DELHI TECHNOLOGICAL UNIVERSITY

(Formerly Delhi College of Engineering)
Shahbad Daulatpur,Main Bawana Road, Delhi-42

NOTICE

F.No.104/AcadPG/Admission/2018/19/35/ Dated : 05.8.2019

Subject: Revised M. Tech. Scheme with effect from the academic session 2019- 20 for Full Time/ Part Time Programme.

The Academic Council in its 20th meeting held on 10.05.2019 has approved the revised M. Tech. Scheme (Full Time/Part Time) for all the programmes being run by DTU along with its silent features is enclosed.

(Prof. H.C. Taneja)
Dean (Acad-PG)

F.No.104/AcadPG/Admission/2018/19/35/ Dated : 05.8.2019

Copy to :

1. PA to VC for kind information of the Hon'ble Vice Chancellor.
2. PA to Pro VC for kind information of the Pro Vice Chancellor.
3. Registrar
4. All Deans
5. All HoDs
6. Head CC – with a request to upload the same on University's website

(Anil Kumar)
Dy. Registrar (PG)

The M. Tech. scheme is given below:

1. M.Tech. Scheme

SEMESTER I				
	COURSES	CREDITS	TYPE	TOTAL CREDITS
Group A	Program Core- 1	4	Core	17
	Program Core- 2	4	Core	
Group B	Elective 1	4	Elective	
	Elective 2	3	Elective	
	Elective 3/ University Elective I	2	Elective	
SEMESTER II				
	COURSES	CREDITS	TYPE	TOTAL CREDITS
Group C	Program Core- 3	4	Core	17
	Program Core- 4	4	Core	
Group D	Elective 4	4	Elective	
	Elective 5	3	Elective	
	Elective 6/ University Elective II	2	Elective	
SEMESTER III				
Group E	**Track 1***			12
	Research Project	12	Core	
	Track 2			
	Elective 7	4	Elective	
	Elective 8	3	Elective	
	Elective 9	2	Elective	
	Project-1	3	Core	
SEMESTER IV				
Group F	**Track 1***			12
	Research Project	12	Core	
	Track 2			
	Project 2	12	Core	
Total Credits				58

List of University Electives

University Elective I

UEC5201	Entrepreneurship Development
UEC5203	Stress Management by Yoga
UEC5205	Research Writing
UEC5207	Ethics and Human Values
UEC5209	Research Methodology
UEC5211	Engineering Economics
UEC5213	Business communication and presentation skills
UEC5215	Communication skills
UEC5217	Ethics and Technology

University Elective II

UEC5200	Research Methodology
UEC5202	Financial Data Analytics
UEC5204	Technical Report Writing
UEC5206	Cost management of Engineering Projects
UEC5208	Business Analytics
UEC5210	Intellectual Property Rights
UEC5212	Technical communication
UEC5214	Logical Reasoning and Critical Thinking
UEC5216	Multimedia Tools and Technology
UEC5218	Data Analytics

- Publication in category 1 or category 2 journal publication is mandatory outcome of the Track 1. In second year (i.e III and IV semester) Track 1 option is by research project. Candidate will be finally evaluated at the end of the semester IV out of 24 credits on the basis of his/her publication (Accepted or published in category 1 or 2 journals).

2. COURSE EVALUATION

Evaluation in each course is based on the weights assigned to the various components of the course curriculum. These components are designated as under.

CWS	Class work sessional
MTE	Mid term examination
ETE	End term examination
PRS	Practical Sessional
PRE	Practical Examination

GRADING OF RESEARCH WORK

The candidate will be at least awarded A+ and A grade if published in category 1 and category 2 (as per the approved research policy of the university) respectively.

1. The M. Tech. program will be of two/ three years duration respectively for Full Time / Part Time.
2. A student will be awarded the degree of Master of Technology after earning total 58 credits in the end of 4th / 6th semester;
3. In each of first and second semester of all M.Tech. programs, there will be two 4 credit core courses, three elective courses (one each of 4 credit, 3 credit, 2 credit respectively);

4. For M.Tech Part Time Program student will study Group A (Program Core 1 & 2) in 1st semester, Group C (Program Core 3 & 4) in 2nd semester, Group B (Three electives courses one each of 4,3 and 2 credits) in 3rd Semester, Group D (Three elective courses one each of 4,3 & 2 Credits) in 4th semester, Group E in 5th semester and Group D in 6th semester.
5. In second year, there will be two parallel tracks, namely – (1) Research Track (2) Coursework track:

   Research Track : In Research track, the students will be required to publish research paper as per the approved research publication policy of the university. The student will be awarded 24 credits after publishing research paper.

   Coursework Track : In Course work track, the students will be required to take 1 core course (major project 1) and three elective courses (one each of 4 credit, 3 credit, 2 credit respectively) in third/ fifth semester. In fourth/ sixth semester, the students will be required to take 1 core course (major project 2).
6. A student must earn at least 08 credits from 04 credit elective courses and at least 06 credits from 03 credit elective courses from a basket of electives specific to that program. The remaining elective credits may be earned from electives offered for other programs including MOOCs. In case of MOOCs only 02 credits per MOOC course will be considered;
7. In first semester of every M.Tech. Program, a seminar has been offered as a two credit elective course;
8. In second semester of every M.Tech. program, a minor project has been offered as a three credit elective course;
9. Keeping in view the audit courses in the model PG curriculum of AICTE, 2 credit elective courses under Group B and Group D have been offered. These courses are general in nature and supposed to add value to the M. Tech. program. These courses will be called university electives and coordinated at the level of Dean (Acad-PG). A student may opt any one of these electives against 2 credits elective courses offered under Group B and Group D each;
10. The following alphanumeric coding scheme has been adopted:
    Core Courses : XXXYMN
    Elective Courses : XXXYCMN

    XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1st year, 6 for M. Tech. 2nd year),
    C – credit of the course (4/3/2), MN – Subject code (Odd number for odd semester and even number for even semester courses.
11. To facilitate slow and fast learners a student can register minimum 12 credits and maximum 24 credits in a semester; out of these registered credits, core courses being offered in the specific programme must be registered.

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

~~MASTER OF TECHNOLOGY IN INFORMATION TECHNOLOGY (ISY)~~ Master of Technology in Information Systems (ISY)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN

XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S.No	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	ISY501	Linear Algebra and Probability	Core	4	3	0	2	15	25	20	40	-	17
	2	ISY503	Data Structure and Algorithm	Core	4	3	0	2	15	25	20	40	-	
Group B	3	ISY5401/5403/…… ……	Elective 1	Elective	4	3	0	2	15	25	20	40	-	
	4	ISY5301/5303/…… ……	Elective 2	Elective	3	3/2	0	0/2	20/15	0/25	30/20	50/40	-	
	5	ISY5201/5203/…… ……/ UEC5201/5203/…… ……	Elective 3/University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	ISY502	High Performance Computing system	Core	4	3	0	2	15	25	20	40	-	17
	2	ISY504	Computer Network and Application	Core	4	3	0	2	15	25	20	40	-	
Group D	3	ISY5402/5404/.....	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	ISY5302/5304/.....	Elective 5	Elective	3	3/2	0	0/2	20/15	0/25	30/20	50/40	-	
	5	ISY5202/5204/...../UEC5202/5204/.....	Elective6/ University Elective II	Elective	2	2/0	0	0/4	20/0	0/30	30/0	50/0	0/70	

Semester-III

	S.No	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													12
Group E	1	ISY651	Research Project	Core	12	0	0	12	0	-	0	100	0	
	Track 2													
	1	ISY601	Major Project I	Core	3						40	60		
	2	ISY6401/6403/.....	Elective 7	Elective	4	3	0	2	15	25	20	40	-	
	3	ISY6301/6303/.....	Elective 8	Elective	3	3/2	0	0/2	20/15	0/25	30/20	50/40	-	
	4	ISY6201/6203/.....	Elective 9	Elective	2	0	0	2	0	100	0	0	-	

Semester-IV

	S.No	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	**Track 1**													12
	1	ISY652	Research Project	Core	12	0	0	12	0	-	0	100	0	
	Track 2													
	1	ISY602	Major Project II	Core	12						40	60		

List of Elective Courses

LIST OF ELECTIVES :

	S.No	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	ISY5401	Advanced Computer Graphics	Elective	4	3	0	2	15	25	20	40	-
	2	ISY5403	Artificial Neural network		4	3	0	2	15	25	20	40	-
	3	ISY5405	Big Data Analytics		4	3	0	2	15	25	20	40	-
	4	ISY5407	Data System Implementation		4	3	0	2	15	25	20	40	-
	5	ISY5409	Image Analysis		4	3	0	2	15	25	20	40	-
	6	ISY5411	Privacy and Security in Online Social Media		4	3	0	2	15	25	20	40	-
	7	ISY5413	Embedded System		4	3	0	2	15	25	20	40	-
	8	ISY5415	Digital and Cyber Forensics		4	3	0	2	15	25	20	40	-
	S.No	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	ISY5301	Artificial Intelligence	Elective	3	3	0	0	20	0	30	50	-
	2	ISY5303	Pattern analysis		3	2	0	2	15	25	20	40	-

	3	ISY5305	Business Intelligence and data warehousing		3	3	0	0	20	0	30	50	-	
	4	ISY5307	Edge computing		3	3	0	0	20	0	30	50	-	
	5	ISY5309	Financial data analytics		3	3	0	0	20	0	30	50	-	
	6	ISY5311	Foundation to computer security		3	3	0	0	20	0	30	50	-	
	7	ISY5313	Information Audit		3	3	0	0	20	0	30	50	-	
	8	ISY5315	Information Integration and Data Analytics		3	2	0	2	15	25	20	40	-	
	9	ISY5317	Linear Optimization		3	3	0	0	20	0	30	50	-	
	10	ISY5319	Management Information System		3	3	0	0	20	0	30	50	-	
	11	ISY5321	Multi agent system		3	3	0	0	20	0	30	50	-	
	12	ISY5323	Privacy in location based services		3	3	0	0	20	0	30	50	-	
	13	ISY5325	Probabilistic Graphical Models		3	2	0	2	15	25	20	40	-	
	14	ISY5327	Software Engineering		3	2	0	2	15	25	20	40	-	
	15	ISY5329	Theory of modern cryptography		3	2	0	2	15	25	20	40	-	
	S.No	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	
Elective 3	1	ISY5201	SEMINAR	Elective	2	0	0	2	-	100	-	-	-	
	2	ISY5203	Latest Research in information technology		2	2	0	0	20	0	30	50	-	
	3	ISY5205	Optimization tools		2	2	0	0	20	0	30	50	-	
	S.No	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	
Elective 4	1	ISY5402	Advanced operating system	Elective	4	3	0	2	15	25	20	40	-	
	2	ISY5404	Cloud computing and virtualization		4	3	0	2	15	25	20	40	-	

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	3	ISY5406	Foundation of information theory and coding		4	3	0	2	15	25	20	40		
	4	ISY5408	Internet security and privacy		4	3	0	2	15	25	20	40		
	5	ISY5410	Machine learning and applications		4	3	0	2	15	25	20	40	-	
	6	ISY5412	Mobile application		4	3	0	2	15	25	20	40	-	
	7	ISY5414	Semantic web		4	3	0	2	15	25	20	40	-	
	8	ISY5416	Smart sensing for internet of things		4	3	0	2	15	25	20	40	-	
	S.No	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	
Elective 5	1	ISY5302	MINOR PROJECT	Elective	3	0	0	-	-	40	-	-	60	
	2	ISY5304	Advanced computer vision		3	3	0	0	20	0	30	50	-	
	3	ISY5306	ADhoc wireless network		3	3	0	0	20	0	30	50	-	
	4	ISY5308	Advanced topic in mobile computing		3	3	0	0	20	0	30	50	-	
	5	ISY5310	Applied cryptography		3	3	0	0	20	0	30	50	-	
	6	ISY5312	Collaborative filtering		3	3	0	0	20	0	30	50	-	
	7	ISY5314	Cyber security and law		3	3	0	0	20	0	30	50	-	
	8	ISY5316	Deep learning and application		3	2	0	2	15	25	20	40	-	
	9	ISY5318	Digital watermarking and Steganalysis		3	3	0	0	20	0	30	50	-	
	10	ISY5320	Distributed Data Mining		3	3	0	0	20	0	30	50	-	
	11	ISY5322	Graph Theory		3	3	0	0	20	0	30	50	-	
	12	ISY5324	Network anonymity and privacy		3	3	0	0	20	0	30	50	-	
	13	ISY5326	Topics in computer security		3	3	0	0	20	0	30	50	-	
	S.No	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	

