	G		nent College of Engineering, Jalgaon tonomous Institute of Govt. of Maharashtra)	
	List of	•	or MDM/Specialization Minor//Honors/Honors-Research (under NEP Curriculum)	
		Colour		
		Yellow	Departmental/Institute MDM of 14 credits	
		Blue	Departmental/Institute Specialization minor of 18 credits	
		Green	Departmental Honors of 18 credits	
		Yellow	Departmental Honors with Resarch of 18 credits	
			·	N
st of Multid	lisciplinary Mi	nor (MDM) Co	urses offered by Department of Mechanical Engineering (For Students of departments oth	er than
echanical E	ngineering)	1		
Sl. No.	Semester	+	Course Code and Name of Course	Credits
1	III	MDM-I	MEM210N Manufacturing Technology	2
2	IV	MDM-II	MEM262N Theory of Machines	2
3	V	MDM-III	MEM363N Fluid Mechancis	4
4	VI	MDM-IV	MEM313N Introduction to IC Engines	2
5	VII	MDM-V	MEM407N Introduction to Automobile Engineering	2
6	VIII	MDM-VI	MEM461N Introduction to Refrigeration and Airconditioning Total Credits for MDM Courses	14
-			l by Department of Mechanical Engineering (For Students of departments other than Mec	hanical
	1	Ť T	nnical track in MDM) - Applicable only for Double Minor Degree	G P
Sl. No.	Semester		and Name of Course	Credit
1	III	MDM-I	MEM210N Manufacturing Technology	2
2	IV	MDM-II	MEM262N Theory of Machines	2
3	V	MDM-III	MEM363N Fluid Mechancis	4
4	VI	MDM-IV	MEM313N Introduction to IC Engines	2
5	VII	MDM-VI	MEM461N Introduction to Automobile Engineering	2
7	VIII	MDM-VI MDM-VI	MEM461N Introduction to Refrigeration and Airconditioning	4
/	VIII	WIDWI-VI	MEM462N Introduction to Vibrations Engineering Total Specialization Minor Credits	18
st of additio	onal courses for	r B. Tech. Hono	urs Degree offered by Department of Mechanical Engineering (For Students of Departmen	nt of
			for Honours Degree	
Sl. No.	Semester	Course Code	and Name of Course	Credits
1	V	ME311N Adva	anced Mechanisms	3
2	V	ME312N Adva	anced Mechanisms Lab	1
3	VI	ME361N Stres	·	3
4	VII	ME405N Adva (Online Mode	anced Mechanical Design	4
<u> </u>				3
5	VII	ME406N Smar (Online Mode)	rt Materials and Sensors	
5	VIII	(Online Mode) ME459N VIbr	ations Engineering	3
5		(Online Mode) ME459N VIbr	ations Engineering ations Engineering Lab	1
5 6 7	VIII	(Online Mode) ME459N VIbr ME460N VIbr	ations Engineering ations Engineering Lab Total Credits for Honours Degree	1 18
5 6 7 st of addition	VIII VIII onal courses for	(Online Mode) ME459N VIbr ME460N VIbr	ations Engineering ations Engineering Lab	18
5 6 7 st of addition	VIII VIII onal courses for	(Online Mode) ME459N VIbr ME460N VIbr r B. Tech. multit of Mechanical	ations Engineering ations Engineering Lab Total Credits for Honours Degree disciplinary minor and Honors with Research Degree offered by Department of Mechanics	1 18
5 6 7 st of addition Students	VIII VIII onal courses for of Departmen	(Online Mode) ME459N VIbr ME460N VIbr B. Tech. multi t of Mechanical Course Code	ations Engineering ations Engineering Lab Total Credits for Honours Degree disciplinary minor and Honors with Research Degree offered by Department of Mechanics Engineering) - Applicable only for Honours with Research Degree	1 18 al Engineer
5 6 7 st of addition or Students Sl. No.	VIII VIII onal courses for of Departmen Semester	(Online Mode) ME459N VIbr ME460N VIbr B. Tech. multi t of Mechanical Course Code ME311N Adva	ations Engineering ations Engineering Lab Total Credits for Honours Degree disciplinary minor and Honors with Research Degree offered by Department of Mechanica Engineering) - Applicable only for Honours with Research Degree and Name of Course	1 18 al Engineer
5 6 7 st of addition or Students Sl. No. 1	VIII VIII onal courses for of Departmen Semester V	(Online Mode) ME459N VIbr ME460N VIbr B. Tech. multi t of Mechanical Course Code ME311N Adva	ations Engineering ations Engineering Lab Total Credits for Honours Degree disciplinary minor and Honors with Research Degree offered by Department of Mechanics Engineering) - Applicable only for Honours with Research Degree and Name of Course and Mechanisms anced Mechanisms anced Mechanisms	1 18 al Engineer Credits 3
5 6 7 st of addition Students Sl. No. 1 2	VIII VIII Paral courses for of Departmen Semester V V	(Online Mode) ME459N VIbr ME460N VIbr r B. Tech. multi t of Mechanical Course Code ME311N Adva ME312N Adva ME361N Stress	ations Engineering ations Engineering Lab Total Credits for Honours Degree disciplinary minor and Honors with Research Degree offered by Department of Mechanics Engineering) - Applicable only for Honours with Research Degree and Name of Course and Mechanisms anced Mechanisms anced Mechanisms	1 18 al Engineer Credits 3 1
5 6 7 st of addition Students Sl. No. 1 2 3	VIII VIII Paral courses for of Department Semester V V VI	(Online Mode) ME459N VIbr ME460N VIbr T. B. Tech. multi t of Mechanical Course Code ME311N Adva ME312N Adva ME361N Stres ME407N Disse ME408N Disse	ations Engineering ations Engineering Lab Total Credits for Honours Degree disciplinary minor and Honors with Research Degree offered by Department of Mechanics Engineering) - Applicable only for Honours with Research Degree and Name of Course anced Mechanisms anced Mechanisms anced Mechanisms Lab s Analysis	1 18 al Engineer Credits 3 1 3

