

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

M. Sc. Artificial Intelligence and Machine Learning

Curriculum from the Academic Year 2019 - 2020 onwards

Subjects of Study

Semester I

Course Code	Course Name	L	T	P	C	CAT
19MAM11	Technical English	2	0	0	2	HS
19MAM12	Applied Algebra	3	0	0	3	BS
19MAM13	Fundamental Statistical Methods	3	0	0	3	BS
19MAM14	Data Structures	3	0	0	3	PC
19MAM15	Theory of Programming Languages	3	0	0	3	PC
	PRACTICALS					
19MAM16	Algebra and Statistics Lab	0	0	4	2	PC
19MAM17	Data Structures Lab	0	0	4	2	PC
19MAM18	Python Programming Lab	1	0	4	3	PC
19FYEL11	Employability Skills	0	0	2	1	EEC
	Total Credits				22	

Semester II

Course Code	Course Name	L	T	P	C	CAT
19MAMLE01	Professional English	2	0	0	2	HS
19MAM21	Applied Calculus	3	0	0	3	BS
19MAM22	Probability Distributions and Applications	3	0	0	3	BS
19MAM23	Computer System Architecture	3	0	0	3	PC
19MAM24	Advanced Data Structures	3	0	0	3	PC
	PRACTICALS					
19MAM25	Calculus and Probability Lab	0	0	4	2	PC
19MAM26	Programming Paradigm Lab	0	0	4	2	PC
19MAM27	Advanced Data Structures Lab	0	0	4	2	PC
19FYEL21	English for Employability	0	0	2	1	EEC
	Total Credits				21	

Semester III

Course Code	Course Name	L	T	P	C	CAT
	THEORY					
19MAM31	Artificial Intelligence	3	0	0	3	PC
19MAM32	Theory of Computing	3	0	0	3	PC
19MAM33	Database Management Systems	3	0	0	3	PC
19MAM34	Predictive Analytics	3	0	0	3	BS
19MAM35	Human Computer Interaction	3	1	0	4	PC
	PRACTICALS					
19MAM36	Artificial Intelligence Lab	0	0	4	2	PC
19MAM37	Database Management Systems Lab	0	0	4	2	PC
19MAM38	Predictive Analytics Lab	0	0	4	2	PC
	Total Credits				22	

Semester IV

Course Code	Course Name	L	T	P	C	CAT
	THEORY					
19MAM41	Operations Research	3	0	0	3	BS
19MAM42	Machine Learning	3	0	0	3	PC
19MAM43	Design and Analysis of Algorithms	3	0	0	3	PC
19MAM44	Data Communications and Networking	3	0	0	3	PC
19MAM45	Operating Systems	3	0	0	3	PC
	PRACTICALS					
19MAM46	Machine Learning Lab	0	0	4	2	PC
19MAM47	Design and Analysis of Algorithms Lab	0	0	4	2	PC
19MAM48	Network Programming Lab	0	0	4	2	PC
	Total Credits				21	

Semester V

Course Code	Course Name	L	T	P	C	CAT
	THEORY					
19MAM51	Advanced Machine Learning	3	0	0	3	PC
19MAM52	Artificial Neural Networks	3	0	0	3	PC
19MAM53	Knowledge Based Systems	3	0	0	3	PC
19MAM54	AI Systems Engineering	3	0	0	3	PC
19MAM55	Distributed and Cloud Computing	3	0	0	3	PC
	PRACTICALS					
19MAM56	Advanced Machine Learning Lab	0	0	4	2	PC
19MAM57	Full Stack Web Development Lab	0	0	4	2	PC
19MAM58	Cloud Computing Lab	0	0	4	2	PC
19MAM59	Personality Development	0	0	2	1	EEC
	Total Credits				22	

Semester VI

Course Code	Course Name	L	T	P	C	CAT
	THEORY					
19MAM61	Intelligent Agents	3	0	0	3	PC
19MAM62	Deep Learning	3	0	0	3	PC
19MAM63	Information Retrieval and Web Search	3	0	0	3	PC
19MAM64	Big Data Analytics	3	0	0	3	PC
	Elective – I	3	0	0	3	PE
	PRACTICALS					
19MAM65	Deep Learning Lab	0	0	4	2	PC
19MAM66	Mobile Application Development Lab	0	0	4	2	PC
19MAM67	Big Data Analytics Lab	0	0	4	2	PC
19MAM68	Communication Skills	0	0	2	1	EEC
19MAM69	Hackathon	0	0	2	1	EEC
	Total Credits				23	

