M.E. Information Technology Semester I
Choice Based Credit Grading Scheme (CBCGS 2019)

Course Description			Teaching Scheme (Academic)					Examination scheme(Academic)				
								Modes of Continuous Assessment / Evaluation				
Sr. No.	Course Code	Course Title	Hours Per Week			Contact Hours	Credits	Theory(100)		Practical/Oral /Presentation(25)	Term Work(25/50)	Total
			Th	Tut	Pr			IA	ESE	PR/OR	TW	
1	PCC-ITME101	Mathematical foundations of Computer Science and Information Technology	3	-	-	3	3	25	75	-		100
2	PCC-ITME102	IT Infrastructure Design	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 (Based on Program Core)	-	-	4	4	2			25	25	50
8	LC-ITME102	Laboratory II (Based on Program Electives)	-	-	4	4	2			25	25	50
		Total	16	-	8	**24**	**18**	**Total marks**				**600**

Sr. No.	Course Code	Program Elective 1	Course Code	Program Elective 2	Domain Specialization Track
1	PEC-ITME1011X	Data Warehouse and Data Mining / Big Data Analytics/Advanced Software Engineering	PEC-ITME1021X	Machine Learning for IT Applications Development/ Data Storage Technologies and Networks/ Distributed Databases	Data Science
2	PEC-ITME1012X	Data Encryption & Compression/ Database Security and Access Control / Information Theory & Coding	PEC-ITME1022X	Steganography & Digital Watermarking / Machine Learning for IT Applications Development/ Smart Sensors and Internet of Things	Information Security
3	PEC-ITME1013X	Big Data Analytics / Wireless Access Technologies/ Mobile Applications and Services	PEC-ITME1023X	Machine Learning for IT Applications Development/ Smart Sensors and Internet of Things/ Logic and Functional programming	Internet of Things
4	PEC-ITME1014X	Data Encryption & Compression/ Database Security and Access Control / Information Theory & Coding	PEC-ITME1024X	Advanced Network Security / Cloud computing / Machine Learning for IT Applications Development	Block Chain

***Students opting for a particular Domain Specialization Track in all the semesters will be eligible for domain specialization certificate in the Particular domain.**

%Students selecting program electives across different tracks will be awarded a degree in Information Technology without domain specialization certificate.

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

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PE: Program Elective	OR- Oral Examination
MC: Mandatory Course	AC- Activity
AE: Audit Elective	@ITP :Integrated Theory/Practice
PCL: Program Core Laboratory	@CL/PL: Collaborative/Peer Learning
PEL: Program Elective Laboratory	
OE: Open Elective	
D: Dissertation	

M.E. Information Technology Semester II
Choice Based Credit Grading Scheme (CBCGS 2019)

Course Description			Teaching Scheme (Academic)					Examination scheme(Academic)				
								Modes of Continuous Assessment / Evaluation				
Sr. No.	Course Code	Course Title	Hours Per Week			Contact Hours	Credits	Theory(100)		Practical/Oral /Presentation(25)	Term Work(25/50)	Total
			Th	Tut	Pr			IA	ESE	PR/OR	TW	
1	PCC-ITME201	Advance Algorithms	3	-	-	3	3	25	75	- -	- -	100
2	PCC-ITME202	Advanced Web Technology	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	LC-ITME201	Laboratory III(Based on Program Core)	-	-	4	4	2	-	-	25	25	50
7	LC-ITME202	Laboratory IV(Based on Program Electives)	-	-	4	4	2	-	-	25	25	50
8	LC-ITME203	Mini Project with Seminar	-	-	4	4	2	-	-	50	-	50
		Total	16	-	8	**24**	18	**Total Marks (Academic)**				**600**

Sr. No.	Course Code	Program Elective 3	Course Code	Program Elective 4	Domain Specialization Track
1	PEC-ITME2011X	Web Analytics and Development/ Data Security and Access Control/ Data Visualization	PEC-ITME2021X	Data Science / Knowledge Discovery/ Advanced Machine Learning	Data Science
2	PEC-ITME2012X	Security Assessment and Risk Analysis/ Secure Coding/ Biometrics	PEC-ITME2022X	Digital Forensics/ Ethical Hacking/ Intrusion Detection	Information Security
3	PEC-ITME2013X	Sensor Networks and Internet of Things/ Data Visualization/ IoT Application and Communication Protocol	PEC-ITME2023X	Data Science / Network Security/ Advanced Machine Learning	Internet of Things
4	PEC-ITME2014X	Malware Analysis & Reverse Engineering/ Data Science/ Secure Coding	PEC-ITME2024X	Block Chain Technology-I Distributed Data bases/ Secure Software Design and Enterprise Computing	Block Chain