Elective 6	1	ISY5202	Research problem formulation	Elective	2	0	0	4	-	30	-	-	
	2	ISY5204	Laboratory on advanced topics		2	0	0	4	-	30	-	-	
	S.No	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 7	1	ISY6401	Biometrics Systems	Elective	4	3	0	2	15	25	20	40	-
	2	ISY6403	Natural Language Processing		4	3	0	2	15	25	20	40	-
	3	ISY6405	Network security		4	3	0	2	15	25	20	40	-
	4	ISY6407	Robotics		4	3	0	2	15	25	20	40	-
	5	ISY6409	Ethical Hacking		4	3	0	2	15	25	20	40	-
	6	ISY6411	Secure Coding		4	3	0	2	15	25	20	40	-
	7	ISY6413	Mobile Computing.		4	3	0	2	15	25	20	40	-
	S.No	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	ISY6301	Bioinformatics	Elective	3	3	0	0	20	0	30	50	-
	2	ISY6303	Data Mining		3	3	0	0	20	0	30	50	-
	3	ISY6305	Data Warehousing		3	3	0	0	20	0	30	50	-
	4	ISY6307	Dev-Ops		3	3	0	0	20	0	30	50	-
	5	ISY6309	Evolutionary computing		3	3	0	0	20	0	30	50	-
	6	ISY6311	GPU computing		3	3	0	0	20	0	30	50	-
	7	ISY6313	Information Retrieval		3	2	0	2	15	25	20	40	-
	8	ISY6315	Intelligent system and interface		3	2	0	2	15	25	20	40	-
	9	ISY6317	Introduction to cognitive science		3	3	0	0	15	25	20	40	-
	10	ISY6319	Introduction to spatial computing		3	2	0	2	15	25	20	40	-
	11	ISY6321	Malware Analysis		3	2	0	2	15	25	20	40	-
	12	ISY6323	Real time operating system		3	2 3	0 0	2 0	15 20	25 0	20 30	40 50	-
	13	ISY6325	Soft computing		3	3	0	0	20	0	30	50	-
	14	ISY6327	Statistical machine learning		3	2 3	0 0	2 0	15 20	25 0	20 30	40 50	-

	15	ISY6329	Web intelligence and big data analytics		3	3	0	0	20	0	30	50	-	
	16	ISY6331	Quantum computing		3	3	0	0	20	0	30	50	-	
	17	ISY6333	Intrusion detection and prevention		3	3	0	0	20	0	30	50	-	
	S.No		**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	
Elective 9	18	ISY6201	Open Area Research Seminar	Elective	2	0	0	2	-	100	-	-	-	

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN ENVIRONMENTAL ENGINEERING (ENE)

The following alphanumeric coding scheme has been adopted: Core Courses XXXYMN; Elective Courses XXXYCMN
XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1st year, 6 for M. Tech. 2nd year); C – credit of the course (4/3/2); MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I														
	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	ENE501	Water Pollution	Core	4	3	0	2	15	25	20	40	-	17
	2	ENE503	Air Pollution & Control	Core	4	3	0	2	15	25	20	40	-	
Group B	3	ENE5401/5403/.....	Elective 1	Elective	4	3/4	0	2/0	15/ 20	25/ 0	20/30	40/ 50	-	
	4	ENE5301/5303/.....	Elective 2	Elective	3	3/2	0	0/2	20/ 15	0/ 25	30/20	50/ 40	-	
	5	ENE5201/5203/...../ UEC5201/5203/.....	Elective 3/University Elective I	Elective	2	2	0	0	20	-	30	50	-	
Semester-II														
	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	ENE502	Water Engineering Design	Core	4	3	0	2	15	25	20	40	-	17
	2	ENE504	Solid Waste Management	Core	4	3	0	2	15	25	20	40	-	
Group D	3	ENE5402/5404/5406	Elective 4	Elective	4	3/4	0	2/0	15/ 20	25/ 0	20/30	40/ 50	-	
	4	ENE5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	

	5	ENE5202/5204/...../ UEC5202/5204/.....	Elective 6/University Elective II	Elective	2	2	0	0	20	-	30	50	-	
Semester-III															
	S. No.	**Course Code**	**Course Name**	**Type/ Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	**Total Credits**
	Track 1													**12**
Group E	1	ENE651	Research Project	Core	12	0	0	12	0	-	0	100	0	
	Track 2													
	1	ENE601	Major Project I	Core	3						40	60		**12**
	2	ENE6401/6403/.....	Elective 7	Elective	4	3/4	0	2/0	15/ 20	25/ 0	20/30	40/ 50	-	
	3	ENE6301/6303/.....	Elective 8	Elective	3	3/2	0	0/2	20/ 15	0/ 25	30/20	50/ 40	-	
	4	ENE6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	
Semester-IV															
	S. No.	**Course Code**	**Course Name**	**Type/ Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	**Total Credits**
	Track 1													
Group F	1	ENE652	Research Project	Core	12	0	0	12	0	-	0	100	0	**12**
	Track 2													
	1	ENE602	Major Project II	Core	12	0	0	12	0	-	0	100	0	12

LIST OF ELECTIVES

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	ENE5401	Industrial Wastewater Treatment	Elective	4	3	0	2	15	25	20	40	-
	2	ENE5403	Planning & Design of Environmental Services		4	4	0	0	20	-	30	50	-
	3	ENE5405	Groundwater & Seepage		4	4	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	ENE5301	Environmental Chemistry & Microbiology	Elective	3	2	0	2	15	25	20	40	-
	2	ENE5303	Occupational Safety & Health		3	3	0	0	20	-	30	50	-
	3	ENE5305	Instrumentation		3	2	0	2	15	25	20	40	-
	S. No.	**Course Code**		**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
	1	ENE5201	SEMINAR		2	0	0	2	-	100	-	-	-
Elective 3	2	ENE5203	Advanced Mathematics & Statistics	Elective	2	2	0	0	20	-	30	50	-
	3	ENE5205	Design of Hydraulic Structures		2	2	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	ENE5402	Global Warming & Climate Change	Elective	4	4	0	0	20	-	30	50	-
	2	ENE5404	Waste Containment & Remediation Technology		4	3	0	2	15	25	20	40	-
	3	ENE5406	Environmental Planning & Management		4	4	0	0	20	-	30	50	-

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 5	1	ENE5302	MINOR PROJECT	Elective	3	0	0	-	-	40	-	-	60
	2	ENE5304	Environmental Monitoring & Assessment		3	3	0	0	20	-	30	50	-
	3	ENE5306	Green Technology & Sustainability		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 6	1	ENE5202	Environmental Policy & Law	Elective	2	2	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 7	1	ENE6401	Environment Impact Assessment &Audit	Elective	4	4	0	0	20	-	30	50	-
	2	ENE6403	Remote Sensing & GIS		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	ENE6301	Air Quality Modeling	Elective	3	2	0	2	15	25	20	40	-
	2	ENE6303	Life Cycle Assessment		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	ENE6201	Hazardous Waste Management	Elective	2	2	0	0	20	-	30	50	-
	2	ENE6203	Bioremediation		2	2	0	0	20	-	30	50	-

DELHI TECHNOLOGICAL UNIVERSITY
SCHEME OF TEACHING AND EVALUATION
MASTER OF TECHNOLOGY IN COMPUTER SCIENCE & ENGINEERING(CSE)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN
XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	CSE501	Advanced Database Management Systems	Core	4	3	0	2	15	25	20	40	-	17
	2	CSE503	Advanced Algorithms and Data Structures	Core	4	3	0	2	15	25	20	40	-	
Group B	3	CSE5401/5403/.....	Elective 1	Elective	4	3/2	0	2/4	15	25	20	40	-	
	4	CSE5301/5303/.....	Elective 2	Elective	3	3/2	0	0/2	20/15	0/25	30/20	50/40	-	
	5	CSE5201/5203/...../ UEC5201/5203/.....	Elective 3/ University Elective I	Elective	2	2/1	0	0/2	20/15	0/25	30/20	5040	-	

Semester-II

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	CSE502	Distributed Systems	Core	4	3	0	2	15	25	20	40	-	17

	2	CSE504	Advanced Computer Networks	Core	4	3	0	2	15	25	20	40	-	
Group D	3	CSE5402/5404/.....	Elective 4	Elective	4	3/2	0	2/4	15	25	20	40	-	
	4	CSE5302/5304/.....	Elective 5	Elective	3	3/2	0	0/2	20/15	0/25	30/20	50/40	-	
	5	CSE5202/5204/...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Semester-III

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													
Group E	1	CSE651	Research Project	Core	12	0	0	12	0	-	0	100	0	12
	Track 2													
	1	CSE601	Major Project I	Core	3						40	60		12
	2	CSE6401/6403/.....	Elective 7	Elective	4	3/2	0	2/4	15	25	20	40	-	
	3	CSE6301/6303/.....	Elective 8	Elective	3	3/2	0	0/2	20/15	0/25	30/20	50/40	-	
	4	CSE6201/6203/.....	Elective 9	Elective	2	2/1	0	0/2	20/15	0/25	30/20	50/40	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
roup	**Track 1**													

	1	CSE652	Research Project	Core	12	0	0	12	0	-	0	100	0	12
	Track 2													
	1	CSE602	Major Project II	Core	12						40	60		12

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	CSE5401	Artificial Intelligence and Expert Systems	Elective	4	3	0	2	15	25	20	40	-
	2	CSE5403	Data warehousing and Data Mining		4	3	0	2	15	25	20	40	-
	3	CSE5405	Design of Embedded Systems		4	2	0	4	15	25	20	40	-
	4	CSE5407	Information Retrieval		4	3	0	2	15	25	20	40	-
	5	CSE5409	Soft Computing		4	3	0	2	15	25	20	40	-
	6	CSE5411	Semantic Web		4	3	0	2	15	25	20	40	-
	7	CSE5413	Machine Learning		4	3	0	2	15	25	20	40	-
		Course Code	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	CSE5301	Advanced Computer Graphics	Elective	3	2	0	2	15	25	20	40	-
	2	CSE5303	Fault Tolerant and testable Systems		3	3	0	0	20	-	30	50	-
	3	CSE5305	VLSI Design		3	2	0	2	15	25	20	40	-
	4	CSE5307	Parallel Computer Architecture		3	3	0	0	20	-	30	50	-
	5	CSE5309	Social Media and Online Marketing		3	3	0	0	20	-	30	50	-
	6	CSE5311	Reliable System Design		3	3	0	0	20	-	30	50	-
	7	CSE5313	Robotics Engineering		3	2	0	2	15	25	20	40	-
		Course Code	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 3	1	CSE5201	SEMINAR	Elective	2	0	0	2	-	100	-	-	-
	2	CSE5203	Distributed Algorithms		2	2	0	0	20	-	30	50	
	3	CSE5205	Modeling& Simulation		2	1	0	2	15	25	20	40	-
	4	CSE5207	Multivariate Calculus		2	2	0	0	20	-	30	50	-

	5	CSE5209	Ethical Hacking		2	2	0	0	20	-	30	50	-
	6	CSE5211	Software Lab		2	1	0	2	15	25	20	40	-
		Course Code	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	CSE5402	Wireless & Mobile Communication	Elective	4	3	0	2	15	25	20	40	-
	2	CSE5404	Digital Image Processing		4	3	0	2	15	25	20	40	-
	3	CSE5406	Software Testing		4	3	0	2	15	25	20	40	-
	4	CSE5408	Computer Vision		4	2	0	4	15	25	20	40	-
	5	CSE5410	Applied Cryptography		4	3	0	2	15	25	20	40	-
	6	CSE5412	Optical Networks		4	3	0	2	15	25	20	40	-
		Course Code	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	CSE5302	MINOR PROJECT	Elective	3	-	-	-	-	40	-	-	60
	2	CSE5304	Information and Network Security		3	2	0	2	15	25	20	40	-
	3	CSE5306	Bioinformatics		3	3	0	0	20	-	30	50	-
	4	CSE5308	Big Data Analytics		3	2	0	2	15	25	20	40	-
	5	CSE5310	Security and Privacy in Social Networks		3	3	0	0	20	-	30	50	-
	6	CSE5312	Probability and Statistical Theory		3	3	0	0	20	-	30	50	-
	7	CSE5314	Business Intelligence		3	3	0	0	20	-	30	50	-
	8	CSE5316	Mobile and Cellular Network Security		3	3	0	0	20	-	30	50	-
		Course Code	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 6	1	CSE5202	Optimization Tools	Elective	2	2	0	0	20	-	30	50	-
	2	CSE5204	Statistical Tools		2	2	0	0	20	-	30	50	-
	3	CSE5206	Geo-Informatics		2	2	0	0	20	-	30	50	-
	4	CSE5208	Security Tools and Applications		2	2	0	0	20	-	30	50	-
	5	CSE5210	Secure Coding		2	2	0	0	20	-	30	50	-
	6	CSE5212	Linear Optimization		2	2	0	0	20	-	30	50	-
	7	CSE5214	Advances in Multimedia Technology		2	2	0	0	20	-	30	50	-

		Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 7	1	CSE6401	Pattern Recognition	Elective	4	3	0	2	15	25	20	40	-
	2	CSE6403	Software Project Management		4	3	0	2	15	25	20	40	-
	3	CSE6405	Cluster & Grid Computing		4	3	0	2	15	25	20	40	-
	4	CSE6407	Internet of Things		4	3	0	2	15	25	20	40	-
	5	CSE6409	Nanotechnology		4	2	0	4	15	25	20	40	-
		Course Code	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	CSE6301	Natural Language Processing	Elective	3	3	0	0	20	-	30	50	-
	2	CSE6303	Digital Forensics		3	3	0	0	20	-	30	50	-
	3	CSE6305	Game Theory		3	3	0	0	20	-	30	50	-
	4	CSE6307	Deep Learning		3	3	0	0	20	-	30	50	-
	5	CSE6309	Blockchain and applications		3	3	0	0	20	-	30	50	-
	6	CSE6311	Real Time Systems		3	2	0	2	15	25	20	40	-
	7	CSE6313	Quantum Computing		3	2	0	2	15	25	20	40	-
		Course Code	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	CSE6201	Research Methodology		2	2	0	0	20	-	30	50	-
	2	CSE6203	Enterprise Computing in JAVA		2	1	0	2	15	25	20	40	-
	3	CSE6205	Advances in Internet & Web Technology		2	2	0	0	20	-	30	50	-

DELHI TECHNOLOGICAL UNIVERSITY
SCHEME OF TEACHING AND EVALUATION
M.TECH SOFTWARE ENGINEERING

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN
XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	SWE501	Software Requirement Engineering	Core	4	3	0	2	15	25	20	40	-	17
	2	SWE503	Object Oriented Software Engineering	Core	4	3	0	2	15	25	20	40	-	
Group B	3	SWE5401/5403/.....	Elective 1	Elective	4	3	0	2	15	25	20	40	-	
	4	SWE5301/5303/.....	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	SWE5201/5203/..... / UEC5201/5203/.....	Elective 3	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	SWE502	Software Testing	Core	4	3	0	2	15	25	20	40	-	17
	2	SWE504	Empirical Software Engineering	Core	4	3	0	2	15	25	20	40	-	

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Group D	3	SWE5402/5404/.....	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	SWE5302/5304/.....	Elective 5	Elective	3	3	0	0	20	0	30	50-	-	
	5	SWE5202/5204/..... / UEC5202/5204/.....	Elective 6	Elective	2	2	0	0	20	0	30	50	-	

Semester-III

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRE	MTE	`ETE	PRE	Total Credits
	Track 1													12
Group E	1	SWE651	Research Project	Core	12	0		12	0	0	-	100	-	
	Track 2													
	1	SWE601	Major Project I	Core	3				0	0	40	60	-	12
	2	SWE6401/6403/.....	Elective 7	Elective	4	3	0	2	15	25	20	40	-	
	3	SWE6301/6303/.....	Elective 8	Elective	3	3	0	0	20	0	30	50	-	
	4	SWE6201/6203/.....	Elective 9	Elective	2	2/0	0	0/4	20/0	0/40	30/0	50/0	0/60	

Semester-IV

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRE	MTE	`ETE	PRE	Total Credits
Group F	**Track 1**													
	1	SWE652	Research Project	Core	12	0		12	0	0	-	100	-	12
	Track 2													
	1	CSE602	Major Project II	Core	12	0		12	0	0	40	60	-	12

LIST OF ELECTIVES :

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	SWE5401	Advanced Database Management Systems	Elective	4	3	0	2	15	25	20	40	-
	2	SWE5403	Programming Languages		4	3	0	2	15	25	20	40	-
	3	SWE5405	Advanced Operating System		4	3	0	2	15	25	20	40	-
	4	SWE5407	Advanced Data Structures		4	3	0	2	15	25	20	40	-
	5	SWE5409	Data Warehousing Data Mining		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	SWE5301	Project Work	Elective	3	0	0	-	-	40	-	-	60
	2	SWE5303	Artificial Intelligence		3	3	0	0	20	-	30	50	-
	3	SWE5305	Information Retrieval		3	3	0	0	20	-	30	50	-
	4	SWE5307	Fuzzy Logic and Neural Networks		3	3	0	0	20	-	30	50	-
	5	SWE5309	Software Project Management		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 3	1	SWE5201	SEMINAR	Elective	2	2	0	0	2	-	100	-	-
	2	SWE5203	Probability and Statistics		2	2	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	SWE5402	Software Design Patterns	Elective	4	3	0	2	15	25	20	40	-
	2	SWE5404	Soft Computing		4	3	0	2	15	25	20	40	-
	3	SWE5406	Machine Learning		4	3	0	2	15	25	20	40	-

	4	SWE5408	Big Data Analytics		4	3	0	2	15	25	20	40	-
	5	SWE5410	Wireless and Mobile Computing		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	SWE5302	MINOR PROJECT	Elective	3	0	0	-	-	40	-	-	60
	2	SWE5304	Optimization Techniques		3	3	0	0	20	-	30	50	-
	3	SWE5306	Pattern Recognition		3	3	0	0	20	-	30	50	-
	4	SWE5308	Distributed Systems		3	3	0	0	20	-	30	50	-
	5	SWE5310	Natural Language Processing		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 6	1	SWE5202	Research Methodology	Elective	2	2	0	0	20	-	30	50	-
	2	SWE5204	Predictive Modelling		2	2	0	0	20	-	30	50	-
	3	SWE5206	Operational Research		2	2	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 7	1	SWE6401	Advances in Software Engineering	Elective	4	3	0	2	15	25	20	40	-
	2	SWE6403	Cloud Computing		4	3	0	2	15	25	20	40	-
	3	SWE6405	Things of the Internet		4	3	0	2	15	25	20	40	-
	4	SWE6407	Multimedia Applications		4	3	0	2	15	25	20	40	-
	5	SWE6409	Information Theory and Coding		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective	1	SWE6301	Agile Methods	Elective	3	3	0	0	20	-	30	50	-
	2	SWE6303	Software Reliability		3	3	0	0	20	-	30	50	-

	3	SWE6305	Cluster and Grid Computing		3	3	0	0	20	-	30	50	-
	4	SWE6307	Software Quality & Metrics		3	3	0	0	20	-	30	50	-
	5	SWE6309	Swarm and Evolutionary Computing		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 6	1	SWE6201	Data Security & Privacy	Elective	2	2	0	0	20	-	30	50	-
	3	SWE6203	Bio Informatics		2	2	0	0	20	-	30	50	-
	5	SWE6205	Statistical Tools		2	0	0	4	-	40	-	-	60

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN COMPUTATIONAL DESIGN (CDN)

Semester-I

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	CDN 501	System Modelling, Simulation and Analysis	Core	4	3	0	2	15	25	20	40	-	17
	2	CDN 503	Computational Mechanics of Materials	Core	4	3	0	2	15	25	20	40	-	
Group B	3	CDN 5401/5403/.....	Elective 1	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	
	4	CDN 5301/5303/.....	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	CDN 5201/5203/...../ UEC5201/5203/.....	Elective 3/University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	CDN 502	Finite Element Method	Core	4	3	0	2	15	25	20	40	-	17
	2	CDN 504	Robotics and Control	Core	4	3	0	2	15	25	20	40	-	
Group D	3	CDN 5402/5404/.....	Elective 4	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	
	4	CDN 5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	CDN 5202/5204/...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Head of the Department
Mechanical, Production & Industrial and
Automobile Engineering Department
Delhi Technological University
Shahbad Daulatpur, Bawana Road, Delhi-42

Semester-III

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group E	**Track 1**													
	1	CDN 651	Research Project	Core	12	0	0	12	0	-	0	100	-	
	Track 2													
	1	CDN 601	Major Project I	Core	3						40	60		12
	2	CDN 6401/6403/.....	Elective 7	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	
	3	CDN 6301/6303/.....	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	CDN 6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	**Track 1**													
	1	CDN 652	Research Project	Core	12	0		12	0	-	0	100	-	12
	Track 2													
	1	CDN 602	Major Project II	Core	12	0		12	0	-	0	100	-	

Head of the Department
Mechanical, Production & Industrial and
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Delhi Technological University
Shahbad Daulatpur, Bawana Road, Delhi-42

LIST OF ELECTIVES :													
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 1	1	CDN5401	Advanced theory of Vibration and Control	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	2	CDN5403	Fracture Mechanics		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	3	CDN5405	Theory of Elasticity and Plasticity		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	CDN5301	Optimization Techniques in Design	Elective	3	3	0	0	20	-	30	50	-
	2	CDN5303	Numerical Methods in Engineering		3	3	0	0	20	-	30	50	-
	3	CDN5305	Design of Experiments		3	3	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 3	1	CDN5201	Seminar	Elective	2	2	0	0	2	-	-	100	-
	2	CDN5203	Smart Structures and Materials		2	2	0	0	20	-	30	50	-
	3	CDN5205	Human Factors in Engineering and Biomechanical Design		2	2	0	0	20	-	30	50	-
	4	CDN5207	Design for Manufacture		2	2	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	CDN5402	Engineering Tribology and Bearing Design	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	2	CDN5404	Rapid Prototyping and Tooling		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	3	CDN5406	Innovative Engineering Design		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	CDN5302	Minor Project	Elective	3	0	0	-	-	40	-	-	60
	2	CDN5304	Rotor Dynamics		3	3	0	0	20	-	30	50	-
	3	CDN5306	Product Design and Development		3	3	0	0	20	-	30	50	-

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	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 6	1	CDN5202	Reliability Engineering	Elective	2	2	0	0	20	-	30	50	-
	2	CDN5204	Product Life Cycle Management		2	2	0	0	20	-	30	50	-
	3	CDN5206	Noise and Acoustics Design		2	2	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 7	1	CDN6401	Computational Methods for Fluid Dynamics	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	2	CDN6403	Machine Tool Design		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	3	CDN6405	Pressure Vessels and Piping Design		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	CDN6301	Composite Material Technology	Elective	3	3	0	0	20	-	30	50	-
	2	CDN6303	Mechatronic System Design		3	3	0	0	20	-	30	50	-
	3	CDN6305	Instrumentation and Control Systems		3	3	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	CDN6201	Computer Aided Design	Elective	2	2	0	0	20	-	30	50	-
	2	CDN6203	Surface Engineering		2	2	0	0	20	-	30	50	-
	3	CDN6205	Automotive System Design		2	2	0	0	20	-	30	50	-

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DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN THERMAL ENGINEERING (THE)

Semester-I

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	THE501	Thermodynamics and Gas Dynamics	Core	4	3	0	2	15	25	20	40	-	
	2	THE503	Heat Transfer & Fluid Mechanics	Core	4	3	0	2	15	25	20	40	-	
Group B	3	THE5401/5403/.....	Elective 1	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	17
	4	THE5301/5303/.....	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	THE5201/5203/...../ UEC5201/5203/.....	Elective 3/University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	THE502	Energy Systems	Core	4	3	0	2	15	25	20	40	-	
	2	THE504	Turbomachines	Core	4	3	0	2	15	25	20	40	-	
Group D	3	THE5402/5404/.....	Elective 4	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	17
	4	THE5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	THE5202/5204/...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

