M.E. Semester –I (Computer Engineering)
Choice Based Credit Grading Scheme (CBCGS 2019)

Sr. No.	Course Code	Course Title	Hours Per Week			Contact Hours	Credits	Theory(100)		Practical/Oral/ Presentation (25)	Term Work(25/ 50)	Total
			Theory	Tutorial	Practical			IA(25/ 15)	ESE(75/ 35)	PR/OR	TW	
1	PCC-CSME101	Mathematical Foundations of Computer Science& Information Technology	3	-	-	3	3	25	75	-	-	100
2	PCC-CSME102	Advanced Data Structures	3	-	-	3	3	25	75	-	-	100
3	PEC-CSME101X	Program Elective 1	3	-	-	3	3	25	75	-	-	100
4	PEC-CSME102X	Program Elective 2	3	-	-	3	3	25	75	-	-	100
5	MC-CSME101	Research Methodology & IPR@	2	-	-	2	2	15	35	-	-	50
6	AC-CSME00X	Audit Course	2	-	-	2	-	-	-	-	50	50
7	LC-CSME101	Laboratory I(Advanced Data Structures)	-	-	4	4	2	-	-	25	25	50
8	LC-CSME102	Laboratory II(Based on Electives)	-	-	4	4	2	-	-	25	25	50
	Total		**16**	**-**	**8**	**24**	**18**			**Total marks**		**600**

Program Elective

Sr. No.	Corse Code	Program Elective 1	Corse Code	Program Elective 2	Domain Specialization*
1	PEC-CSME1011	Big Data Analytics	PEC-CSME1021	Recommender System	Data Science
	PEC-CSME1012	Distributed Systems	PEC-CSME1022	Machine Learning	
	PEC-CSME1013	Data Preparation and Analysis	PEC-CSME1023	Data Storage Technologies and Networks	
2	PEC-CSME1014	Data Science for IoT	PEC-CSME1024	Machine Learning for IoT	Internet of Things
	PEC-CSME1015	Wireless Access Technologies	PEC-CSME1025	Smart Sensors and Internet of Things	
	PEC-CSME1016	Mobile Applications and Services	PEC-CSME1026	Logic and Functional programming	

* Students opting for a particular Domain Specialization Track in all the semesters will be eligible for domain specialization certificate in the Particulardomain.
%Students selecting program electives across different tracks will be offered a degree without domain specialization certificate.

Sr. No.	Course Code	Audit Course
		Course Title
1	AC-CSME001	English for Research Paper Writing
2	AC-CSME002	Disaster Management
3	AC-CSME003	Sanskrit for Technical Knowledge
4	AC-CSME004	Value Education
5	AC-CSME005	Constitution of India
6	AC-CSME006	Pedagogy Studies
7	AC-CSME007	Stress Management by Yoga
8	AC-CSME008	Personality Development through Life Enlightenment Skills

Th : Theory	IA- In-Semester Assessment
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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	

M.E. Semester –II (Computer Engineering)
Choice Based Credit Grading Scheme (CBCGS 2019)

Sr. No.	Course Code	Course Title	Hours Per Week			Contact Hours	Credits	Theory(100)		Practical/Oral /Presentation (25/50)	Term Work(25/ 50)	Total
			Theory	Tutorial	Practical			IA(25)	ESE(75)	PR/OR	TW	
1	PCC-CSME201	Advanced Algorithms	3	-	-	3	3	25	75	-	-	100
2	PCC-CSME202	Soft Computing	3	-	-	3	3	25	75	-	-	100
3	PEC-CSME201X	Program Elective 3	3	-	-	3	3	25	75	-	-	100
4	PEC-CSME202X	Program Elective 4	3	-	-	3	3	25	75	-	-	100
5	AC-CSME00X	Audit Course	2	-	-	2	-	-	-	-	50	50
6	LC-CSME201	Laboratory III(Based on cores)	-	-	4	4	2	-	-	25	25	50
7	LC-CSME202	Laboratory IV(Based on Electives)	-	-	4	4	2	-	-	25	25	50
8	LC-CSME203	Mini Project with Seminar	-	-	4	4	2	-	-	50	-	50
	Total		**14**	**-**	**12**	**26**	**18**	**Total marks (Academic)**				**600**