			[Applicable to all departments]	
Sl. No.	Semester		Name of Course	Credits
1	III	RB201N	Embedded Control Systems	2
2	IV	RB202N	Robot Kinematics and Dynamics	2
3	V	RB301N	Autonomous Robotics and Telecherics	4
4	VI	RB302N	Advanced Robotics Programming	2
5	VII	RB401N	Experimental Robotics (online)	2
6	VIII	RB402N	Control of Robotic Systems	2
			Total Credits for MDM Courses	14
Robotics Spec Minor Degree)		or Courses offe	red (For Students who have not opted for Robotics Institute Level MDM - Applicable onl	y for Double
Sl. No.	Semester	Course Code	Name of Course	Credits
1	III	RB201N	Embedded Control Systems	2
2	IV	RB202N	Robot Kinematics and Dynamics	2
3	V	RB301N	Autonomous Robotics and Telecherics	4
4	VI	RB302N	Advanced Robotics Programming	2
		-		
5	VII	RB401N	Experimental Robotics (online)	2
6	VIII	RB402N	Control of Robotic Systems	2
7	VIII	RB404N	Project related with robotics	4
				18
roduct Lifecy	vele Managem	ent Institute Le	vel MDM Courses List [Applicable to all departments]	
Sl. No.	Semester	1	Name of Course	Credits
1	III	PL201N	PLM Fundamentals	2
2	IV	PL202N	New Product Design	2
3	V	PL301N		4
4	VI	PL301N PL302N	Data Management	2
5	VII	PL302N PL401N	PLM Advanced Concepts	2
6	VII	PL401N PL402N	Rapid Manufacturing (Online)	2
0	VIII	PL402N	Supply Chain Management Total Credits for MDM Courses	14
•		→	on Minor Courses offered (For Students who have not opted for Product Lifecycle Manag	ement
			Double Minor Degree)	Cara 324
Sl. No.	Semester	1	Name of Course	Credits
1	III	PL201N	PLM Fundamentals	2
2	IV	PL202N	New Product Design	2
3	V	PL301N	Data Management	4
4	VI	PL302N	PLM Advanced Concepts	2
5	VII	PL401N	Rapid Manufacturing (Online)	2
6	VIII	PL402N	Supply Chain Management	2
7	VIII	PL404N	Project Management for PLM	4
				18
				E
		nor (MDM) Cou &Tc Engineerin	urses offered by Department of Electronics and Telecommunication (E&Tc) Engineering (For Students
Sl. No.	Semester	MDM Level	Course Code and Name of Course	Credits
1	III	MDM-I	ETM205N Electronic Components and Devices	2
2	IV	MDM-II	ETM205N Electronic Components and Devices ETM255N Electronic Measurement Techniques	2
3	V	MDM-III	ETM3253N Electronic Measurement Techniques ETM306N Principles of Analog and Digital Communication	4
4	VI	MDM-IV	ETM354N Integrated Circuits and Applications	2
5	VII	MDM-V	ETM403N Principles of Modern CDMA/ MIMO/ OFDM Wireless Communications (NPTEL Course)	2
6	VIII	MDM-VI	ETM453N Control Systems Total Credits for MDM Courses	2 14
ist of Special	ization Minor	Courses offered	l by Department of Electronics and Telecommunication (E&Tc) Engineering (For Studen	s of
•			who have not opted for E&Tc track in MDM) - Applicable only for Double Minor Degree	
Sl. No.	Semester	1	and Name of Course	Credits
1	III		ctronic Components and Devices	2
-		1 - 12001, 1.10		. ~

		Total Specialization Minor Credits	18
8	VIII	ETM461N Principles of Satellite Communication	2
7	VIII	ETM453N Control Systems	2
6	VII	ETM403N Principles of Modern CDMA/ MIMO/ OFDM Wireless Communications (NPTEL Course)	2
5	VI	ETM364N Optical Fiber Communications	2
4	VI	ETM354N Integrated Circuits and Applications	2
3	V	ETM306N Principles of Analog and Digital Communication	4
2	IV	ETM255N Electronic Measurement Techniques	2

Students of Department of F. P.To Engineeving). Applicable only for Honours Dogress	(For
Students of Department of E&Tc Engineering) - Applicable only for Honours Degree	

Students of D	epartment of F	E&Tc Engineering) - Applicable only for Honours Degree	
Sl. No.	Semester	Course Code and Name of Course	Credits
1	V	ET311N Biomedical Engineering	3
2	V	ET312N Biomedical Engineering Lab	1
3	VI	ET363N Nanoelectronics	3
4	VII	ET411N Real Time Digital Signal Processing (12 Weeks NPTEL Course)	4
5	VII	ET412N Principles and Techniques of Modern Radar Systems (NPTEL Course)	3
6	VIII	ET460N Networking in IoT	4
		Total Credits for Honours Degree	18

List of additional courses for B. Tech. multidisciplinary minor and Honors with Research Degree offered by Department of Electronics and Telecommunication (E&Te) Engineering (For Students of Department of E&Te Engineering) - Applicable only for Honours with Research Degree

refecciminante	ation (E& IC)	Engineering (For Students of Department of Eache Engineering) - Applicable only for Honours with Kess	taren Degree
Sl. No.	Semester	Course Code and Name of Course	Credits
1	V	ET311N Biomedical Engineering	3
2	V	ET312N Biomedical Engineering Lab	1
3	VI	ET411N Real Time Digital Signal Processing (12 Weeks NPTEL Course)	4
4	VII	ET413N Dissertation Specific Course (Online)	3
5	VII	ET414N Disseration Phase-1	3
6	VIII	ET461N Dissertation Phase - 2	4
		Total Credits for Honours with Research Degree	18

Semiconductor Manufacturing Institute Level MDM Courses List [Applicable to all departments]

Sl. No.	Semester	Course Code	Name of Course	Credits
1	III	SM201N	Introduction to VLSI lifecycle	2
2	IV	SM202N	Introduction to VLSI Fabrication	2
3	V	SM301N	Semiconductor Packaging and Testing	4
4	VI	SM302N	Semiconductor Technology Equipment Maintenance	2
5	VII	SM401N	Clean Room Technologies	2
6	VIII	SM402N	Safety Protocols for IC Foundry	2
	•		Total Credits for MDM Courses	14

Semiconductor Manufacturing Specialization Minor Courses offered (For Students who have not opted for Semiconductor Manufacturing Institute Level MDM - Applicable only for Double Minor Degree)

Level MIDMI -	Applicable onl	y for Double M	inior Degree)	
Sl. No.	Semester	Course Code	Name of Course	Credits
1	III	SM201N	Introduction to VLSI lifecycle	2
2	IV	SM202N	Introduction to VLSI Fabrication	2
3	V	SM301N	Semiconductor Packaging and Testing	4
4	VI	SM302N	Semiconductor Technology Equipment Maintenance	2
5	VII	SM401N	Clean Room Technologies	2
6	VIII	SM402N	Safety Protocols for IC Foundry	2
7	VIII	SM404N	Electronic System Assembly	4
				18

