	*2.3*	*1*
21CSE658T	*Large Language Models*	*2*	*1.8*	*1.4*
21CSE600T	*Journal Publication*			
21IPC501J	*Research Methodology*	*3*	*2.6*	
	Open Elective			
21CSP501L	*Specialization Project*			
21CSP502L	*Specialization Project*			
21CSP503L	*Domain Internship*			
	Program Average			

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

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