

M.E. Semester –I (Information Technology)
Choice Based Credit Grading Scheme (CBCGS 2023)

Course Description			Teaching Scheme (Academic)				Examination scheme(Academic)					
Sr. No.	Course Code	Course Title	Hours Per Week			Contact Hours	Credits	Modes of Continuous Assessment / Evaluation				
			Theory	Tutorial	Practical			Theory(100)		Practical/Oral/Presentation (25)	Term Work(25/50)	Total
								IA(25/15)	ESE(75/35)			
1	PCC-ITME101	Applied Statistics & Exploratory Data Analytics	3	-	-	3	3	25	75	-	-	100
2	PCC-ITME102	Machine Learning	3	-	-	3	3	25	75	-	-	100
3	PEC-ITME101X	Program Elective 1*	3	-	-	3	3	25	75	-	-	100
4	PEC-ITME102X	Program Elective 2*	3	-	-	3	3	25	75	-	-	100
5	MC-ITME101	Research Methodology & IPR	2	-	-	2	2	15	35	-	-	50
6	AC-ITME00X	Audit Course	2	-	-	2	-	-	-	-	50	50
7	LC-ITME101	Laboratory I(Machine Learning)	-	-	4	4	2	-	-	25	25	50
8	LC-ITME102	Laboratory II(Based on Electives)	-	-	4	4	2	-	-	25	25	50
9	IC-ITME2	Industry Certification#	-	-	4	4	2			25	25	50
Total			16	-	12	28	20	Total marks				650

Program Elective

Sr. No.	Corse Code	Program Elective 1	Corse Code	Program Elective 2	Domain Specialization*
1	PEC-ITME1011	Ethical Hacking and Digital Forensics	PEC-ITME1021	ICT Security for Social Cause	Cyber Security
	PEC-ITME1012	Cyber Security & Laws	PEC-ITME1022	Security & Risk Management	
	PEC-ITME1013	Cryptography & PKI	PEC-ITME1023	Network Security	
2	PEC-ITME1014	Applied Natural Language Programming	PEC-ITME1024	Computer Vision & Image Processing	Artificial Intelligence
	PEC-ITME1015	Conversational AI	PEC-ITME1025	Robotic Process & Automation	
	PEC-ITME1016	Reinforcement Learning	PEC-ITME1026	Advanced Soft Computing	
3	PEC-ITME1017	Advance Web Technologies	PEC-ITME1027	Web X.0	Web Application development
	PEC-ITME1018	Web Application Security	PEC-ITME1028	Web Analytics and Intelligence	

Audit Course		
Sr. No.	Course Code	Course Title
1	AC-ITME001	English for Research Paper Writing
2	AC-ITME002	Disaster Management
3	AC-ITME003	Sanskrit for Technical Knowledge
4	AC-ITME004	Value Education
5	AC-ITME005	Constitution of India
6	AC-ITME006	Pedagogy Studies
7	AC-ITME007	Stress Management by Yoga
8	AC-ITME008	Personality Development through Life Enlightenment Skills

* Students opting for a particular Domain Specialization Track in all the semesters & Industry Certification will be eligible for domain specialization by Institute.

M.E. Semester –II (Information Technology)
Choice Based Credit Grading Scheme (CBCGS 2023)

Course Description			Teaching Scheme (Academic)					Examination scheme(Academic)				
								Modes of Continuous Assessment / Evaluation				Total
Sr. No.	Course Code	Course Title	Hours Per Week			Contact Hours	Credits	Theory(100)		Practical/ Oral/Pres entation (25/50)	Term Work(25/50)	
			Theory	Tutorial	Practical			IA(25)	ESE(75)			PR/OR
1	PCC-ITME201	Advanced Data Structures & Algorithms	3	-	-	3	3	25	75	-	-	100
2	PCC-ITME202	Advance Database Management	3	-	-	3	3	25	75	-	-	100
3	PEC-ITME201X	Program Elective 3*	3	-	-	3	3	25	75	-	-	100
4	PEC-ITME202X	Program Elective 4*	3	-	-	3	3	25	75	-	-	100
5	AC-ITME00X	Audit Course	2	-	-	2	-	-	-	-	50	50
6	MC-ITME201	Research & Scientific paper writing and Communication	2	-	-	2	2	15	35	-	-	50
7	LC-ITME201	Laboratory III(Based on cores)	-	-	4	4	2	-	-	25	25	50
8	LC-ITME202	Laboratory IV(Based on Electives)	-	-	4	4	2	-	-	25	25	50
9	LC-ITME203	Mini Project with Seminar	-	-	4	4	2	-	-	50	-	50
Total			16	-	12	28	20	Total marks (Academic)				650