				IN
	isciplinary Min on Engineering		urses offered by Department of Instrumentation Engineering (For Students of department	ts other than
Sl. No.	Semester	MDM Level	Course Code and Name of Course	Credits
1	III	MDM-I	INM205N Transducers	2
2	IV	MDM-II	INM255N Virtual Instrumentation	2
3	V	MDM-III	INM306N Industrial Automation	4
4	VI	MDM-IV	INM354N Opto Electronic Instrumentation	2
5	VII	MDM-V	INM403N Instrumentation and Process Control in Food Industry (NPTEL Course)	2
-	VIII	MDM-VI	INM453N Instrumentation System Design	2
6		•	Total Credits for MDM Courses	14

		g; who have not opted for Instrumentation track in MDM or equivalent Open Elective) - Applicable only	ioi Doui
nor Degree Sl. No.	Semester	Course Code and Name of Course	Credits
1	III	INM205N Transducers	3
2	IV	INM255N Electronics Measurement and Instrumentation	2
3	V	INM306N Industrial Automation	4
4	VI	INM354N Opto Electronic Instrumentation	3
5	VII	INM403N Instrumentation and Process Control in Food Industry (NPTEL Course)	3
6	VIII	INM453N Advanced Control Systems	3
	•	Total Specialization Minor Credits	18

Sl. No.	Semester	Course Code and Name of Course	Credits
1	V	IN311N Control System for Electrical Vehicle	3
2	V	IN312N Control System for Electrical Vehicle Lab	1
3	VI	IN363N Control of Robotic System	3
4	VII	IN411N Air Pollution and Control (12 Weeks NPTEL Course) (12 Weeks NPTEL Course	4
5	VII	IN412N Instrumentation and Process Control in Food Industry (NPTEL Course 8 Week)	3
6	VIII	IN460N Modelling and Simulation	4
	•	Total Credits for Honours Degree	18

List of additional courses for B. Tech. multidisciplinary minor and Honors with Research Degree offered by Department of Instrumen Engineering (For Students of Department of E&Tc Engineering) - Applicable only for Honours with Research Degree				
Sl. No.	Semester	Course Code and Name of Course	Credits	
1	VII	IN413N Dissertation Specific Course (Online)	3	
2	VII	IN414N Disseration Phase-1	6	
3	VIII	IN461N Dissertation Phase - 2	9	
		Total Credits for Honours with Research Degree	18	

Sl. No.	Semester	Course Code	Name of Course	Credits
1	III	IFM201N	Fundamentals of IoT and Smart Instrumentation Techniques	2
2	IV	IFM202N	Industrial Internet of Things and Applications	2
3	V	IFM301N	Fundamentals of Industry 4.0	4
4	VI	IFM302N	Artificial Inteligence: Principles and Techniques	2
5	VII	IFM401N	Digital Transfromation in Industry 4.0(NPTEL course/workshop)	2
6	VIII	IFM402N	Advanced Industrial Automation and Applications	2
Total Credits for MDM Courses				