Semester VII

Course Code	Course Name	L	T	P	C	CAT
19MAM71	Project Work and Viva Voce-I	0	0	0	18	EEC
	Total Credits				18	

Semester VIII

Course Code	Course Name	L	T	P	C	CAT
	THEORY					
19MAM81	Graph Representation Learning	3	0	0	3	PC
19MAM82	Reinforcement Learning	3	0	2	4	PC
19MAM83	Meta-Heuristic Optimization Techniques	3	0	0	3	PC
	Elective II	3	0	0	3	PE
	Elective III	3	0	0	3	PE
	PRACTICALS					
19MAM84	Meta-Heuristic Optimization Lab	0	0	4	2	PC
	Elective Lab I	0	0	4	2	PE
	Elective Lab II	0	0	4	2	PE
	Total Credits				22	

Semester IX

Course Code	Course Name	L	T	P	C	CAT
	THEORY					
19MAM91	Computer Vision	3	0	0	3	PC
19MAM92	Cyber Threat Intelligence	3	0	0	3	PC
	Elective – IV	3	0	0	3	PE

	Elective -V	3	0	0	3	PE
	Elective -VI	3	0	0	3	PE
	PRACTICALS					
19MAM93	Computer Vision Lab	0	0	4	2	PC
19MAM94	Intelligent Cyber Security Lab	0	0	4	2	PC
19MAM95	Elective Lab-III	0	0	4	2	PE
	Total Credits				21	

Semester X

Course Code	Course Name	L	T	P	C	CAT
19MAM101	Project Work and Viva Voce- II	0	0	0	18	EEC
	Total Credits				18	
	Grand Total of Credits				210	

One Credit Course

Course Code	Course Name	L	T	P	C	CAT
19MAMOC1	Econometrics and Machine Learning in Finance	1	0	0	1	OC

ELECTIVE LIST

Professional Electives- AI & ML

Course Code	Course Name	L	T	P	C	CAT
19MAME01	Ethics in AI	3	0	0	3	PE
19MAME02	Healthcare Analytics	2	0	2	3	PE
19MAME03	Smart Applications	3	0	0	3	PE
19MAME04	Spatial Data Modelling and Analysis	3	0	0	3	PE
19MAME05	Augmented and Virtual Reality	3	0	0	3	PE
19MAME06	Medical Image Processing	3	0	0	3	PE
19MAME07	Natural Language Processing	3	0	0	3	PE
19MAME08	Probabilistic Graphical Models	2	0	2	3	PE

19MAME09	Cognitive Computing	3	0	0	3	PE
19MAME10	Recommender Systems	2	0	2	3	PE
19MAME11	Robotics and its Applications	3	0	0	3	PE
19MAME12	Conversational AI	3	0	0	3	PE
19MAME13	Game Theory	3	0	0	3	PE

Professional Electives-Information Technology

Course Code	Course Name	L	T	P	C	CAT
19MAME14	Agile Software Development	3	0	0	3	PE
19MAME15	SOA and Web Services	2	0	2	3	PE
19MAME16	Internet of Things	3	0	0	3	PE
19MAME17	Digital Signal and Image Processing	2	0	2	3	PE
19MAME18	Cyber Security	3	0	0	3	PE

Professional Electives -Economics, Finance and Management

Course Code	Course Name	L	T	P	C	CAT
19MAME19	Business Intelligence	3	0	0	3	PE

Professional Electives-Laboratory

Course Code	Course Name	L	T	P	C	CAT
19MAMEL01	Spatial Data Modelling and Analysis Laboratory	0	0	4	2	PE
19MAMEL02	Augmented and Virtual Reality Lab	0	0	4	2	PE
19MAMEL03	Natural Language Processing Lab	0	0	4	2	PE
19MAMEL04	Graph Analytics Lab	0	0	4	2	PE
19MAMEL05	Internet of Things Lab	0	0	4	2	PE
19MAMEL06	Cyber Security Lab	0	0	4	2	PE

One Credit Courses**

Course Code	Course Name	L	T	P	C	CAT
19MAMOC01	Econometrics and Machine Learning in Finance	1	0	0	1	EEC

**By Industry experts