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Semester-III

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group E	**Track 1**													
	1	THE651	Research Project	Core	12	0	0	12	0	-	0	100	-	
	Track 2													
	1	THE601	Major Project I	Core	3						40	60		12
	2	THE6401/6403/.....	Elective 7	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	
	3	THE6301/6303/.....	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	THE6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	**Track 1**													
	1	THE652	Research Project	Core	12	0		12	0	-	0	100	-	
	Track 2													12
	1	THE602	Major Project II	Core	12	0		12	0	-	0	100	-	

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LIST OF ELECTIVES :

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	THE5401	Advanced Refrigeration Systems	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	2	THE5403	Advanced I C Engines		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	3	THE5405	Power Plant Engg.		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	THE5301	Computational Methods in Thermal & Fluid Engineering	Elective	3	3	0	0	20	-	30	50	-
	2	THE5303	Optimization Techniques		3	3	0	0	20	-	30	50	-
	3	THE5305	Finite Element Methods		3	3	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 3	1	THE5201	Seminar	Elective	2	2	0	0	2	-	-	100	-
	2	THE5203	Renewable & Non-Conventional Energy Sources		2	2	0	0	20	-	30	50	-
	3	THE5205	Measurement & Control Techniques		2	2	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	THE5402	Advanced Heat Transfer	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	2	THE5404	Advanced Fluid Dynamics		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	3	THE5406	Advanced Air Conditioning Systems		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	THE5302	Minor Project	Elective	3	0	0	-	-	40	0	-	60
	2	THE5304	Solar Engineering Thermal Processes		3	3	0	0	20	-	30	50	-
	3	THE5306	Thermal Energy Conservation		3	3	0	0	20	-	30	50	-

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	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 6	1	THE5202	Steam and Gas Turbines	Elective	2	2	0	0	20	-	30	50	-
	2	THE5204	Combustion & Emissions		2	2	0	0	20	-	30	50	-
	3	THE5206	Advanced Cryogenic systems		2	2	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 7	1	THE6401	Advanced Power Generation Systems	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	2	THE6403	Micro / Nano scale Heat Transfer		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	3	THE6405	Combustion Modelling		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	THE6301	Advanced Heating Ventilation & Air Conditioning	Elective	3	3	0	0	20	-	30	50	-
	2	THE6303	Two Phase Flow Heat Transfer		3	3	0	0	20	-	30	50	-
	3	THE6305	Exergy Analysis of Thermal Systems		3	3	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	THE6201	Advanced Energy Systems	Elective	2	2	0	0	20	-	30	50	-
	2	THE6203	Dynamics and Control of Mechanical Systems		2	2	0	0	20	-	30	50	-
	3	THE6205	Alternative Fuels		2	2	0	0	20	-	30	50	-

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SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN PRODUCTION ENGINEERING (PIE)

Semester-I

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	PRD501	Theory of Metal Cutting	Core	4	3	0	2	15	25	20	40	-	
	2	PRD503	Welding Processes & Metallurgy	Core	4	3	0	2	15	25	20	40	-	
Group B	3	PRD5401/5403/.....	Elective 1	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	17
	4	PRD5301/5303/.....	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	PRD5201/5203/...../ UEC5201/5203/.....	Elective 3/University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	PRD502	Plasticity & Metal Forming	Core	4	3	0	2	15	25	20	40	-	
	2	PRD504	Casting Technology	Core	4	3	0	2	15	25	20	40	-	
Group D	3	PRD5402/5404/.....	Elective 4	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	17
	4	PRD5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	PRD5202/5204/...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

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Semester-III

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group E	**Track 1**													
	1	PRD651	Research Project	Core	12	0	0	12	0	-	0	100	-	
	Track 2													
	1	PRD601	Major Project I	Core	3						40	60		12
	2	PRD6401/6403/.....	Elective 7	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	
	3	PRD6301/6303/.....	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	PRD6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	**Track 1**													
	1	PRD652	Research Project	Core	12	0		12	0	-	0	100	-	
	Track 2													12
	1	PRD602	Major Project II	Core	12	0		12	0	-	0	100	-	

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LIST OF ELECTIVES :													
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 1	1	PRD5401	Computer Aided Design / Computer Aided Manufacturing	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	2	PRD5403	Computer Integrated Manufacturing Systems		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	3	PRD5405	Mechatronics		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	PRD5301	Principles of Machine Tools	Elective	3	3	0	0	20	-	30	50	-
	2	PRD5303	Automation in Manufacturing		3	3	0	0	20	-	30	50	-
	3	PRD5305	Process Engineering		3	3	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 3	1	PRD5201	Seminar	Elective	2	2	0	0	2	-	-	100	-
	2	PRD5203	Operation Research		2	2	0	0	20	-	30	50	-
	3	PRD5205	Optimization Techniques		2	2	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	PRD5402	Metrology	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	2	PRD5404	Methods Engineering and Ergonomics		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	3	PRD5406	Composite Materials and Processing		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	PRD5302	Minor Project	Elective	3	0	0	-	-	-	40	60	-
	2	PRD5304	Maintenance Management		3	3	0	0	20	-	30	50	-
	3	PRD5306	Managerial Concept & Organizational Behaviour		3	3	0	0	20	-	30	50	-

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	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 6	1	PRD5202	Industrial Quality Control	Elective	2	2	0	0	20	-	30	50	-
	2	PRD5204	Supply Chain Management		2	2	0	0	20	-	30	50	-
	3	PRD5206	Production & Operation Management		2	2	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 7	1	PRD6401	Advanced Machining Processes	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	2	PRD6403	Precision Engineering		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	3	PRD6405	Surface Engineering		4	3/4	0	2/0	15/20	25/0	20/30	40/50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	PRD6301	Robotics	Elective	3	3	0	0	20	-	30	50	-
	2	PRD6303	Design for Manufacturing and Assembly		3	3	0	0	20	-	30	50	-
	3	PRD6305	Reliability Engineering		3	3	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	PRD6201	IT in manufacturing Enterprise	Elective	2	2	0	0	20	-	30	50	-
	2	PRD6203	Materials Management		2	2	0	0	20	-	30	50	-
	3	PRD6205	Project Management		2	2	0	0	20	-	30	50	-

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DELHI TECHNOLOGICAL UNIVERSITY
SCHEME OF TEACHING AND EVALUATION
MASTER OF TECHNOLOGY IN Control & Instrumentation (C&I)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN

XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	C&I 501	System Theory	Core	4	3	0	2	15	25	20	40	-	17
	2	C&I 503	Measurement & Instrumentation	Core	4	3	0	2	15	25	20	40	-	
Group B	3	C&I 5401/5403/.....	Elective 1	Elective	4	3	0	2	15	25	20	40	-	
	4	C&I 5301/5303/.....	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	C&I 5201/5203/...../ UEC5201/5203/.....	Elective 3/ University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	C&I 502	Intelligent Control	Core	4	3	0	2	15	25	20	40	-	17

	2	C&I 504	Process Control	Core	4	3	0	2	15	25	20	40	-	
Group D	3	C&I 5402/5404/.....	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	C&I 5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	C&I 5202/5204/...../ UEC 5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Semester-III

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													**12**
Group E	1	C&I 651	Research Project	Core	12,12	0		12	0	-	0	100	0	
	Track 2													
	1	C&I 601	Major Project-1	Core	3						40	60		**12**
	2	C&I 6401/6403/.....	Elective 7	Elective	4	3	0	2	15	25	20	40	-	
	3	C&I 6301/6303/.....	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	C&I 6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	**Track 1**													
	1	C&I 652	Research Project	Core	12,12	0		12	0	-	0	100	0	**12**
	Track 2													

	1	C&I 602	Major Project II	Core	1/2	0		12	0	-	0	100	0	12

LIST OF ELECTIVES :

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	C&I 5401	Analog and Digital Electronics	Elective	4	3	0	2	15	25	20	40	-
	2	C&I 5403	Manufacturing, Automation & Control		4	3	0	2	15	25	20	40	-
	3	C&I 5405	Biomedical Instrumentation		4	3	0	2	15	25	20	40	-
	4	C&I 5407	Soft Computing Techniques		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	C&I 5301	Random Processes in Control & Estimation	Elective	3	3	0	0	20	-	30	50	-
	2	C&I 5303	Nonlinear Control Theory		3	3	0	0	20	-	30	50	-
	3	C&I 5305	Design of Fractional Order Systems		3	3	0	0	20	-	30	50	-
	4	C&I 5307	Optimization Techniques		3	3	0	0	20	-	30	50	-
	5	C&I 5309	Applied Mathematics										
	S.No.	**Course Code**		**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
	1	C&I 5201	Seminar		2	2	0	0	2	-	100	-	-
Elective 3	2	C&I 5203	Bio Engineering & Control	Elective	2	2	0	0	20	-	30	50	-
	3	C&I 5205	Networked Control System		2	2	0	0	20	-	30	50	-
	4	C&I 5207	Robust Control		2	2	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 4	1	C&I 5402	Intelligent Instrumentation	Elective	4	3	0	2	15	25	20	40	-
	2	C&I 5404	Digital Signal Processing		4	3	0	2	15	25	20	40	-
	3	C&I 5406	Modelling, Identification and Control		4	3	0	2	15	25	20	40	-
	4	C&I 5408	Power Quality		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	C&I 5302	Minor Project	Elective	3	0	0	-	-	40	-	-	60
	2	C&I 5304	Computer Communication & Control		3	3	0	0	20	-	30	50	-
	3	C&I 5306	Analog Filter Design		3	3	0	0	20	-	30	50	-
	4	C&I 5308	Optimal Control Theory		3	3	0	0	20	-	30	50	-
	5	C&I 5310	Digital Image Processing										
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 6	1	C&I 5202	Nature Inspired Algorithms	Elective	2	2	0	0	20	-	30	50	-
	2	C&I 5204	Machine Learning		2	2	0	0	20	-	30	50	-
	3	C&I 5206	Adaptive Signal Processing		2	2	0	0	20	-	30	50	-
	4	C&I 5208	Special Topics in Control Systems		2	2	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 7	1	C&I 6401	SCADA & Energy Management	Elective	4	3	0	2	15	25	20	40	-
	2	C&I 6403	Applications of Control in Power Electronic Systems		4	3	0	2	15	25	20	40	-
	3	C&I 6405	Microcontroller & Embedded Systems		4	3	0	2	15	25	20	40	-
	4	C&I 6407	Digital Instrumentation		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	C&I 6301	Robot Dynamics & Control	Elective	3	3	0	0	20	-	30	50	-
	2	C&I 6303	Stochastic Control		3	3	0	0	20	-	30	50	-
	3	C&I 6305	Adaptive Control		3	3	0	0	20	-	30	50	-
	4	C&I 6307	Instrumentation Transducers		3	3	0	0	20	-	30	50	-
	5	C&I 6309	Advanced Control System Design		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	C&I 6201	Special Topics in Instrumentation	Elective	2	2	0	0	20	-	30	50	-
	2	C&I 6203	Special Topics in Signal Processing		2	2	0	0	20	-	30	50	-
	3	C&I 6205	Artificial Intelligence		2	2	0	0	20	-	30	50	-
	4	C&I 6207	Pattern Recognition		2	2	0	0	20	-	30	50	-
	5	C&I 6209	Energy Auditing and Conservation										

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN POWER SYSTEMS (PSY)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN

XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	PSY501	Advanced Power System Analysis	Core	4	3	0	2	15	25	20	40	-	
	2	PSY503	Advanced Power Electronics	Core	4	3	0	2	15	25	20	40	-	
Group B	3	PSY5401/5403/…	Elective 1	Elective	4	3	0	2	15	25	20	40	-	17
	4	PSY5301/5303/…	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	PSY5201/5203/… ..... /UEC5201/5203/…	Elective 3/ University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	PSY502	Advanced Power System Protection	Core	4	3	0	2	15	25	20	40	-	17

	2	PSY504	Power System Operation and Control	Core	4	3	0	2	15	25	20	40	-	
Group D	3	PSY5402/5404/.....	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	PSY5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	PSY5202/5204/..... ...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Semester-III

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													12
Group E	1	PSY651	Research Project	Core	12	0	0	12	0	-	0	100	0	
	Track 2													
	1	PSY601	Major Project I	Core	3		-				40	60		12
	2	PSY6401/6403/.....	Elective 7	Elective	4	3	0	2	15	25	20	40	-	
	3	PSY6301/6303/.....	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	PSY6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
ro u p	**Track 1**													

	1	PSY652	Research Project	Core	12	0		12	0	-	0	100	0	12
	Track 2													
	1	PSY602	Major Project II	Core	12	0		12	0	-	0	100	0	12