I NI.	Degree]	GG. 1.	No	G 1'4
Sl. No.	Semester	Course Code	Name of Course Evadomentals of LeT and Smort Instrumentation Techniques	Credits
1	III	IFM201N	Fundamentals of IoT and Smart Instrumentation Techniques	2
2	IV	IFM202N	Industrial Internet of Things and Applications	2
3	V	IFM301N	Fundamentals of Industry 4.0	4
4	VI	IFM302N	Artificial Inteligence: Principles and Techniques	2
5	VII	IFM401N	Digital Transfromation in Industry 4.0(NPTEL course/workshop)	2
6	VIII	IFM402N	Advanced Industrial Automation and Applications	2
7	VIII	IFM404N	Advanced Manufacturing and Automation	4
				18
<mark>culture 4.</mark> Sl. No.	O Institute Lev Semester	1	es List [Applicable to all departments] Name of Course	Credits
1	III	AFM101		2
2	-		Agriculture 4.0: The Future of Farming Technology	2
	IV	AFM102	Smart Sensors in Agriculture 4.0	
3	V	AFM103	Agriculture Internet of Things and Applications	4
4	VI	AFM104	Remote Sensing Technologies	2
5	VII	AFM105	Computing for Agriculture 4.0(NPTEL course/workshop)	2
6	VIII	AFM106	Artificial Inteligence in Smart Farming Total Credits for MDM Courses	2 14
			Total Credity for Industry	1-7
	0 Specializatio	n Minor Cours	es offered [For Students who have not opted for Agriculture 4.0 Institute Level MDM - A	pplicable
d. No.	Semester	Course Code	Name of Course	Credits
1	III	AFM101	Agriculture 4.0: The Future of Farming Technology	2
2	IV	AFM102	Smart Sensors in Agriculture 4.0	2
3	V	AFM103	Agriculture Internet of Things and Applications	4
4	VI	AFM104	Remote Sensing Technologies	2
	 	1		
5	VII	AFM105	Computing for Agriculture 4.0 (NPTEL course/workshop)	2
6	VIII	AFM106	Artificial Inteligence in Smart Farming	2
7	VIII	AFM107	Agriculture Crop Managment	4
				18
			urses offered by Department of Electrical Engineering Engineering (For Students of department)	rtments ot
Electrica	isciplinary Mil I Engineering) Semester		urses offered by Department of Electrical Engineering Engineering (For Students of department Course Code and Name of Course	rtments ot
Electrica	l Engineering)	<u> </u>		
Electrica l. No.	l Engineering) Semester	MDM Level	Course Code and Name of Course	Credits
Electrica l. No.	l Engineering) Semester III	MDM Level MDM-I	Course Code and Name of Course EEM205N:DC Machines & Transformer	Credits 2
Electrica d. No. 1 2	Semester III IV	MDM Level MDM-I MDM-II	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines	Credits 2 2
Electrica Sl. No. 1 2 3 4	Semester III IV V VI	MDM Level MDM-I MDM-II MDM-III MDM-III	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II	2 2 4 2
Electrica d. No. 1 2 3	Semester III IV V	MDM Level MDM-I MDM-II MDM-III MDM-IV MDM-V	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II EEM403N:Switchgear & Protection	Credits 2 2 4
Electrica 61. No. 1 2 3 4 5	Semester III IV V VI VII	MDM Level MDM-I MDM-II MDM-III MDM-III	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II	2 2 4 2 2
Sl. No. 1 2 3 4 5 6	Semester III IV V VI VII VIII	MDM Level MDM-I MDM-II MDM-III MDM-IVI MDM-V MDM-V Courses offered	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II EEM403N:Switchgear & Protection EEM453N:Illumination Engineering Total Credits for MDM Courses	2 2 4 2 2 2 14
Electrica Sl. No. 1 2 3 4 5 6 of Special trical Enge	Semester III IV V VI VII VIII	MDM Level MDM-I MDM-II MDM-III MDM-IV MDM-V MDM-V Courses offered have not opted	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II EEM403N:Switchgear & Protection EEM453N:Illumination Engineering Total Credits for MDM Courses by Department of Electrical Engineering Engineering (For Students of departments other for EE track in MDM) - Applicable only for Double Minor Degree	Credits
Electrica Sl. No. 1 2 3 4 5 6 of Special trical Eng Sl. No.	Semester III IV V VI VII VIII VIII Sization Minor incering; who	MDM Level MDM-I MDM-II MDM-III MDM-IV MDM-V MDM-V Courses offered have not opted Course Code:	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II EEM403N:Switchgear & Protection EEM453N:Illumination Engineering Total Credits for MDM Courses 1 by Department of Electrical Engineering Engineering (For Students of departments other for EE track in MDM) - Applicable only for Double Minor Degree and Name of Course	Credits 2 4 2 2 14 Credits
Electrica Sl. No. 1 2 3 4 5 6 of Special trical Eng Sl. No. 1	Semester III IV V VI VII VIII Semester III III IV IV IV IV III III III III II	MDM Level MDM-I MDM-II MDM-III MDM-IV MDM-V MDM-V Courses offeret have not opted Course Code: EEM205N:DC	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II EEM403N:Switchgear & Protection EEM453N:Illumination Engineering Total Credits for MDM Courses I by Department of Electrical Engineering Engineering (For Students of departments other of Etrack in MDM) - Applicable only for Double Minor Degree and Name of Course Machines & Transformer	Credits
Electrica 1. No.	Semester III IV V VI VII VIII VIII VIII VIII V	MDM Level MDM-I MDM-II MDM-III MDM-IV MDM-V MDM-VI Courses offered have not opted Course Code: EEM205N:DC EEM255N:Pov	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II EEM403N:Switchgear & Protection EEM453N:Illumination Engineering Total Credits for MDM Courses I by Department of Electrical Engineering Engineering (For Students of departments other of Electrical Engineering Engineering (For Students of Course and Name of Course Machines & Transformer wer system-I	Credits
Electrica 1. No.	Engineering) Semester III IV V VI VIII Ization Minor Semester III IV VIII VIII VIII VIII VIII VIII VIII V V	MDM Level MDM-I MDM-II MDM-III MDM-IV MDM-V MDM-VI Courses offered have not opted Course Code : EEM205N:DC EEM255N:Pod EEM306N:AC	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II EEM403N:Switchgear & Protection EEM453N:Illumination Engineering Total Credits for MDM Courses I by Department of Electrical Engineering Engineering (For Students of departments other of the Etrack in MDM) - Applicable only for Double Minor Degree and Name of Course Machines & Transformer ver system-I Machines	Credits 2 2 4 2 2 2 14
Electrica	Engineering) Semester III IV V VI VIII Semester III IV VII VIII Semester III IV VIII VIII Semester III IV V VI VIII VIII VIII VIII VIII VIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIIII VIIIII VIIIII VIIIII VIIIII VIIIII VIIIII VIIIIII VIIIIII VIIIIII VIIIIIII VIIIIIIII	MDM Level MDM-I MDM-II MDM-III MDM-IV MDM-VI MDM-VI Courses offered have not opted Course Code : EEM205N:DC EEM255N:Pov EEM306N:AC EEM354N:Pov	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II EEM403N:Switchgear & Protection EEM453N:Illumination Engineering Total Credits for MDM Courses I by Department of Electrical Engineering Engineering (For Students of departments other for EE track in MDM) - Applicable only for Double Minor Degree and Name of Course Machines & Transformer wer system-I Machines wer system-II	Credits
Electrica 1. No.	Engineering) Semester III IV V VI VII Semester III IV VI VII VIII Semester III IV V VI VI VI VI V	MDM Level MDM-I MDM-II MDM-III MDM-IV MDM-VI MDM-VI Courses offered have not opted Course Code at EEM205N:DC EEM306N:AC EEM354N:Pot EEM403N:Sw	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II EEM403N:Switchgear & Protection EEM453N:Illumination Engineering Total Credits for MDM Courses I by Department of Electrical Engineering Engineering (For Students of departments other for EE track in MDM) - Applicable only for Double Minor Degree and Name of Course Machines & Transformer wer system-I Machines wer system-II itchgear & Protection	Credits 2 2 4 2 2 14
Electrica	Engineering) Semester III IV V VI VIII Semester III IV VII VIII Semester III IV VIII VIII Semester III IV V VI VIII VIII VIII VIII VIII VIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIIII VIIIII VIIIII VIIIII VIIIII VIIIII VIIIII VIIIIII VIIIIII VIIIIII VIIIIIII VIIIIIIII	MDM Level MDM-I MDM-II MDM-III MDM-IV MDM-VI MDM-VI Courses offered have not opted Course Code : EEM205N:DC EEM255N:Pov EEM306N:AC EEM354N:Pov EEM403N:Sw EEM453N:Illu	Course Code and Name of Course EEM205N:DC Machines & Transformer EEM255N:Power system-I EEM306N:AC Machines EEM354N:Power system-II EEM403N:Switchgear & Protection EEM453N:Illumination Engineering Total Credits for MDM Courses I by Department of Electrical Engineering Engineering (For Students of departments other for EE track in MDM) - Applicable only for Double Minor Degree and Name of Course Machines & Transformer wer system-I Machines wer system-II	Credits

