

Computer Science and Engineering (Artificial Intelligence and Machine Learning)**# Scheme Provisional (Subject to Goa University Approval)**

FIRST YEAR CSE (AI AND ML) SCHEME (RC2024-25)								
SEMESTER – I								
Sr. No.	Course Category	Course Code	Title of the Course	L	T	P	TCr	
1.	Major	CMP-100	Fundamentals of Programming using C	3	0	0	3	
		CMP-101	Fundamentals of Programming using C Lab	0	0	1	1	
2	Minor	EEL-111	Basics of Electrical and Electronics Engineering	3	0	0	3	
		EEL-112	Basics of Electrical and Electronics Engineering Lab	0	0	1	1	
		OR						
		SHM-111	Biology for Engineers	3	0	0	3	
		SHM-112	Biology for Engineers Lab	0	0	1	1	
3	MC	SHM-131	Engineering Mathematics – I	2	1	0	3	
4	AEC	AEC-151	Creative Thinking and Innovation	2	0	0	2	
		AEC-152	Creative Thinking and Innovation Lab	0	0	1	1	
5	VAC	VAC-156	Indian Knowledge System	2	0	0	2	
		VAC-157	Indian Knowledge System Lab	0	0	1	1	
6	SEC	SEC-144	Electronics and Mechanical Workshop	0	0	3	3	
			TOTAL	12	1	7	20	

SEMESTER – II								
Sr. No.	Course Category	Course Code	Title of the Course	L	T	P	TCr	
1	Major	ITH-100	Fundamentals of Computing using Python	3	0	0	3	
		ITH-101	Fundamentals of Computing using Python Lab	0	0	1	1	
2	Minor	MCV-111	Basics of Mechanical and Civil Engineering	3	0	0	3	
		MCV-112	Basics of Mechanical and Civil Engineering Lab	0	0	1	1	
		OR						
		SHM-113	Engineering Chemistry	3	0	0	3	
		SHM-114	Engineering Chemistry Lab	0	0	1	1	
3	MC	SHM-132	Applied Physics	2	0	0	2	
		SHM-133	Applied Physics Lab	0	0	1	1	
4	AEC	AEC-153	Communication and Technical Writing	2	1	0	3	
5	VAC	VAC-158	Environmental Science and Sustainability	2	0	0	2	
		VAC-159	Environmental Science and Sustainability Lab	0	0	1	1	
6	SEC	SEC-143	Engineering Graphics and Design with UI/UX	0	0	3	3	
TOTAL				12	1	7	20	

SEMESTER – III								
Sr. No.	Course Category	Course Code	Title of the Course	L	T	P	TCr	
1	Major	AIM-200	Data Structures using C++	3	0	0	3	
		AIM-201	Data Structures using C++ Lab	0	0	1	1	
		AIM-202	Foundation of Artificial Intelligence	3	0	0	3	
		AIM-203	Foundation of Artificial Intelligence Lab	0	0	1	1	
2	Minor/IC/PE	AIM-221	Digital Logic Design	3	0	0	3	
		AIM-222	Digital Logic Design Lab	0	0	1	1	
		OR						
		AIM-223	Embedded System Design and Applications	3	0	0	3	
		AIM-224	Embedded System Design and Applications Lab	0	0	1	1	
3	Multi-disciplinary	SHM-XXX	Mathematical Foundations for AI and ML-I	3	0	0	3	
4	AEC	AEC-251	Indian Languages					
		HIN-253	Sambhashan Kala	0	0	2	2	
		OR						
		MAR-253	Sambhashan Kaushalya	0	0	2	2	
		OR						
		KON-253	Sambhashan Kaushalya	0	0	2	2	
5	SEC	SEC-XXX	AI Powered App Development	0	0	3	3	
TOTAL				12	0	8	20	

SEMESTER - IV								
Sr. No.	Course Category	Course Code	Title of the Course	L	T	P	TCr	
1	Major	AIM-204	Modern Database Management Systems	2	0	0	2	
		AIM-205	Modern Database Management Systems Lab	0	0	2	2	
		AIM-206	Foundations of Machine Learning	3	0	0	3	
		AIM-207	Foundations of Machine Learning Lab	0	0	1	1	
		AIM-208	Modern Operating Systems	3	0	0	3	
		AIM-209	Modern Operating Systems Lab	0	0	1	1	
		ECM-XXX	Mathematical Foundations for AI and ML-II	3	1	0	4	
2	Professional Electives	AIM-225	Design and Analysis of Algorithms	3	0	0	3	
		AIM-226	Design and Analysis of Algorithms Lab	0	0	1	1	
		OR						
		AIM-227	Fundamentals of Software Engineering	3	0	0	3	
		AIM-228	Fundamentals of Software Engineering Lab	0	0	1	1	
TOTAL				14	1	5	20	