LIST OF ELECTIVES :													
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 1	1	PSY5401	Power System Dynamics and Stability	Elective	4	3	0	2	15	25	20	40	-
	2	PSY5403	Advanced Control Systems		4	3	0	2	15	25	20	40	-
	3	PSY5405	Modelling of Electrical Machines		4	3	0	2	15	25	20	40	-
	4	PSY5407	Soft Computing Techniques		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	PSY5301	Power System Instrumentation	Elective	3	3	0	0	20	-	30	50	-
	2	PSY5303	Flexible AC Transmission Systems		3	3	0	0	20	-	30	50	-
	3	PSY5305	Optimization Techniques for Power Systems		3	3	0	0	20	-	30	50	-
	4	PSY5307	Applied Mathematics		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**		**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
	1	PSY5201	SEMINAR		2	2	0	0	2	-	100	-	-
ec ti ve	2	PSY5203	Nuclear Energy and Power	Elective	2	2	0	0	20	-	30	50	-

	3	PSY5205	Forecasting Techniques in Power Systems		2	2	0	0	20	-	30	50	-
	4	PSY5207	Switched Mode Power Supplies		2	2	0	0	20	-	30	50	-
	5	PSY5209	Nuclear Energy and Power		2	2	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	PSY5402	Renewable Energy Systems	Elective	4	3	0	2	15	25	20	40	-
	2	PSY5404	High Voltage Engineering		4	3	0	2	15	25	20	40	-
	3	PSY5406	Power Quality		4	3	0	2	15	25	20	40	-
	4	PSY5408	Advanced Digital Signal Processing		4	3	0	2	15	25	20	40	-
	5	PSY5410	HVDC Transmission		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	PSY5302	Minor Project	Elective	3	0	0	-	-	40	-	-	60
	2	PSY5304	Intelligent Control Techniques		3	3	0	0	20	-	30	50	-
	3	PSY5306	Analog Filter Design		3	3	0	0	20	-	30	50	-
	4	PSY5308	Dynamics of Synchronous Machines		3	3	0	0	20	-	30	50	-
	5	PSY5310	Smart Grid		3	3	0	0	20		30	50	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**

Elective 6	1	PSY5202	Restructured Power Systems	Elective	2	2	0	0	20	-	30	50	-
	2	PSY5204	Power System Planning		2	2	0	0	20	-	30	50	-
	3	PSY5206	Machine learning		2	2	0	0	20	-	30	50	-
	4	PSY5208	PMU and Advanced Metering		2	2	0	0	20	-	30	50	-
		PSY5210	EHV AC Transmission		2	2	0	0	20	-	30	50	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 7	1	PSY6401	SCADA & Energy Management	Elective	4	3	0	2	15	25	20	40	-
	2	PSY6403	Computer Aided Power System Analysis		4	3	0	2	15	25	20	40	-
	3	PSY6405	Microcontroller & Embedded Systems		4	3	0	2	15	25	20	40	-
	4	PSY6407	Advanced Electric Drives		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	PSY6301	Power System Reliability	Elective	3	3	0	0	20	-	30	50	-
	2	PSY 6303	Transients in Power Systems		3	3	0	0	20	-	30	50	-
	3	PSY6305	Advanced Distribution Systems		3	3	0	0	20	-	30	50	-
	4	PSY6307	Grid and Sub-Station Planning and Technologies		3	3	0	0	20	-	30	50	-
	5	PSY6309	Modern Electric Traction System		3	3	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 9	1	PSY6201	Energy Auditing and Conservation	Elective	2	2	0	0	20	-	30	50	-
	2	PSY6203	Electricity Market and Regulations		2	2	0	0	20	-	30	50	-
	3	PSY6205	Digital Communication		2	2	0	0	20	-	30	50	-
	4	PSY6207	Energy, Ecology and Environment		2	2	0	0	20	-	30	50	-
	5	PSY6209	Artificial Intelligence		2	2	0	0	20	-	30	50	-

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN BIOINFORMATICS (BIO)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN
XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	BIO501	Introduction to Bioinformatics	Core	4	3	0	2	15	25	20	40	-	17
	2	BIO503	Advanced Proteomics	Core	4	3	0	2	15	25	20	40	-	
Group B	3	BIO5401/5403/.....	Elective 1	Elective	4	3/4	0	2/0	15/20	25/-	20/30	40/50	-	
	4	BIO5301/5303/.....	Elective 2	Elective	3	3	0/1	2/0	15/20	25/-	20/30	40/50	-	
	5	BIO5201/5203/..... /UEC5201/5203/.....	Elective 3/ University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Commented [SR1]: All will change

Commented [SR2]: All will change

Semester-II

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Gr ou	1	BIO502	Advances in Bioinformatics	Core	4	3	0	2	15	25	20	40	-	17

	2	BIO504	High Throughput Structural Biology	Core	4	3	0	2	15	25	20	40	-	
Group D	3	BIO5402/5404/.....	Elective 4	Elective	4	3/4	0	2/0	15/20	25/-	20/30	40/50	-	
	4	BIO5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	BIO5202/5204/...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Commented [3]:

Semester-III

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													**12**
Group E	1	BIO651	Research Project	Core	12	0	0	12	0	-	0	100	0	
	Track 2													
	1	BIO601	Major Project I	Core	3						40	60		**12**
	2	BIO6401/6403/.....	Elective 7	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	
	3	BIO6301/6303/.....	Elective 8	Elective	3	3	0	0	20	0	30	50	-	
	4	BIO6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Gro	**Track 1**													

	1	BIO652	Research Project	Core	1 2	0	0	1 2	0	-	0	100	0	12
	Track 2													
	1	BIO602	Major Project II	Core	1 2	0	0	1 2	0	-	0	100	0	12

LIST OF ELECTIVES :													
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	BIO5401	Computer Graphics	Elective	4	3	0	2	15	25	20	40	-
	2	BIO5403	Computer Aided Drug Design		4	3	0	2	15	25	20	40	-
	3	BIO5405	Pharmacogenomics and Personalized Medicine		4	3	0	2	15	25	20	40	-
	4	BIO5407	OMICS in Medicine		4	4	0	0	20	-	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 2	1	BIO5301	Data Warehousing and Data Mining	Elective	3	3	0	0	20	-	30	50	-
	2	BIO5303	Genomics: From Human Genome Project to Medical Applications		3	3	0	0	20	-	30	50	-
	3	BIO5305	Combinatorial Methods in Biopharmaceuticals		3	3	0	0	20	-	30	50	-
	4	BIO5307	Microarray Technology		3	3	0	0	20	-	30	50	-
	S.No.	Course Code		Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE

	1	BIO5201	Open Area Seminar - I		2	2	0	0		-	100		-
Elective 3	2	BIO5203	Analysis of Biological System	Elective	2	2	0	0	20	-	30	50	-
	3	BIO5205	Plant Bioinformatics		2	2	0	0	20	-	30	50	-
	4	BIO5207	Database Management System		2	2	0	0	2	-	100	-	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	BIO5402	Advanced Genetic Engineering	Elective	4	3	0	2	15	25	20	40	-
	2	BIO5404	Systems Biology		4	3	0	2	15	25	20	40	-
	3	BIO5406	Web Application Development		4	3	0	2	15	25	20	40	-
	4	BIO5408	Image Processing in Medicine		4	4	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	BIO5302	Minor Project	Elective	3	3	0	0	-	-	40	60	-
	2	BIO5304	Medical Bioinformatics		3	3	0	0	20	-	30	50	-
	3	BIO5306	Pharmacoinformatics		3	3	0	0	20	-	30	50	-
	4	BIO5308	Immunoinformatics		3	3	0	0	20	-	30	50	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
E –	1	BIO5202	Open Area Seminar-II	Elective	2	2	0	0	-	-	100		-

	2	BIO5204	Python programming for Bioinformatics		2	2	0	0	20	-	30	50	-
	3	BIO5206	Bioethics and IPR		2	2	0	0	20	-	30	50	-
	4	BIO5208	Perl Programming for Bioinformatics		2	2	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 7	1	BIO6401	Drug Design and Discovery	Elective	4	3	0	2	15	25	20	40	-
	2	BIO6403	Neurobiology		4	3	0	2	15	25	20	40	-
	3	BIO6405	Cell and Molecular Biology		4	3	0	2	15	25	20	40	-
	4	BIO6407	Biostatistics		4	4	0	0	20		30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	BIO6301	Nanotechnology in Healthcare	Elective	3	3	0	0	20	-	30	50	-
	2	BIO6303	Resource Planning and Management in Bioinformatics		3	3	0	0	20	-	30	50	-
	3	BIO6305	Advanced Drug Delivery Systems		3	3	0	0	20	-	30	50	-
	4	BIO6307	Artificial Intelligence		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**

Elective 9	1	BIO6201	Design and Analysis of Algorithms	Elective	2	2	0	0	20	-	30	50	-
	2	BIO6203	Molecular Evolution		2	2	0	0	20	-	30	50	-
	3	BIO6205	Molecular and Cellular Biophysics		2	2	0	0	20	-	30	50	-
	4	BIO6207	Entrepreneurship		2	2	0	0	20	-	30	50	-

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN BIOMEDICAL ENGINEERING (BME)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN
XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	BME501	Human Anatomy and Physiology	Core	4	3	0	2	15	25	20	40	-	
	2	BME503	Biomaterials and Clinical Devices	Core	4	3	0	2	15	25	20	40	-	
Group B	3	BME5401/5403/.....	Elective I	Elective	4	3/4	0	2/0	15/ 20	25 /-	20/30	40/50	-	17
	4	BME5301/5303/.....	Elective 2	Elective	3	3	0	0	20	0	30	50	-	
	5	BME5201/5203/..... /UEC5201/5203/.....	Elective 3/ University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

Commented [SR1]: Accordingly syllabi of practicals to be checked

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	BME502	Tissue Engineering and Artificial Organs	Core	4	3	0	2	15	25	20	40	-	17
	2	BME504	Immuno-diagnostics and Therapeutics	Core	4	3	0	2	15	25	20	40	-	
Group D	3	BME5402/5404/.....	Elective 4	Elective	4	3/4	0	2/0	15/20	25/-	20/30	40/50	-	
	4	BME5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	BME5202/5204/...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Commented [2]:

Commented [SR5]: All will change

Commented [SR6]: Accordingly syllabi of practicals to be checked

Semester-III

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													12
Group E	1	BME651	Research Project	Core	12	0	0	12	0	-	0	100	0	
	Track 2													
	1	BME601	Major Project I	Core	3						40	60		12

	2	BME6401/6403/..... ...	Elective 7	Elective	4	3/4	0	2/0	15/ 20	25 /0	20/30	40/50	-	
	3	BME6301/6303/..... ...	Elective 8	Elective	3	3	0/1	2/0	15/ 20	25 /-	20/30	40/50	-	
	4	BME6201/6203/..... ...	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Commented [3]:

Commented [4]:

Semester-IV

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	Track 1													
	1	BME652	Research Project	Core	12	0	0	12	0	-	0	100	0	12
	Track 2													
	1	BME602	Major Project II	Core	12	0	0	12	0	-	0	100	0	12

LIST OF ELECTIVES :													
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	BME5401	Medical Physics and Biochemistry	Elective	4	3	0	2	15	25	20	40	-
	2	BME5403	Instrumentation in Biomedical Engineering		4	4	0	0	20	-	30	50	-
	3	BME5405	Rehabilitation Engineering		4	4	0	0	20	-	30	50	-
	4	BME5407	Biopolymer Technology		4	4	0	0	20	-	30	50	-

	3	BME5406	Image Processing in Medicine		4	4	0	0	20	-	30	50	-
	4	BME5408	Industrial Biotechnology		4	4	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	BME5302	Minor Project-1	Elective	3					-	40	60	-
	2	BME5304	Neurobiology		3	3	0	0	20	-	30	50	-
	3	BME5306	Oncology		3	3	0	0	20	-	30	50	-
	4	BME5308	Drug Design and Development		3	3	0	0	20		30	50	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 6	1	BME5202	Microarray Technology	Elective	2	2	0	0	20	-	30	50	-
	2	BME5204	Genetic Manipulation in Medicine		2	2	0	0	20	-	30	50	-
	3	BME5206	Hospital Management		2	2	0	0	20	-	30	50	-
			Open Area Seminar II										