Sl. No.	Semester	Course Code	and Name of Course	Credits
1	V	EE310N: Spec		3
2	VI	· ·	puter Aided Power System Analysis	3
3	VI	+	ric Machine Modeling and Analysis	3
4	VII		ern Power Electronics (NPTEL COURSE 8 week/Online Mode)	3
5	VII		ern Control System (NPTEL COURSE 8 week/Online Mode)	3
6	VIII		ern Protective Relaying	3
0	VIII	EE45/N. WIOG	Total Credits for Honours Degree	
t of additio	onal courses for	B. Tech. multi	disciplinary minor and Honors with Research Degree offered by Department of Electrical	Engineerin
			ngineering) - Applicable only for Honours with Research Degree	
Sl. No.	Semester	-	and Name of Course	Credits
1	VII	EE407N: Optin	mization Techniques (NPTEL COURSE 8 week/ Online Mode)	4
2	VII	EE408N: Powe	er Quality (NPTEL COURSE 8 week/ Online Mode)	3
3	VII	EE409N: Rese	arch Project Phase-I	2
4	VIII	EE458N: Circu	uit Simulation Lab	1
5	VIII	EE459N: Rese	arch Project Phase-II	8
	•	•	Total Credits for Honours with Research Degree	18
ehicle Tec	hnology Institu	ite Level MDM	Courses List [Applicable to all departments]	
Sl. No.	Semester	Course Code	Name of Course	Credits
1	III	EV201N	Fundamentals of Electric Vehicles and Simulations	2
2	IV	EV202N	Battery and Charging System	2
3	V	EV301N	Automobile Engineeringing for Electric Vehicles	4
4	VI	EV302N	Electrical Machines and Modelling	2
5	VII	EV401N	Embedded System for EV	2
6	VIII	EV402N	Emerging EV Technologies	2
			Total Credits for MDM Courses	14
Vehicle Tec	hnology Specia	lization Minor	Courses offered (For Students who have not opted for E-Vehicle Technology Institute Lev	el MDM -
	hnology Specia ly for Double I	Minor Degree)		el MDM -
olicable on	ly for Double M Semester	Minor Degree) Course Code	Name of Course	el MDM -
olicable on Sl. No. 1	Semester III	Course Code EV201N	Name of Course Fundamentals of Electric Vehicles and Simulations	Credits 2
Sl. No. 1 2	Semester III IV	Course Code EV201N EV202N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System	Credits 2 2
olicable on Sl. No. 1 2 3	Semester III IV V	Course Code EV201N EV202N EV301N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles	Credits 2 2 4
Sl. No. 1 2 3 4	Semester III IV V VI	Course Code EV201N EV202N EV301N EV302N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling	2 2 4 2 2
Sl. No. 1 2 3 4 5	Semester III IV V VI VII	Course Code EV201N EV202N EV301N EV302N EV401N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV	2 2 4 2 2 2
Sl. No. 1 2 3 4 5	Semester III IV V VI VII	Course Code	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies	2 2 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Sl. No. 1 2 3 4 5	Semester III IV V VI VII	Course Code EV201N EV202N EV301N EV302N EV401N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV	2 2 4 2 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Sl. No. 1 2 3 4 5	Semester III IV V VI VII	Course Code	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies	2 2 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Sl. No. 1 2 3 4 5	Semester III IV V VI VII	Course Code	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies	2 2 4 2 2 2 2 2 4 18
Sl. No. 1 2 3 4 5 6 7	Semester III IV V VI VII VIII VIII	Course Code EV201N EV202N EV301N EV302N EV401N EV402N EV404N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies EV Project	2 2 4 2 2 2 4 18
SI. No. 1 2 3 4 5 6 7	Semester III IV V VI VII VIII VIII	Course Code EV201N EV202N EV301N EV302N EV401N EV402N EV404N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies EV Project ck-I (AI & ML) Courses offered by Department of Computer Engineering (For Students	2 2 4 2 2 2 4 18
sl. No. 1 2 3 4 5 6 7	Semester III IV V VI VII VIII VIII	Course Code EV201N EV202N EV301N EV302N EV401N EV402N EV404N EV404N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies EV Project ck-I (AI & ML) Courses offered by Department of Computer Engineering (For Studentsring)	2 2 4 2 2 2 4 18
sl. No. 1 2 3 4 5 6 7	Semester III IV V VI VII VIII VIII VIII VIII V	Course Code EV201N EV202N EV301N EV302N EV401N EV402N EV404N EV402N EV404N EV404N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies EV Project ck-I (AI & ML) Courses offered by Department of Computer Engineering (For Studentsring)	Credits 2 4 2 2 4 18
sl. No. 1 2 3 4 5 6 7	Semester III IV V VI VII VIII VIII Sciplinary Minther than Con	Course Code EV201N EV202N EV301N EV302N EV401N EV402N EV404N EV402N EV402N EV404N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies EV Project ck-I (AI & ML) Courses offered by Department of Computer Engineering (For Students ring) Course Code and Name of Course	Credits 2 2 4 2 2 2 4 18 18 Credits Cr
of Multidartments of Sl. No.	Semester III IV V VI VII VIII VIII Sciplinary Minther than Con	Course Code EV201N EV202N EV301N EV302N EV401N EV402N EV404N EV402N EV40M EV404N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies EV Project ck-I (AI & ML) Courses offered by Department of Computer Engineering (For Studentsring) Course Code and Name of Course AIM205N Data Mining	Credits 2 2 4 2 2 2 4 18 18
sl. No. 1 2 3 4 5 6 7	semester III IV V VI VII VIII VIII VIII VIII V	Course Code EV201N EV202N EV301N EV302N EV401N EV402N EV404N EV402N EV404N EV404N EV404N EV404N EV404N EV404N EV404N EV404N EV404N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies EV Project ck-I (AI & ML) Courses offered by Department of Computer Engineering (For Studentsring) Course Code and Name of Course AIM205N Data Mining AIM255N Fundamentals of Artificial Intelligence AIM306N Machine Learning AIM354N Data Visualisation	Credits 2 4 2 2 4 18 Credits 2 4 18 Credits 2 4 2 4 2
of Multidartments of SI. No. 1 2 3 4 5 6 7	semester III IV V VI VII VIII VIII VIII VIII V	Course Code EV201N EV202N EV301N EV302N EV401N EV402N EV404N	Name of Course Fundamentals of Electric Vehicles and Simulations Battery and Charging System Automobile Engineeringing for Electric Vehicles Electrical Machines and Modelling Embedded System for EV Emerging EV Technologies EV Project ck-I (AI & ML) Courses offered by Department of Computer Engineering (For Studentsring) Course Code and Name of Course AIM205N Data Mining AIM255N Fundamentals of Artificial Intelligence AIM306N Machine Learning	Credits 2 4 2 2 4 18 Credits 2 4 4 18 Credits 2 4

ist of Multidisciplinary Minor (MDM) Track-II (Computer Programming) Courses offered by Department of Computer Engineering tudents of departments other than Computer Engineering)				
Sl. No.	Semester	MDM Level	Course Code and Name of Course	Credits
1	III	MDM-I	CPM205N Object Oriented Programming Using C++	2
2	IV	MDM-II	CPM255N Fundamentals of Data Structures	2
3	V	MDM-III	CPM306N Python Programming	4
4	VI	MDM-IV	CPM354N Database Management System	2
5	VII	MDM-V	CPM403N Cloud Computing (NPTEL Course)	2
6	VIII	MDM-VI	CPM453N Full Stack Development	2
	•	•	Total Credits for MDM Courses	14

Sl. No.	Semester	Course Code and Name of Course	Credits
1	III	AIM205N Data Mining	2
2	IV	AIM255N Fundamentals of Artificial Intelligence	2
3	V	AIM306N Machine Learning	4
4	VI	AIM354N Data Visualisation	2
5	VI	AIM364N Natural Language Processing	2
6	VII	AIM403N Deep Learning(NPTEL Course)	2
7	VIII	AIM453N Computer Vision	2
8	VIII	AIM461N Applications of AI and ML	2
		Total Specialization Minor Credits	18