SEMESTER – V							
Sr. No.	Course Category	Course Code	Title of the Course	L	T	P	TCr
1	Major	AIM-300	Foundations of Data Science	2	0	0	2
		AIM -301	Foundations of Data Science Lab	0	0	2	2
2		AIM -302	Computer Networks and Security	3	0	0	3
		AIM -303	Computer Networks and Security Lab	0	0	1	1
3		AIM -304	Automata Theory and Compiler Design	3	0	0	3
		AIM -305	Automata Theory and Compiler Design Lab	0	0	1	1
4		AIM -306	Neural Networks and Deep Learning	3	0	0	3
		AIM -307	Neural Networks and Deep Learning Lab	0	0	1	1
5		AIM -321	Natural Language Processing and Chatbot	3	0	0	3
		AIM -322	Natural Language Processing and Chatbot Lab	0	0	1	1
			OR				
		AIM -323	IoT and Edge Computing	3	0	0	3
		AIM -324	IoT and Edge Computing Lab	0	0	1	1
			OR				
	AIM -325	Computer Vision and Video Processing	3	0	0	3	
	AIM -326	Computer Vision and Video Processing Lab	0	0	1	1	
		TOTAL	14	0	6	20	

SEMESTER – VI								
Sr. No.	Course Category	Course Code	Title of the Course	L	T	P	TCr	
1	Major	AIM-308	Advance Deep learning	3	0	0	3	
		AIM -309	Advance Deep Learning Lab	0	0	1	1	
2		AIM -310	AI for intelligent Automation	2	0	0	2	
		AIM -311	AI for intelligent Automation Lab	0	0	2	2	
3		AIM -312	Big Data Analytics with Cloud Platforms	3	0	0	3	
		AIM -313	Big Data Analytics with Cloud Platforms Lab	0	0	1	1	
4		AIM -314	Fundamentals of GPU and High Performance Computing	3	0	0	3	
		AIM -315	Fundamentals of GPU and High Performance Computing Lab	0	0	1	1	
5		Minor	AIM -327	Expert Knowledge Systems	3	0	0	3
			AIM -328	Expert Knowledge Systems Lab	0	0	1	1
			OR					
	AIM -329		Intelligent Web Analytics	3	0	0	3	
	AIM -330		Intelligent Web Analytics lab	0	0	1	1	
			OR					
	AIM -331		Drone Intelligence and Applications	3	0	0	3	
	AIM -332		Drone Intelligence and Applications Lab	0	0	1	1	
			TOTAL	14	0	6	20	

SEMESTER – VII								
Sr. No.	Course Category	Course Code	Title of the Course	L	T	P	TCr	
1	Major	AIM-400	Quantum Intelligence	3	0	0	3	
		AIM -401	Quantum Intelligence Lab	0	0	1	1	
2		AIM -402	Containerization and Cloud Deployment	3	0	0	3	
		AIM -403	Containerization and Cloud Deployment Lab	0	0	1	1	
3		AIM -404	Cognitive Robotics	3	0	0	3	
		AIM -405	Cognitive Robotics Lab	0	0	1	1	
4		AIM -406	Intelligent Threat Analysis	3	0	0	3	
		AIM -407	Intelligent Threat Analysis Lab	0	0	1	1	
5		Minor	AIM -421	Current Research Directions in AI	3	0	0	3
			AIM -422	Current Research Directions in AI Lab	0	0	1	1
				OR				
			AIM -423	Sustainable AI	3	0	0	3
			AIM -424	Sustainable AI Lab	0	0	1	1
				OR				
	AIM -425		AR and Game Development	3	0	0	3	
	AIM -426		AR and Game Development Lab	0	0	1	1	
6		SHM- VVV	Economics and Entrepreneurship	4	0	0	4	
			OR					
		SHM - UUU	Start-up Business Management	4	0	0	4	
			TOTAL	19	0	5	24	

SEMESTER – VIII

SEMESTER – VIII								
Sr. No.	Course Category	Course Code	Title of the Course	L	T	P	TCr	
1	Major	AIM-461	Project	0	0	12	12	
		OR						
		AIM-462	Internship	0	0	12	12	
		OR						
		AIM-463	Research	0	0	12	12	
2	Minor	AIM -427	Online Course	4	0	0	4	
			TOTAL	4	0	12	16	