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN INDUSTRIAL BIOTECHNOLOGY(IBT)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN
XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	IBT501	Bioenergy	Core	4	3	0	2	15	25	20	40	-	17
	2	IBT503	Industrial Plant Biotechnology	Core	4	3	0	2	15	25	20	40	-	
Group B	3	IBT5401/5403/.....	Elective 1	Elective	4	3/4	0	2/0	15/ 20	25 /0	20/30	40/50	-	
	4	IBT5301/5303/.....	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	IBT5201/5203/..... /UEC5201/5203/.....	Elective 3/ University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	IBT502	Functional Genomics and Proteomics	Core	4	4	0	0	20	0	30	50	-	17
	2	IBT504	Bioprocess Engineering and Reactor Design	Core	4	3	0	2	15	25	20	40	-	

Group D	3	IBT5402/5404/.....	Elective 4	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	
	4	IBT5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	IBT5202/5204/...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Semester-III

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													12
Group E	1	IBT651	Research Project	Core	12	0		12	0	-	40	100	0	
	Track 2													
	1	IBT601	Major Project I	Core	3						40	60		12
	2	IBT6401/6403/.....	Elective 7	Elective	4	3/4	0	2/0	15/20	25/0	20/30	40/50	-	
	3	IBT6301/6303/.....	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	IBT6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	Track 1													
	1	IBT652	Research Project	Core	12	0		12	0	-	40	100	0	12
	Track 2													
	1	IBT602Major Project II	Major Project II	Core	12	0		12	0	-	40	100	0	12

LIST OF ELECTIVES :													
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	IBT5401	Bioinstrumentation	Elective	4	3	0	2	15	25	20	40	-
	2	IBT5403	Bioseparation Technology		4	4	0	0	20	-	30	50	-
	3	IBT5405	Nutraceuticals and Functional Foods		4	4	0	0	20	-	30	50	-
	4	IBT5407	Recombinant DNA Technology		4	4	0	0	20	-	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 2	1	IBT5301	Industrial Microbiology and Fermentation Technology	Elective	3	3	0	0	20	-	30	50	-
	2	IBT5303	Food Engineering & Biotechnology		3	3	0	0	20	-	30	50	-
	3	IBT5305	Green Energy		3	3	0	0	20	-	30	50	-
	4	IBT5307	Medical Biotechnology and Health Care		3	3	0	0	20	-	30	50	-
	S.No.	Course Code		Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 3	1	IBT5201	Open Area Seminar	Elective	2	2	0	0	20	-	30	50	-
	2	IBT5203	Algal Biotechnology		2	2	0	0	20	-	30	50	-
	3	IBT5205	Applied Molecular biology and Genetic Engineering		2	2	0	0	20	-	30	50	-

	4	IBT5207	Nutritional Biochemistry		2	0	0	2	-	100	-	-	2
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	IBT5402	Advanced Environmental Biotechnology	Elective	4	3	0	2	15	25	20	40	-
	2	IBT5404	Biopolymer Technology		4	4	0	0	20	-	30	50	-
	3	IBT5406	Quality Management		4	4	0	0	20	-	30	50	-
	4	IBT5408	Plant Molecular Farming		4	4	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	IBT5302	Minor Project	Elective	3	3	0	0	20	-	30	50	-
	2	IBT5304	Biochemical Thermodynamics		3	3	0	0	20	-	30	50	-
	3	IBT5306	Transport Phenomenon		3	3	0	0	20	-	30	50	-
	4	IBT5308	Biopharmaceuticals		3	0	0	-	-	40	-	-	60
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 6	1	IBT5202	Nanobiotechnology	Elective	2	2	0	0	20	-	30	50	-
	2	IBT5204	Biosensor Technology		2	2	0	0	20	-	30	50	-
	3	IBT5206	Advanced Computational Genomics		2	2	0	0	20	-	30	50	-

	4	IBT5208	Food Microbiology		2	2	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 7	1	IBT6401	Enzyme Technology and Industrial Applications	Elective	4	3	0	2	15	25	20	40	-
	2	IBT6403	Metabolic Engineering.		4	4	0	0	20	-	30	50	-
	3	IBT6405	Vaccine Technology		4	4	0	0	20	-	30	50	-
	4	IBT6407	Advanced Biochemistry		4	4	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	IBT6301	Industrial waste water treatment	Elective	3	3	0	0	20	-	30	50	-
	2	IBT6303	Metagenomics		3	3	0	0	20	-	30	50	-
	3	IBT6305	Transgenic Technology		3	3	0	0	20	-	30	50	-
	4	IBT6307	Biomaterials		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	IBT6201	Bioethics, Biosafety and IPR	Elective	2	2	0	0	20	-	30	50	-
	2	IBT6203	Bioprocess Plant Design		2	2	0	0	20	-	30	50	-
	3	IBT6205	Advanced Animal Biotechnology		2	2	0	0	20	-	30	50	-
	4	IBT6207	Microbial Biotechnology		2	2	0	0	20	-	30	50	-

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING & EVALUATION

MASTER OF TECHNOLOGY IN NANOSCIENCE AND TECHNOLOGY (NST)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN

XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	NST501	Physics of Nanomaterials	Core	4	3	0	2	15	25	20	40	-	17
	2	NST503	Chemistry of Nanomaterials	Core	4	3	0	2	15	25	20	40	-	
Group B	3	NST5401/5403/.....	Elective 1	Elective	4	4	0	0	20	0	30	50	-	
	4	NST5301/5303/.....	Elective 2	Elective	3	3	0	0	20	0	30	50	-	
	5	NST5201/5203/...../ UEC5201/5203/.....	Elective 3/University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	NST502	Analytical Techniques	Core	4	3	0	2	15	25	20	40	-	

	2	NST504	Design and Synthesis of Nanostructures	Core	4	3	0	2	15	25	20	40	-	17
Group D	3	NST5402/5404/.....	Elective 4	Elective	4	4	0	0	20	0	30	50	-	
	4	NST5302/5304/.....	Elective 5	Elective	3	3	0	0	20	0	30	50	-	
	5	NST5202/5204/...../ UEC5202/5204/.....	Elective 6/University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Semester-III

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													
Group E	1	NST651	Research Project	Core	12						40	60		12
	Track 2													
	1	NST601	Major Project I	Core	3						40	60		
	2	NST6401/6403/.....	Elective 7	Elective	4	4	0	0	20	0	30	50	-	
	3	NST6301/6303/.....	Elective 8	Elective	3	3	0	0	20	0	30	50	-	
	4	NST6201/6203/.....	Elective 9	Elective	2	2	0	0	20	0	30	50	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	**Track 1**													
	1	NST652	Research Project	Core	12						40	60		12

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	Track 2													
	1	NST602	Major Project II	Core	12						40	60		

LIST OF ELECTIVES :													
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 1	1	NST5401	Computational Physics and Programming	Elective	4	4	0	0	20	0	30	50	-
	2	NST5403	Nanoscale Modeling and Simulation		4	4	0	0	20	0	30	50	-
	3	NST5405	Environmental Nanotechnology		4	4	0	0	20	0	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	NST5301	Thin Film Technology	Elective	3	3	0	0	15	25	20	40	-
	2	NST5303	Functional Materials and Devices		3	3	0	0	15	25	20	40	-
	3	NST5305	Material Science at Nanoscale		3	3	0	0	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 3	1	NST5201	Seminar	Elective	2	0	0	2	-	100	-	-	-
	2	NST5203	Research Methodology		2	2	0	0	10	15	25	50	-
	3	NST5205	Micro Economics		2	2	0	0	10	15	25	50	-

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	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRF
Elective 4	1	NST5402	Nanophotonics	Elective	4	4	0	0	20	0	30	50	-
	2	NST5404	Spectroscopic Techniques for Nanomaterials		4	4	0	0	20	0	30	50	-
	3	NST5406	Molecular Spectroscopy		4	4	0	0	20	0	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 5	1	NST5302	Minor project	Elective	3	0	0	-	-	40	-	-	60
	2	NST5304	Renewable Energy Technology		3	3	0	0	20	0	30	50	-
	3	NST5306	Structural Analysis of Nanomaterials		3	3	0	0	20	0	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 6	1	NST5202	Nano-Electronics and Devices	Elective	2	2	0	0	20	0	30	50	-
	2	NST5204	Nanocomposites		2	2	0	0	20	0	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 7	1	NST6401	Nanobiotechnology	Elective	4	4	0	0	20	0	30	50	-
	2	NST6403	Nanosensors and Devices		4	4	0	0	20	0	30	50	-
	3	NST6405	Microelectromechanical Systems (MEMS)		4	4	0	0	20	0	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE

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	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRF
Elective 4	1	NST5402	Nanophotonics	Elective	4	4	0	0	20	0	30	50	-
	2	NST5404	Spectroscopic Techniques for Nanomaterials		4	4	0	0	20	0	30	50	-
	3	NST5406	Molecular Spectroscopy		4	4	0	0	20	0	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 5	1	NST5302	Minor project	Elective	3	0	0	-	-	40	-	-	60
	2	NST5304	Renewable Energy Technology		3	3	0	0	20	0	30	50	-
	3	NST5306	Structural Analysis of Nanomaterials		3	3	0	0	20	0	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 6	1	NST5202	Nano-Electronics and Devices	Elective	2	2	0	0	20	0	30	50	-
	2	NST5204	Nanocomposites		2	2	0	0	20	0	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 7	1	NST6401	Nanobiotechnology	Elective	4	4	0	0	20	0	30	50	-
	2	NST6403	Nanosensors and Devices		4	4	0	0	20	0	30	50	-
	3	NST6405	Microelectromechanical Systems (MEMS)		4	4	0	0	20	0	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE

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Elective 8	1	NST6301	Nanolithography and Device Fabrication	Elective	3	3	0	0	20	0	30	50		
	2	NST6303	Plasma Technology		3	3	0	0	20	0	30	50		
	3	NST6305	Nanotechnology for Medical Diagnostic and Therapy		3	3	0	0	20	0	30	50		
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PE**	
Elective 9	1	NST6201	Spintronic	Elective	2	2	0	0	20	0	30	50		
	2	NST6203	Biophotonics		2	2	0	0	20	0	30	50		

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DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN GEOTECHNICAL ENGINEERING (GTE)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN
XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	GTE501	Advanced Soil mechanics	Core	4	3	0	2	15	25	20	40	-	17
	2	GTE503	Advance Foundation Engineering	Core	4	3	0	2	15	25	20	40	-	
Group B	3	GTE5401/5403/……	Elective 1	Elective	4	3	0	2	15	25	20	40	-	
	4	GTE5301/5303/……	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	GTE5201/5203/……/ UEC5201/5203/……	Elective 3/University Elective I	Elective	2	2/1	0	0/2	20/15	25	30/20	50/40	-	

Semester-II

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	GTE502	Rock Mechanics	Core	4	3	0	2	15	25	20	40	-	17

	2	GTE504	Soil dynamics and machine foundation	Core	4	3	0	2	15	25	20	40	-	
Group C	3	GTE5402/5404/……	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	GTE5302/5304/……	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	GTE5202/5204/……/ UEC5202/5204/……	Elective 6/University Elective II	Elective	2	2/1	0	0/2	20/15	0/25	30/20	50/40	-	

Semester-III

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													12
Group E	1	GTE651	Research Project	Core	12	0	0	12	0	-	0	100	100	
	Track 2													
	1	GTE601	Major Project I	Core	3	0	0	6	-	40	40	60	60	
	2	GTE6401/6403/……	Elective 7	Elective	4	3	0	2	15	25	20	40	15	
	3	GTE6301/6303/……	Elective 8	Elective	3	3/2	0	0/1	20/15	0/25	30/20	50/40	-	
	4	GTE6201/6203/……	Elective 9	Elective	2	2/0	0	0/4	20/0	0/40	30/0	50/0	0/60	

Semester-IV

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	**Track 1**													12
	1	GTE652	Research Project	Core	12	0	0	12	0	-	0	100	100	