		Courses offered by Department of Computer Engineering (For Students of departments other than Computed for Computer Engineering track-II(Computer Programming) in MDM) - Applicable only for Doub	S. Carrier and C. Car
Sl. No.	Semester	Course Code and Name of Course	Credits
1	III	CPM205N Object Oriented Programming Using C++	2
2	IV	CPM255N Fundamentals of Data Structures	2
3	V	CPM306N Python Programming	4
4	VI	CPM354N Database Management System	2
5	VI	CPM364N Web Development	2
6	VII	CPM403N Cloud Computing (NPTEL Course)	2
7	VIII	CPM453N Full Stack Development	2
8	VIII	CPM461N DevOps	2
	•	Total Specialization Minor Credits	18

	ist of additional courses for B. Tech. Honours Degree offered by Department of Computer Engineering (For Students of Department of Computer agineering) - Applicable only for Honours Degree				
Sl. No.	Semester	Course Code and Name of Course	Credits		
1	V	CO311N UI Design using React and Angular	3		
2	V	CO312N UI Design using React and Angular Lab	1		
3	VI	CO363N Full Stack Development using Java	3		
4	VII	CO411N Cloud Computing (12 Weeks NPTEL Course)	4		
5	VII	CO412N Cyber Security(NPTEL Course)	3		
6	VIII	CO460N DevOps	4		
	•	Total Credits for Honours Degree	18		

Sl. No.	Semester	Course Code a	and Name of Course	Credits
1	V	COR311N Fun	damentals of Research and Ethics	3
2	V	COR312N Fui	ndamentals of Research and Ethics Lab	1
3	VI	COR371N Res	earch/Thesis Writing related Subjects (12 Weeks NPTEL Course)	4
4	VII	COR413N Dis	sertation Specific Course (Online)	3
5	VII	COR414N Dis	seration Phase-1	3
6	VIII	COR461N Dis	sertation Phase - 2	4
	•		Total Credits for Honours with Research Degree	18
Orone Techno	o <mark>logy Institute</mark> l	Level MDM Co	rses List [Applicable to all departments]	
Sl. No.	Semester	Course Code	Name of Course	Credits
1	III	DTM205N	Drone Technology and Systems	2
2	IV	DTM255N	Drone Electronics	2