Program Elective

Sr. No.	Corse Code	Program Elective 3	Corse Code	Program Elective 4	Domain Specialization
1	PEC-ITME2011	Laws of Data Security & Investigations	PEC-ITME2021	IT Security Strategic Planning, Policy and Leadership	Cyber Security
	PEC-ITME2012	Hacker Technique, Exploits and Incident handling	PEC-ITME2022	Advanced Computer Forensic Analysis	
	PEC-ITME2013	Digital & Cyber Forensics	PEC-ITME2023	Advanced Cryptography	
2	PEC-ITME2014	Game Design	PEC-ITME2024	Advanced Machine Learning	Artificial Intelligence
	PEC-ITME2015	Web Analytics and Development	PEC-ITME2025	Human Machine Interaction	
	PEC-ITME2016	AI in BlockChain	PEC-ITME2026	Sentiment Analysis	
3	PEC-ITME2017	Advanced Web Technology	PEC-ITME2027	Application & Web Security	Web Application Development
	PEC-ITME2018	Service Oriented Architecture & Web Security	P8C-ITME2027	Front end & Back end Development with React	

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M.E. Semester –III (Information Technology)
Choice Based Credit Grading Scheme (CBCGS 2023)

Course Description			Teaching Scheme (Academic)					Examination scheme(Academic)				
Sr. No.	Course Code	Course Title	Hours Per Week			Contact Hours	Credits	Theory(100)		Practical/Oral /Presentation (25/50) PR/OR	Term Work (25/50) TW	Total
			Theory	Tutorial	Practical			IA	ESE			
1	PEC-ITME301X	Program Elective 5*	1	-	-	1	1	-	-	25	25	50
2	OEC-ITME30X	Open Elective@	1	-	-	1	1	-	-	25	25	50
3	D1-ITME301	Dissertation –I/ Industry Project	-	-	36	36	18	-	-	50	50	100
Total			2	-	36	38	20	Total marks (Academic)			200	

Sr. No.	Course code	Program Elective 5	Domain Specialization
1	PEC-ITME3011	Security Architecture : Design & Analysis	Cyber Security
	PEC-ITME3012	Ethical Hacking and Penetration Testing	
	PEC-ITME3013	Public Key Infrastructure and Trust Management	
2	PEC-ITME3015	Cognitive Computing	Artificial Intelligence
	PEC-ITME3016	Explainable & Ethical AI	
	PEC-ITME3017	Generative AI	
3	PEC-ITME3018	Full Stack web development	Web Application Development
	PEC-ITME3019	E-Business & E-Commerce	

Open Elective

Sr. No.	Course Code	Course Title
1	OEC-ITME301	Business Analytics
2	OEC-ITME302	Industrial Safety
3	OEC-ITME303	Operations Research
4	OEC-ITME304	Cost Management of Engineering Projects
5	OEC-ITME305	Composite Materials
6	OEC-ITME306	Waste to Energy

* Students may complete Sem III Program Elective courses through MOOCs/self-learning mode.

@Students may complete Sem III Open Elective courses through MOOCs/self-learning mode.

Dissertation-I should be preferably based on industrial /research project carried out in industry or institute /research organization.

M.E. Semester –IV (Information Technology)
Choice Based Credit Grading Scheme (CBCGS 2023)

Course Description			Teaching Scheme (Academic)				Examination scheme(Academic)					
Sr. No.	Course Code	Course Title	Hours Per Week			Contact Hours	Credits	Theory(100)		Practical/Ora l/Presentation PR/OR	Term Work TW	Total
			Theory	Tutor ial	Practic al			IA	ESE			
1	D2-ITME401	Dissertation –II / Industry Project	-	-	40	40	20	-	-	100	100	200
Total			-	-	40	40	20	Total marks (Academic)			200	

Dissertation-I should be preferably based on industrial /research project carried out in industry or institute /research organization.

Th : Theory	IA- In-Semester Assessment
Tut:Tutorial	ESE- End Semester Examination
Pr:Practical	PR- Practical Examination
PCC: Professional Core Courses	TW – Term Work Examination
PEC: : Professional Elective Courses	OR- Oral Examination
MC: Mandatory Courses	AC- Activity
AC: Audit Courses	@ITP :Integrated Theory/Practice
LC: Laboratory Courses	@CL/PL: Collaborative/Peer Learning
OEC: Open Elective Courses	
D: Dissertation	

Program Elective

Sr. No.	Program Elective 1	Program Elective 2	Program Elective 3	Program Elective 4	Program Elective 5	Domain Specialization
1	Security Analysis of Protocols/ Wireless Security/Intrusion Detection/ Social Network Analysis	Biometric Security/ Provable and Modern Cryptosystems / Information Security Audit/ Defensible Security Architectures	Cyber Secure Software Engineering/ Foundations of Cyber Physical System	Cyber Physical Systems and Applications / Computational Cyber Physical Systems	Trust Worthy Cyber Physical Systems/ Cyber Physical Systems Verification	Cyber Security
2	Applied Natural Language Processing/ Conversational AI/ Reinforcement Learning	Computer Vision & Image Processing/ Robotics & Automation/ Advanced Soft Computing	Game Design/ Web Analytics and Development/ AI in BlockChain	Advanced Machine Learning/ Human Machine Interaction/ Sentiment Analysis	Cognitive Computing/ Explainable & Ethical AI/ Generative AI	Artificial Intelligence
3	Web Engineering	Enterprise Resource Planning	Modern Application Development	Web Development with Python	Design Patterns & Object Modeling	Web Application Development