Track 2													
1	GTE602	Major Project II	Core	12	0	0	12	0	40	0	100	60	

LIST OF ELECTIVES :														
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	
Elective 1	1	GTE5401	Geo-environmental Engineering	Elective	4	3	0	2	15	25	20	40	-	
	2	GTE5403	Geotechnical Exploration		4	3	0	2	15	25	20	40	-	
	3	GTE5405	Application of remote sensing and GIS in Geotechnical Engineering		4	3	0	2	15	25	20	40	-	
	4	GTE5407	Cost Management of Engineering Project		4	3	0	2	15	25	20	40	-	
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	
Elective 2	1	GTE5301	Geotechnical Earthquake Engineering	Elective	3	3	0	0	20	0	30	50	-	
	2	GTE5303	Stability Analysis of Slopes		3	3	0	0	20	0	30	50	-	
	3	GTE5305	Earth Pressure & Earth Retaining Structures		3	3	0	0	20	0	30	50	-	
	4	GTE5307	Pavement analysis and Design		3	3	0	0	20	0	30	50	-	
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	
Elective 3	1	GTE5201	Seminar	Elective	2	0	0	2	-	100 40	-	-	60	
	2	GTE5203	FEM in Geotechnical Engineering		2	2	0	0	20	0	30	50	-	
	3	GTE5205	Offshore Geotechnical Engineering		2	2	0	0	20	0	30	50	-	
	4	GTE5207	Composite Material		2	2	0	0	20	0	30	50	-	
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	
Elective 4	1	GTE5402	Theoretical Soil Mechanics	Elective	4	3	0	2	15	25	20	40	-	
	2	GTE5404	Unsaturated Soil Mechanics		4	3	0	2	15	25	20	40	-	
	3	GTE5406	Critical State Soil Mechanics		4	3	0	2	15	25	20	40	-	
	4	GTE5408	Operational Research		4	3	0	2	15	25	20	40	-	
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	

Elective 5	1	GTE5302	MINOR PROJECT	Elective	3	0	0	-	-	40	-	-	60	
	2	GTE5304	Soil Structure Interaction		3	3	0	0	20	0	30	50	-	
	3	GTE5306	Disaster Mitigation and Management		3	3	0	0	20	0	30	50	-	
	4	GTE5308	Uncertainties, risk and reliability in Geotechnical Engineering		3	3	0	0	20	0	30	50	-	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	
Elective 6	1	GTE5202	Ground Water Hydrology	Elective	2	2	0	0	20	0	30	50	-	
	2	GTE5204	Physical Modelling in Geomechanics		2	2	0	0	20	0	30	50	-	
	3	GTE5206	Numerical and Analytical Method in Geomechanics		2	2	0	0	20	0	30	50	-	
	4	GTE5208	Waste to Energy		2	2	0	0	20	0	30	50	-	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	
Elective 7	1	GTE6401	Plasticity & Fracture Mechanics in Rock Structures	Elective	4	3	0	2	15	25	20	40	-	
	2	GTE6403	Theory of Elasticity and Plasticity in Geomechanics		4	3	0	2	15	25	20	40	-	
	3	GTE6405	Design of Underground/Sub Structures		4	3	0	2	15	25	20	40	-	
	4	GTE6407	Structural Geology		4	3	0	2	15	25	20	40	-	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	
Elective 8	1	GTE6301	Geosynthetics	Elective	3	3	0	0	20	0	30	50	-	
	2	GTE6303	Ground Improvement Techniques		3	3	0	0	20	0	30	50	-	
	3	GTE6305	Excavation Technology		3	3	0	0	20	0	30	50	-	
	4	GTE6307	Probability and Statistical Methods in Engineering		3	3	0	0	20	0	30	50	-	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**	
Elective 9	2	GTE6201	Design of Underground Excavations		2	2	0	0	20	0	30	50	0	
	3	GTE6203	Foundations on Weak Rocks		2	2	0	0	20	0	30	50	0	
	4	GTE6205	Geotechnical Design Studio		2	0	0	4	-	40	-	-	60	

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN STRUCTURAL ENGINEERING (STE)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN
XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	STE501	Structural Dynamics	Core	4	3	0	2	15	25	20	40	-	
	2	STE503	Computational Methods in Structural Engineering	Core	4	3	0	2	15	25	20	40	-	
Group B	3	STE5401/5403/.....	Elective 1	Elective	4	3	0	2	15	25	20	40	-	17
	4	STE5301/5303/.....	Elective 2	Elective	3	3	0	0	20/15	0/25	30/20	50/40	-	
	5	STE5201/5203/...../ UEC5201/5203/.....	Elective 3/University Elective I	Elective	2	2/1	0	0/2	20/15	0/25	30/20	50/40	-	

Semester-II

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	STE502	Advanced Theory of Structures	Core	4	3	0	2	15	25	20	40	-	17

	2	STE504	Finite Element Method of Structural Analysis	Core	4	3	0	2	15	25	20	40	-	
Group D	3	STE5402/5404/.....	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	STE5302/5304/.....	Elective 5	Elective	3	3	0	0	20	0	30	50	-	
	5	STE5202/5204/.....	Elective 6	Elective	2	2/1	0	0/2	20/15	0/25	30/20	50/40	-	

Semester-III

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													
Group E	1	STE651	Research Project	Core	12	0	0	12	0	- -	0	100	100 -0	
	Track 2													
	1	STE601	Major Project I	Core	3	0	0	6	0	40	40 0	60 100	60	12
	2	STE6401/6403/.....	Elective 7	Elective	4	3	0	2	15	25	20	40	-	
	3	STE6301/6303/.....	Elective 8	Elective	3	3 / 2	0	0/2	20/15	0/25	30/20	50/40	-	
	4	STE6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits

20/7/17

Group F	**Track 1**													
	1	STE652+B20	Research Project	Core	12	0	0	12	0	-	0	100	100	12
	Track 2													
	1	STE602	Major Project II	Core	12	0	0	12	0	40	40	60	60	

List of Elective Courses

LIST OF ELECTIVES :													
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 1	1	STE5401	Design of Advanced Reinforced Concrete Structures	Elective	4	3	0	2	15	25	20	40	-
	2	STE5403	Design of Advanced Steel Structures		4	3	0	2	15	25	20	40	-
	3	STE5405	Prestressed Concrete Design		4	3	0	2	15	25	20	40	-
	4	STE5407	Cyclone Risk and Hazard Assessment		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	STE5301	Theory of Plates & Shells	Elective	3	3	0	0	20	0	30	50	-
	2	STE5303	Theory of Elasticity & Plasticity		3	3	0	0	20	0	30	50	-
	3	STE5305	Stability Analysis of		3	3	0	0	20	0	30	50	-

			Structures										
	4	STE5307	Advanced Building Construction and Management		3	3	0	0	20	0	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 3	1	STE5201	Seminar	Elective	2	0	0	2	-	40 100	-	-	60
	2	STE5203	Advanced Concrete Technology		2	2	0	0	20	0	30	50	-
	3	STE5205	Design of Fibre Reinforced Composite Structures		2	1	0	2	15	25	20	40	-
	4	STE5207	Low Cost Housing		2	2	0	0	20	0	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	STE5402	Analysis and Design of Bridges	Elective	4	3	0	2	15	25	20	40	-
	2	STE5404	Design of Tall Buildings		4	3	0	2	15	25	20	40	-
	3	STE5406	Wind Engineering		4	3	0	2	15	25	20	40	-
	4	STE5408	Earthquake Resistant Design of Structures		4	3	0	2	15	25	20	40	-
	5	STE5410	Reliability Analysis of Structures		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	STE5302	MINOR PROJECT	4/6 Elective	3	0	0	-	-	40	-	-	60
	2	STE5304	Soil Structure Interaction		3	3	0	0	20	0	30	50	-

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	3	STE5306	Design of Masonry Structures		3	3	0	0	20	0	30	50	
	4	STE5308	Disaster Mitigation and Management		3	3	0	0	20	0	30	50	
	5	STE5310	Random Vibration		3	3	0	0	20	0	30	50	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**P**
Elective 6	1	STE5202	Durability of Concrete Structures	Elective	2	1	0	2	15	25	20	40	
	2	STE5204	Building Services		2	2	0	0	20	0	30	50	
	3	STE5206	Waste to Energy		2	2	0	0	20	0	30	50	
	4	STE5208	Blast Resistant Design of Structures		2	2	0	0	20	0	30	50	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**P**
Elective 7	1	STE6401	Design of Hydraulic Structures	Elective	4	3	0	2	15	25	20	40	
	2	STE6403	Soil Dynamics		4	3	0	2	15	25	20	40	
	3	STE6405	Seismic Hazard and Risk Assessment		4	3	0	2	15	25	20	40	
	4	STE6407	Retrofitting of Structures		4	3	0	2	15	25	20	40	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**P**

	3	STE6305	Ground Improvement Techniques		3	3	0	0	20	0	30	50	-
	4	STE6307	Probability & Statistical Methods in Engineering		3	2	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	STE6201	Sustainable Building Technologies	Elective	2	2	0	0	20	0	30	50	-
	2	STE6203	Pre-Fabricated Structures		2	2	0	0	20	0	30	50	-
	3	STE6205	Form Work for Concrete Structures		2	2	0	0	20	0	30	50	-

25/7/19

DELHI TECHNOLOGICAL UNIVERSITY
SCHEME OF TEACHING AND EVALUATION
MASTER OF TECHNOLOGY IN HYDRAULICS & WATER RESOURCES ENGINEERING (HWE)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN
XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I														
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	HWE501	Computational Hydraulics	Core	4	3	0	2	15	25	20	40	-	17
	2	HWE503	Advanced fluid Mechanics	Core	4	3	0	2	15	25	20	40	-	
Group B	3	HWE5401/5403/..	Elective 1	Elective	4	3	0	2	15	25	20	40	-	
	4	HWE5301/5303/..	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	HWE5201/5203/../ UEC5201/5203/.	Elective 3/University Elective I	Elective	2	2/1	0	0/2	20/15	0/25	30/20	50/40	-	
Semester-II														
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	HWE502	Water Resources Systems Planning and management	Core	4	3	0	2	15	25	20	40	-	17
	2	HWE504	Advanced open channel Hydraulics	Core	4	3	0	2	15	25	20	40	-	
Group D	3	HWE5402/5404/..	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	HWE5302/5304/..	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	HWE5202/5204/../ UEC5202/5204/	Elective 6/University Elective II	Elective	2	2/1	0	0/2	20/15	0/25	30/20	50/40	-	
Semester-III														
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													12
Group E	1	HWE651	Research Project	Core	12	0	0	12	0	-	0	~~100~~	~~0~~ 100	
	Track 2													

	1	HWE601	Major Project I	Core	3	0	0	6	0	40	40	60 100	60
	2	HWE6401/6403/...	Elective 7	Elective	4	3	0	2	15	25	20	40	-
	3	HWE6301/6303/...	Elective 8	Elective	3	3	0	0	20	-	30	50	-
	4	HWE6201/6203/...	Elective 9	Elective	2	2	0	0	20	-	30	50	-

Semester-IV

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	Track 1													12
	1	HWE652	Research Project	Core	12	0	0	12	0	-	0	100	100	
	Track 2													
	1	HWE602	Major Project II	Core	12	0	0	12		40	40	60	60	

List of Elective Courses

LIST OF ELECTIVES :

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	HWE5401	Advanced Hydrology	Elective	4	3	0	2	15	25	20	40	-
	2	HWE5403	Environmental Hydraulics		4	3	0	2	15	25	20	40	-
	3	HWE5405	Coastal Engineering		4	3	0	2	15	25	20	40	-
	4	HWE5407	Systems Engineering		4	3	0	2	15	25	20	40	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 2	1	HWE5301	Water Power Engineering	Elective	3	3	0	0	20	0	30	50	-
	2	HWE5303	Geotechnical Earthquake Engineering		3	3	0	0	20	0	30	50	-
	3	HWE5305	Sediment Transport		3	3	0	0	20	0	30	50	-
	4	HWE5307	Water and Soil Conservation Engineering		3	3	0	0	20	0	30	50	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 3	1	HWE5201	Seminar	Elective	2	0	0	2	-	100	-	-	60
	2	HWE5203	Environmental System Modelling		2	2	0	0	20	0	30	50	0
	3	HWE5205	Engineering Risk Analysis		2	2	0	0	20	0	30	50	0
	4	HWE5207	Urban Water Infrastructure		2	2	0	0	20	0	30	50	0