3	V	DTM306N	Drone Programming and Automations	4
4	+		Drone Programming and Automations	4
4	VI	DTM354N	GIS and Remote Sensing	2
5	VII	DTM403N	Aerospace Engineering (NPTEL)	2
6	VIII	DTM453N	Drone Navigation and Autonomous Flight	2
			Total Credits for MDM Courses	14
			urses offered (For Students who have not opted for Drone Technology Institute Level MD!	M - Applica
	le Minor Degro		Name of Comme	Condita
Sl. No.	Semester		Name of Course	Credits
1	III	DTM205N	Drone Technology and Systems	2
2	IV	DTM255N	Drone Electronics	2
3	V	DTM306N	Drone Programming and Automations	4
4	VI	DTM354N	GIS and Remote Sensing	2
5	VI	DTM364N	Thermal Imaging and Aerodynamics	2
6	VII	DTM403N	Aerospace Engineering (NPTEL)	2
7	VIII	DTM453N	Drone Navigation and Autonomous Flight	2
8	VIII	DTM461N	UAV design and Simulation	2
				18
a Science	e and Cyberse	ecurity Institu	te Level MDM Courses List [Applicable to all departments including Computer Er	naineerina
SI. No.	Semester		Course Code and Name of Course	Credits
1	III	DCM205N	Data Science and Tools	2
2	IV	DCM255N	Cyber Laws and Cyber Security Principles	2
3	V	DCM306N	Data Analytics and Visualisation	4
4	VI	DCM354N	Cryptography and Application	2
5	VII	DCM403N	Block Chain and its applications (NPTEL Course)	2
		-		
5 6 t of Speci mputer E	VII VIII	DCM403N DCM453N or Courses of ho have not o	Block Chain and its applications (NPTEL Course) Digital Forensics	2 2 14 er than
5 6 t of Speci mputer E	VII VIII station Minengineering; w	DCM403N DCM453N or Courses off ho have not ourses	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses fered by Department of Computer Engineering (For Students of departments other	2 2 14 er than
5 6 t of Speci mputer E	VII VIII ialization Minongineering; while Minor Deg	DCM403N DCM453N or Courses off ho have not ourses	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM)	2 2 14 er than - Applicab
5 6 t of Speci mputer E y for Dou SI. No.	VII VIII salization Minn ngineering; w ble Minor Deg Semester	DCM403N DCM453N or Courses off ho have not o gree Course Code	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools	2 2 14 er than - Applicab
5 6 t of Specimputer Ending the state of the	VII VIII station Miningineering; while Minor Deg Semester	DCM403N DCM453N or Courses off ho have not o gree Course Code DCM205N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles	2 2 14 er than - Applicab Credits 2
5 6 t of Speci mputer E y for Dou SI. No. 1 2	VII VIII statization Minn ngineering; w ble Minor Deg Semester III IV	DCM403N DCM453N DCM453N DCM453N DCM26SOFT DCM205N DCM255N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation	2 2 14 er than Applicab Credits 2 2
5 6 t of Speci mputer E y for Dou SI. No. 1 2 3	VII VIII VIII Idalization Minn Ingineering; weble Minor Deg Semester III IV V	DCM403N DCM453N DCM453N DCM453N DCM25SN DCM205N DCM205N DCM306N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles	2 2 14 er than Applicab Credits 2 2 4
5 6 t of Specimputer English for Dou SI. No. 1 2 3	VII VIII VIII VIII VIII Idalization Minor Ingineering; weble Minor Deg Semester III IV V VI VI	DCM403N DCM453N DCM453N DCM453N DCM205N DCM205N DCM205N DCM306N DCM354N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security	2 2 14 er than Applicab Credits 2 2 4 2
5 6 t of Specimputer Eigy for Dou SI. No. 1 2 3 4 0 6	VII VIII VIII VIII VIII VIII VIII VIII VIII VIII VII VII VII VIII VIII	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM255N DCM306N DCM354N DCM364N DCM403N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course)	2 2 14 2r than - Applicab Credits 2 2 4 2 2 2
5 6 t of Specimputer E y for Dou SI. No. 1 2 3 4 0 6 7	VII VIII	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM255N DCM306N DCM354N DCM364N DCM403N DCM453N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics	2 2 14 2 rthan Applicab Credits 2 4 2 2 2 2 2 2
5 6 t of Specimputer Eigy for Dou SI. No. 1 2 3 4 0 6	VII VIII VIII VIII VIII VIII VIII VIII VIII VIII VII VII VII VIII VIII	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM255N DCM306N DCM354N DCM364N DCM403N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course)	2 2 14 Per than - Applicate Credits 2 4 2 2 2 2
5 6 t of Specimputer E y for Dou SI. No. 1 2 3 4 0 6 7	VII VIII	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM255N DCM306N DCM354N DCM364N DCM403N DCM453N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics Cybersecurity Social Engineering	2 2 14 Per than - Applicab Credits 2 4 2 2 2 2 18
5 6 t of Specimputer E y for Dou SI. No. 1 2 3 4 0 6 7	VII VIII	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM255N DCM306N DCM354N DCM364N DCM403N DCM453N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics Cybersecurity Social Engineering	2 2 14 Per than - Applicab Credits 2 2 4 2 2 2 2 18
t of Specimputer Eigy for Dou SI. No. 1 2 3 4 0 6 7 8	VII VIII VIII VIII VIII VIII VIII Idlization Minnengineering; weble Minor Deg Semester III IV V VI VII VIII VIII VIIII	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM205N DCM306N DCM354N DCM364N DCM403N DCM461N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics Cybersecurity Social Engineering	2 2 14 er than - Applicab Credits 2 2 4 2 2 2 2 2 2 18
t of Spec mputer E y for Dou SI. No. 1 2 3 4 0 6 7	VII VIII VIII VIII VIII VIII Ialization Minnengineering; weble Minor Deg Semester III IV VI VII VIII VIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIII VIIIII VIIII VIIII VIIII VIIII VIIII VIIIIII	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM205N DCM306N DCM354N DCM403N DCM461N DCM461N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics Cybersecurity Social Engineering Total Credits for MDM Courses arrses offered by Department of Civil Engineering (For Students of departments other than surgest of the students	2 2 14 er than Applicab Credits 2 4 2 2 2 2 18
t of Specimputer Eigy for Dou SI. No. 1 2 3 4 0 6 7 8	VII VIII VIII VIII VIII VIII Ialization Minnengineering; while Minor Deg Semester III IV VI VII VIII VIII VIII VIII VIII Semester Semester	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM205N DCM306N DCM354N DCM364N DCM403N DCM461N DC	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics Cybersecurity Social Engineering Total Credits for MDM Courses urses offered by Department of Civil Engineering (For Students of departments other than Course Code and Name of Course	2 2 14 2 rthan Applicab Credits 2 2 4 2 2 2 2 18 Critil Credits
t of Specimputer Eigy for Dou SI. No. 1 2 3 4 0 6 7 8	VII VIII VIII VIII VIII VIII VIII Indication Minner of the second	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM205N DCM306N DCM354N DCM403N DCM461N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics Cybersecurity Social Engineering Total Credits for MDM Courses arrses offered by Department of Civil Engineering (For Students of departments other than Course Code and Name of Course CEM202N Building Materials	2 2 14 2 rthan Applicab Credits 2 2 4 2 2 2 2 18 Credits Credits
t of Specimputer Eight for Dou SI. No. 1 2 3 4 0 6 7 8 t of Multidgineering) SI. No. 1	VII VIII VIII VIII VIII VIII VIII Indication Minningineering; while Minor Deg Semester III IV VI VII VIII VIII VIII VIII VIII VIII Semester III IV IV IV IV IV IV IV IV	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM205N DCM306N DCM354N DCM403N DCM461N DCM461N DCM461N DCM461N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics Cybersecurity Social Engineering Total Credits for MDM Courses Aurses offered by Department of Civil Engineering (For Students of departments other than Course Code and Name of Course CEM202N Building Materials CEM 255N Environmental Engg	2 2 14 2 rthan Applicab Credits 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
5 6 t of Specimputer Eight for Dou SI. No. 1 2 3 4 0 6 7 8 t of Multidigineering) SI. No. 1 2 3	VII VIII VIII VIII VIII VIII VIII Indication Minningineering; while Minor Deg Semester III IV VI VIII	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM205N DCM306N DCM354N DCM403N DCM461N DCM461N DCM461N DCM461N DCM461N DCM461N DCM461N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics Cybersecurity Social Engineering Total Credits for MDM Courses arses offered by Department of Civil Engineering (For Students of departments other than Course Code and Name of Course CEM202N Building Materials CEM 255N Environmental Engg CEM 305N Concrete Technology	2 2 14 2 14 Credits 2 2 4 2 2 2 2 18 Credits Credits 2 4 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
t of Specimputer Eight for Dou SI. No. 1 2 3 4 0 6 7 8 t of Multidgineering) SI. No. 1 2 3 4 4 4 4 6 7 8	VII VIII VIII VIII VIII VIII VIII Indication Minningineering; while Minor Deg Semester III IV VI VIII VIIII VIIIIII	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM205N DCM306N DCM354N DCM403N DCM461N DCM461N DCM461N DCM461N DCM461N DCM461N DCM461N DCM461N DCM461N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics Cybersecurity Social Engineering Total Credits for MDM Courses arses offered by Department of Civil Engineering (For Students of departments other than Course Code and Name of Course CEM202N Building Materials CEM 255N Environmental Engg CEM 305N Concrete Technology CEM 356N Hydrology and Irrigation Engg	2 2 14 2 14 Credits 2 2 4 2 2 2 2 18 Credits 2 4 2 2 2 4 2 2 4 2 2 4 2 2 4 2 2 2 2
5 6 t of Specimputer Eight for Dou SI. No. 1 2 3 4 0 6 7 8 t of Multidigineering) SI. No. 1 2 3	VII VIII VIII VIII VIII VIII VIII Indication Minningineering; while Minor Deg Semester III IV VI VIII	DCM403N DCM453N DCM453N DCM453N DCM453N DCM205N DCM205N DCM205N DCM306N DCM354N DCM403N DCM461N DCM461N DCM461N DCM461N DCM461N DCM461N DCM461N DCM461N	Block Chain and its applications (NPTEL Course) Digital Forensics Total Credits for MDM Courses Fered by Department of Computer Engineering (For Students of departments other pted for Computer Engineering track (Data Science and Cybersecurity) in MDM) Course Code and Name of Course Data Science and Tools Cyber Laws and Cyber Security Principles Data Analytics and Visualisation Cryptography and Application Information Security Block Chain and its applications (NPTEL Course) Digital Forensics Cybersecurity Social Engineering Total Credits for MDM Courses arses offered by Department of Civil Engineering (For Students of departments other than Course Code and Name of Course CEM202N Building Materials CEM 255N Environmental Engg CEM 305N Concrete Technology	2 2 14 2 14 Credits 2 2 4 2 2 2 2 18 Credits Credits 2 4 4 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4