***Students should be encouraged to go to Industrial Training/Internship for at least 2-3 Weeks during semester break**

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

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D: Dissertation	

M.E. Information Technology Semester III ***
Choice Based Credit Grading Scheme (CBCGS 2019)

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	Term Work	Total
			Th	Tut	Pr			IA	ESE	PR/OR	TW	
1	PEC-ITME301X	Program Elective 5	3	-	-	3	3			25	25	50
2	OEC-ITME30X	Open Elective	3	-	-	3	3			25	25	50
3	D1-ITME301	Dissertation –I/ Industry Project	-	-	20	20	10			50	50	100
		Total	6	-	20	26	16	**Total marks (Academic)**				200

Sr. No.	Course Code	Program Elective 5	Domain Specialization Track
1	PEC-ITME3011X	GPU Computing/IT project management/ Cloud Computing /	Data Science
2	PEC-ITME3012X	Malware Analysis & Reverse Engineering/ Secure Software Design and Enterprise Computing/	Information Security
3	PEC-ITME3013X	Cloud Computing/ IOT and Smart Cities/ Emulation and Simulation Methodologies	Internet of Things
4	PEC-ITME3014X	Block Chain Technology-II/ Cryptography & Network Security / Security Assessment and Risk Analysis/	Block Chain

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PE: Program Elective	OR- Oral Examination
MC: Mandatory Course	AC- Activity
AE: Audit Elective	@ITP :Integrated Theory/Practice
PCL: Program Core Laboratory	@CL/PL: Collaborative/Peer Learning
PEL: Program Elective Laboratory	
OE: Open Elective	
D: Dissertation	

		Open Elective
Sr. No.	Course Code	Course Title
1	OEC-IT ME 301	Business Analytics
2	OEC-IT ME 302	Industrial Safety
3	OEC-IT ME 303	Operations Research
4	OEC-IT ME 304	Cost Management of Engineering Projects
5	OEC-IT ME 305	Composite Materials
6	OEC-IT ME 306	Waste to Energy

/* Students going for Industrial Project may complete the Semester-III courses through MOOCs/self learning mode.

 # Students may complete Open/Program Elective or similar PG level courses through MOOCs/self learning mode.

M.E. Information Technology Semester IV

Choice Based Credit Grading Scheme (CBCGS 2019)

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	Term Work	Total
			Th	Tut	Pr			IA	ESE	PR/OR	TW	
1	D2-ITME401	Dissertation –II / Industry Project	-	-	32	32	16	-	-	100	100	200
		Total	-	-	32	**32**	16	**Total marks (Academic)**				200

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PE: Program Elective	OR- Oral Examination
MC: Mandatory Course	AC- Activity
AE: Audit Elective	@ITP :Integrated Theory/Practice
PCL: Program Core Laboratory	@CL/PL: Collaborative/Peer Learning
PEL: Program Elective Laboratory	
OE: Open Elective	
D: Dissertation	

Program Electives (ME IT)

Sr. No.	Program Elective 1	Program Elective 2	Program Elective 3	Program Elective 4	Program Elective 5	Domain Specialization
1	DataWarehouse and Data Mining /Big Data Analytics/Advanced Software Engineering	Machine Learning for IT Applications Development/ Data Storage Technologies and Networks/ Distributed Databases	Web Analytics and Development/ Data Security and Access Control/ Data Visualization	Data Science/Knowledge Discovery/ Advanced Machine Learning	GPU Computing/IT project management/ Cloud Computing /	Data Science
2	Data Encryption & Compression/ Database Security and Access Control / Information Theory & Coding	Steganography & Digital Watermarking/ Machine Learning for IT Applications Development/ Smart Sensors and Internet of Things	Security Assessment and Risk Analysis/ Secure Coding/ Biometrics	Digital Forensics/ Ethical Hacking/ Intrusion Detection	Malware Analysis & Reverse Engineering/ Secure Software Design and Enterprise Computing/	Information Security
3	Big Data Analytics / Wireless Access Technologies/ Mobile Applications and Services	Machine Learning for IT Applications Development/ Smart Sensors and Internet of Things/ Logic and Functional programming	Sensor Networks and Internet of Things/ Data Visualization/ IoT Application and Communication Protocol	Data Science / Network Security/ Advanced Machine Learning	Cloud Computing/ IOT and Smart Cities/ Emulation and Simulation Methodologies	Internet of Things
4	Data Encryption & Compression/ Database Security and Access Control / Information Theory & Coding	Advanced Network Security /Cloud computing/ Machine Learning for IT Applications Development	Malware Analysis & Reverse Engineering/ Data Science/ Secure Coding	Block Chain Technology-I Distributed Data bases/ Secure Software Design and Enterprise Computing	Block Chain Technology-II/ and Cryptography/ Security Assessment and Risk Analysis/ IT project Management	Block Chain