Program Elective

Sr. No.	Corse Code	Program Elective 3	Corse Code	Program Elective 4	Domain Specialization
1	PEC-CSME2011	Data Visualization	PEC-CSME2021	Data Security and Access Control	Data Science
	PEC-CSME2012	Data Science	PEC-CSME2022	Web Analytics and Development	
	PEC-CSME2013	Data Warehouse and Data Mining	PEC-CSME2023	Knowledge Discovery	
2	PEC-CSME2014	Sensor Networks and Internet of Things	PEC-CSME2024	Big Data Analytics for IoT	Internet of Things
	PEC-CSME2015	Data Visualization for IoT	PEC-CSME2025	Network Security	
	PEC-CSME2016	IoT Application and Communication Protocol	PEC-CSME2026	Advanced Machine Learning	

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

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D: Dissertation	

M.E. Semester –III (Computer Engineering)
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 (25/50)	Term Work (25/50)	Total
			Theory	Tutorial	Practical			IA	ESE	PR/OR	TW	
1	PEC-CSME301X	Program Elective 5*	1	-	-	1	1	-	-	25	25	50
2	OEC-CSME30X	Open Elective#	1	-	-	1	1	-	-	25	25	50
3	D1-CSME301	Dissertation –I/ Industry Project	-	-	28	28	14	-	-	50	50	100
	Total		2	-	28	28	16	Total marks (Academic)				200

Sr. No.	Course code	Program Elective 5	Domain Specialization
1	PEC-CSME3011	GPU Computing	Data Science
	PEC-CSME3012	Cloud Computing	
	PEC-CSME3013	Distributed Databases	
	PEC-CSME3014	Deep Learning	
2	PEC-CSME3015	Cloud Computing for IOT	Internet of Things
	PEC-CSME3016	IOT and Smart Cities	
	PEC-CSME3017	Emulation and Simulation Methodologies	

* 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.

Note:1. Dissertation- I/industry project shall be preferably carried out as an in-house or outhouse internship.
   2. Dissertation-I should be preferably based on industrial /research project carried out in industry or institute /research organization.

Open Elective

Sr. No.	Course Code	Course Title
1	OEC-CSME301	Business Analytics
2	OEC-CSME302	Industrial Safety
3	OEC-CSME303	Operations Research
4	OEC-CSME304	Cost Management of Engineering Projects
5	OEC-CSME305	Composite Materials
6	OEC-CSME306	Waste to Energy

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OEC: Open Elective Courses	
D: Dissertation	

M.E. Semester –IV (Computer Engineering)
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
			Theory	Tutorial	Practical			IA	ESE	PR/OR	TW	
1	D2-CSME401	Dissertation –II / Industry Project	-	-	32	32	16	-	-	100	100	200
	Total		**-**	**-**	**32**	**32**	**16**	**Total marks (Academic)**				**200**

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	Big Data Analytics / Distributed Systems/ Data Preparation and Analysis	Recommender System/ Machine Learning/ Data Storage Technologies and Networks	Data Visualization/ Data Science / Data Warehouse and Data Mining	Data Security and Access Control/ Web Analytics and Development/ Knowledge Discovery	GPU Computing/ Cloud Computing/ Distributed Databases	Data Science
2	Data Science for IoT/ Wireless Access Technologies/ Mobile Applications and Services	Machine Learning for IoT/ Smart Sensors and Internet of Things/ Logic and Functional programming	Sensor Networks and Internet of Things/ Data Visualization for IoT/ IoT Application and Communication Protocol	Big Data Analytics for IoT/ Network Security/ Advanced Machine Learning	Cloud Computing for IoT/ IOT and Smart Cities/ Emulation and Simulation Methodologies	Internet of Things