List of Multid	ist of Multidisciplinary Minor (MDM) Courses offered by Department of Civil Engineering At Institute Level)				
Sl. No.	Semester	MDM Level	Course Code and Name of Course	Credits	
1	III	MDM-I	CEM209N Geology	2	
2	IV	MDM-II	CEM259N Smart Cities Planning and Management	2	
3	V	MDM-III	CEM313N Remote Sensing and GIS	4	
4	VI	MDM-IV	CEM366N Green Buildings and Energy Conservation	2	
5	VII	MDM-V	CEM413N Disaster Management	2	
6	VIII	MDM-VI	CEM463N Environmental Law	2	
			Total Credits for MDM Courses	14	

Sl. No.	Semester	Course Code and Name of Course	Credits
1	III	CEM202N Building Materials	2
2	IV	CEM 255N Environmental Engg	2
3	V	CEM 305N Concrete Technology	4
4	VI	CEM 356N Hydrology and Irrigation Engg	2
5	VII	CEM404N Transportation Engg	2
6	VIII	CEM454N Quality and Safety in construction	2
7	VIII	CEM458N Estimation, Contract and Valuation	4
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		Total Specialization Minor Credits	18

List of additional courses for B. Tech. Honours Degree offered by Department of Civil Engineering (For Students of Department of Civil Engineering) - Honor in Structural Engineering			
Sl. No.	Semester	Course Code and Name of Course	Credits
1	V	CE 311N Advanced Concrete Technology	3
2	VI	CE 362N Theory of Elasticity and Plasticity	3
3	VI	CE 363N Finite Element Analysis	3
4	VII	CE 406N Theory of Plates and Shells	3
5	VII	CE407N Rehabilitation and Retrofitting of structure	3
6	VIII	CE 459N Design of Earthquake Resistance structure	3
		Total Credits for Honours Degree	18

		r B. Tech. Honours Degree offered by Department of Civil Engineering (For Students of Department of C ter Resoursec Engineering	ivil
Sl. No.	Semester	Course Code and Name of Course	Credits
1	V	CE312N Groundwater Hydrology	3
2	VI	CE364N Engineering Hydrology and Hydrologic Systems	3
3	VI	CE365N Land and Water Management	3
4	VII	CE408N Advanced Fluid Mechanics	3
5	VII	CE409N Channel and River Hydraulic	3
6	VIII	CE460N Hydraulic Structures	3
		Total Credits for Honours Degree	18

Sl. No.	Semester	Course Code and Name of Course		
1	VII	CE410N Emerging Research Topics in Civil Engg		
2	VII	E411N Emerging Research Topics in Civil Engg Lab		
3	VII	CE412N Research Project (Synopsis) Phase-I		
4	VIII	CE461N Research Specific Core Course-I		
5	VIII	CE462N Research Project		
		Total Credits for Honours with Research Degree	18	

Sl. No.	Semester	MDM Level	Course Code and Name of Course	Credits
1	III	MDM-I	SHM201N - Management Science	2
2	IV	MDM-II	SHM202N - Organizational Behaviour	2
3	V	MDM-III	SHM301N - Accounting, Financial & Marketing Management	4
4	VI	MDM-IV	SHM302N - Human Resource Management	2
5	VII	MDM-V	SHM401N - Corporate Social Responsibility	2
6	VIII	MDM-VI	SHM402N - Operations Management	2
		•	Total Credits for MDM Courses	14

Sl. No.	Semester		urses offered by Science & Humanities Department - ECONOMICS [for all branche Course Code and Name of Course	Credits
1	III	MDM-I	SHM203N - Introductory Micro Economics	2
2	IV	MDM-II	SHM204N - Introductory Macro Economics	2
3	V	MDM-III	SHM303N - Public Finance & Financial Economics	4
4	VI	MDM-IV	SHM304N - Environmental Economics	2
5	VII	MDM-V	SHM403N - Agricultural Economics	2
6	VIII	MDM-VI	SHM404N - International Economics	2
	•	•	Total Credits for MDM Courses	14

List of Multidisciplinary Minor (MDM) Courses offered by Science & Humanities Department - Legal Aspects in Technology [for all branches]

Sl. No.	Semester	MDM Level	Course Code and Name of Course	Credits
1	III	MDM-I	SHM205N-Constitutional Law of India	2
2	IV	MDM-II	SHM206N-Human Rights Law	2
3	V	MDM-III	SHM305N-Intellectual SHM308N-Property Rights	4
4	VI	MDM-IV	SHM306N-Cyber Laws	2
5	VII	MDM-V	SHM405N-Company Law	2
6	VIII	MDM-VI	SHM406N-Indian Contract Act	2
			Total Credits for MDM Courses	14

List of Multid	ist of Multidisciplinary Minor (MDM) Courses offered by Science & Humanities Department - German Language [for all branches]				
Sl. No.	Semester	MDM Level	Course Code and Name of Course	Credits	
1	III	MDM-I	SHM207N - German Language – A1 Level	2	
2	IV	MDM-II	SHM208N - German Language – A1.1 Level	2	
3	V	MDM-III	SHM307N - German Language – A2 Level	4	
4	VI	MDM-IV	SHM308N - German Language – B1.1 Level	2	
5	VII	MDM-V	SHM407N - German Language – B1.2 Level	2	
6	VIII	MDM-VI	SHM408N - German Language – B2 Level	2	
	•	•	Total Credits for MDM Courses	14	

List of Multidi	st of Multidisciplinary Minor (MDM) Courses offered by Science & Humanities Department -Japaneese language [for all branches]				
Sl. No.	Semester	MDM Level	Course Code and Name of Course	Credits	
1	III	MDM-I	SHM205N - Japaneese Language – A1 Level	2	
2	IV	MDM-II	SHM206N - Japaneese Language – A1.1 Level	2	
3	V	MDM-III	SHM305N - Japaneese Language – A2 Level	4	
4	VI	MDM-IV	SHM306N - Japaneese Language – B1.1 Level	2	
5	VII	MDM-V	SHM405N - Japaneese Language – B1.2 Level	2	
6	VIII	MDM-VI	SHM406N - Japaneese Language – B2 Level	2	
			Total Credits for MDM Courses	14	

oranches]				
Sl. No.	Semester			Credits
1	III	MDM-I	SHM209N अहिराणी : पूर्वपरंपरा	2
2	IV	MDM-II	SHM210N अहिराणी : भाषा परिचय	2
3	V	MDM-III	SHM309N अहिराणी : व्याकरण परिचय	4
4	VI	MDM-IV	SHM310N अहिराणी : ललित साहित्य	2
5	VII	MDM-V	SHM409N अहिराणी : समाजभाषा वैज्ञानिक अभ्यास	2
6	VIII	MDM-VI	SHM410N अहिराणी : लोकवाङ्मयाचा अभ्यास	2
		•	Total Credits for MDM Courses	14