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 4	1	HWE5402	Design of Flood Control and River Training Works	Elective	4	3	0	2	15	25	20	40	-
	2	HWE5404	Irrigation and Drainage Engineering		4	3	0	2	15	25	20	40	-
	3	HWE5406	Hydrometeorology		4	3	0	2	15	25	20	40	-
	4	HWE5408	Hydro-informatics and Simulations		4	3	0	2	15	25	20	40	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 5	1	HWE5302	MINOR PROJECT	Elective	3	0	0	-	-	40	-	-	60
	2	HWE5304	Applications of GIS and Remote Sensing in Water Resources Engineering		3	3	0	0	20	-	30	50	-
	3	HWE5306	Soil Structure Interaction		3	3	0	0	20	-	30	50	-
	4	HWE5308	Disaster Mitigation and Management		3	3	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 6	1	HWE5202	Ground Water Hydrology	Elective	2	2	0	0	20	0	30	50	-
	2	HWE5204	Transients in Pipes		2	2	0	0	20	0	30	50	-
	3	HWE5206	Offshore Geotechnical Engineering		2	2	0	0	20	0	30	50	-
	4	HWE5208	Waste to Energy		2	2	0	0	20	0	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 7	1	HWE6401	Design of Hydraulic Structures	Elective	4	3	0	2	15	25	20	40	-
	2	HWE6403	Environmental Impact Assessment		4	3	0	2	15	25	20	40	-
	3	HWE6405	Water pollution control and stream Sanitation		4	3	0	2	15	25	20	40	-
	4	HWE6407	Stability Analysisof Slopes		4	3	0	2	15	25	20	40	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 8	1	HWE6301	Water Resources Economics	Elective	3	3	0	0	20	-	30	50	-
	2	HWE6303	An Introduction to Sustainable development		3	3	0	0	20	-	30	50	-
	3	HWE6305	Ground Improvement Techniques		3	3	0	0	20	-	30	50	-
	4	HWE6307	Probability and Statistical Methods in Engineering		3	2	0	2	15	25	20	40	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
	1	HWE6201	Subsurface Investigations		2	2	0	0	20	-	30	50	-
Elective 9	2	HWE6203	Introduction to AI Techniques	Elective	2	2	0	0	20	-	30	50	-
	3	HWE6205	Geotechnical Practice for Waste Management System and Ground modifications		2	2	0	0	20	-	30	50	-

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN VLSI DESIGN & EMBEDDED SYSTEM (VLS)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN

XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	VLS501	Analog IC Design	Core	4	3	0	2	15	25	20	40	-	17
	2	VLS503	Digital CMOS IC Design	Core	4	3	0	2	15	25	20	40	-	
Group B	3	VLS5401/5403/.....	Elective 1	Elective	4	3	0	2	15	25	20	40	-	
	4	VLS5301/5303/.....	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	VLS5201/5203/..... /UEC5201/5203/.....	Elective 3/ University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	VLS502	Embedded System Design	Core	4	3	0	2	15	25	20	40	-	17
	2	VLS504	Low power VLSI Design	Core	4	3	0	2	15	25	20	40	-	

Group D	3	VLS5402/5404/.....	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	VLS5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	VLS5202/5204/...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Semester-III

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													**12**
Group E	1	VLS651	Research Project	Core	12	0		12	0	-	0	100	0	
	Track 2													
	1	VLS601	Major Project I	Core	3						40	60		**12**
	2	VLS6401/6403/.....	Elective 7	Elective	4	3	0	2	15	25	20	40	-	
	3	VLS6301/6303/.....	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	VLS6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	**Track 1**													
	1	VLS652	Research Project	Core	12	0		12	0	-	0	100	0	**12**

Track 2														
1	VLS602	Major Project II	Core	1 2	0		12	0	-	0	100	0	**12**

LIST OF ELECTIVES :													
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 1	1	VLS5401	Digital Design with HDL (Verilog)	Elective	4	3	0	2	15	25	20	40	-
	2	VLS5403	Digital Signal Processing		4	3	0	2	15	25	20	40	-
	3	VLS5405	Soft Computing		4	3	0	2	15	25	20	40	-
	4	VLS5407	IC technology		4	~~3~~4	0	~~2~~0	~~15~~ 20	~~25~~	20 30	40 50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	VLS5301	Device modelling	Elective	3	3	0	0	20	-	30	50	-
	2	VLS5303	Reconfigurable Computing		3	3	0	0	20	-	30	50	-
	3	VLS5305	Hardware software codesign		3	3	0	0	20	-	30	50	-
	4	VLS5307	Organic and Flexible Electronics		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**		**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
	1	VLS5201	SEMINAR		**2**	2	0	0	2	-	100	-	-
Elective 3	2	VLS5203	Micro and Nanoelectronics	Elective	2	2	0	0	20	-	30	50	-
	3	VLS5205	Micro and Nanofabrication		2	2	0	0	20	-	30	50	-
	4	VLS5207	Field Programmable Analog Arrays		2	2	0	0	20	-	30	50	-

	5	VLS5209	Layout Design Skills		2	2	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	VLS5402	Analog Filter Design	Elective	4	3	0	2	15	25	20	40	-
	2	VLS5404	Internet enabled embedded devices		4	3	0	2	15	25	20	40	-
	3	VLS5406	CAD for VLSI Systems		4	3	0	2	15	25	20	40	-
	4	VLS5408	CMOS RF Circuit Design		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	VLS5302	MINOR PROJECT	Elective	3	0	0	-	-	40	-	-	60
	2	VLS5304	FPGA based Digital Signal Processing		3	3	0	0	20	-	30	50	-
	3	VLS5306	Testing and Diagnosis of Digital System Design		3	3	0	0	20	-	30	50	-
	4	VLS5308	Memory Design and Testing		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 6	1	VLS5202	CMOS nano neuromorphic circuits	Elective	2	2	0	0	20	-	30	50	-
	2	VLS5204	Real Time Operating Systems		2	2	0	0	20	-	30	50	-
	3	VLS5206	Clock Tree Synthesis		2	2	0	0	20	-	30	50	-

	4	VLS5208	Layout design and skills with analog perspective		2	2	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	PRE
Elective 7	1	VLS6401	Mixed Signal Design	Elective	4	3	0	2	15	25	20	40	-
	2	VLS6403	Embedded Signal Processing		4	3	0	2	15	25	20	40	-
	3	VLS6405	Biomedical Circuits		4	3	0	2	15	25	20	40	-
	4	VLS6407	Fault Tolerant computing		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	PRE
Elective 8	1	VLS6301	Speech Processing	Elective	3	3	0	0	20	-	30	50	-
	2	VLS6303	Embedded Automotive systems		3	3	0	0	20	-	30	50	-
	3	VLS6305	Machine Learning		3	3	0	0	20	-	30	50	-
	4	VLS6307	Advanced Computer Architecture		3	3	0	0	20	-	30	50	-
	5	VLS6309	Embedded Software		3	3	0	0	20	-	30	50	-
	6	VLS6311	Phase Locked Loop Design		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	PRE
Elective 9	1	VLS6201	VLSI signal processing architecture	Elective	2	2	0	0	20	-	30	50	-
	2	VLS6203	FPGA based soft computing		2	2	0	0	20	-	30	50	-
	3	VLS6205	Selected topics in embedded systems		2	2	0	0	20	-	30	50	-
	4	VLS6207	Selected topics in VLSI		2	2	0	0	20	-	30	50	-

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN SIGNAL PROCESSING & DIGITAL DESIGN (SPD)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN

XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1st year, 6 for M. Tech. 2nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	SPD501	Advanced Digital Signal Processing	Core	4	3	0	2	15	25	20	40	-	17
	2	SPD503	Image Analysis and Processing	Core	4	3	0	2	15	25	20	40	-	
Group B	3	SPD5401/5403/.....	Elective 1	Elective	4	3	0	2	15	25	20	40	-	
	4	SPD5301/5303/.....	Elective 2	Elective	3	3	0	0	15	25	20	40	-	
	5	SPD5201/5203/...../ UEC5201/5203/.....	Elective 3/ University Elective I	Elective	2	2/0	0	0/4	20/ 0	0/ 40	30/0	50/0	0/50	

Semester-II

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	SPD502	Pattern Analysis and Machine Intelligence	Core	4	3	0	2	15	25	20	40	-	17

	2	SPD504	Embedded System	Core	4	3	0	2	15	25	20	40	-	
Group D	3	SPD5402/5404/.....	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	SPD5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	SPD5202/5204/...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Semester-III

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													
Group E	1	SPD651	Research Project	Core	12	0		12	0	-	0	100	-	
	Track 2													
	1	SPD601	Major Project I	Core	3						40	60		12
	2	SPD6401/6403/.....	Elective 7	Elective	4	3/2	0	2/4	15	25	20	40	-	
	3	SPD6301/6303/.....	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	SPD6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Gro	**Track 1**													

	1	SPD652	Research Project	Core	1 2	0	0	12	0	-	0	100	0		
	Track 2														**12**
	1	SPD602	Major Project II	Core	1 2	0	0	12	0	-	0	100	0		

LIST OF ELECTIVES :														
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 1	1	SPD5401	Wireless communication	Elective	4	3	0	2	15	25	20	40	-
	2	SPD5403	Advanced Digital System Design + (concepts of Fault Tolerance)		4	3	0	2	15	25	20	40	-
	3	SPD5405	Analog Signal Processing		4	3	0	2	15	25	20	40	-
	4	SPD5407	Soft Computing		4	3	0	2	15	25	20	40	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	SPD5301	Digital Watermarking	Elective	3	3	0	0	20	-	30	50	-
	2	SPD5303	Wavelets in Signal Processing		3	3	0	0	20	-	30	50	-
	3	SPD5305	Advanced Computer Architecture		3	3	0	0	20	-	30	50	-
	4	SPD5307	Network Security &Cryptography		3	3	0	0	20	-	30	50	-
	S. No.	**Course Code**		**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
	1	SPD5201	SEMINAR		2	0	0	2	-	100	-	-	-

Elective 3	2	SPD5203	Language Lab	Elective	2	0	0	4	0	40	0	0	60
	3	SPD5205	Statistical Signal Processing		2	2	0	0	20	-	30	50	-
	4	SPD5207	Wireless sensor networks		2	2	0	0	20	-	30	50	-
	5	SPD5209	Real Time Operating Systems		2	2	0	0	20	-	30	50	-
	S. No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	SPD5402	Computer Vision	Elective	4	3	0	2	15	25	20	40	-
	2	SPD5404	IOT & Applications		4	3	0	2	15	25	20	40	-
	3	SPD5406	Speech Processing		4	3	0	2	15	25	20	40	-
	4	SPD5408	Fractional Delay Filters		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	SPD5302	MINOR PROJECT	Elective	3	0	0	-	-	40	-	-	60
	2	SPD5304	Biomedical Signal Modelling		3	3	0	0	20	-	30	50	-
	3	SPD5306	Object Tracking		3	3	0	0	20	-	30	50	-
	4	SPD5308	Optimization Techniques		3	3	0	0	20	-	30	50	-
	5	SPD5310	Artificial Intelligence		3	3	0	0	20	-	30	50	-
	6	SPD5312	Reconfigurable Computing		3	3	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 6	1	SPD5202	Research Methodology & Report writing	Elective	2	2	0	0	20	-	30	50	-
	2	SPD5208	VLSI Signal processing Architecture		2	2	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 7	1	SPD6401	Multispectral signal Analysis	Elective	4	3/2	0/0	2/4	15	25	20	40	-
	2	SPD6403	Testing and Diagnosis of Digital system design		4	3/2	0/0	2/4	15	25	20	40	-
	3	SPD6405	Detection and estimation theory		4	3/2	0/0	2/4	15	25	20	40	-
	4	SPD6407	Digital Design and verification		4	3/2	0/0	2/4	15	25	20	40	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 8	1	SPD6301	Data Analytics	Elective	3	3	0	0	20	-	30	50	-
	2	SPD6303	SOC Design testing and verification		3	3	0	0	20	-	30	50	-
	3	SPD6305	FPGA Based System Design		3	3	0	0	20	-	30	50	-
	4	SPD6307	Biomedical Signal & image processing		3	3	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 9	1	SPD6201	Operation Research	Elective	2	2	0	0	20	-	30	50	-
	2	SPD6203	Multirate signal processing		2	2	0	0	20	-	30	50	-

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING & EVALUATION

MASTER OF TECHNOLOGY IN MICROWAVE & OPTICAL COMMUNICATION (MOC)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN

XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	MOC501	Advance Electromagnetic Theory	Core	4	3	0	2	15	25	20	40	-	17
	2	MOC503	Optical Communication Systems	Core	4	3	0	2	15	25	20	40	-	
Group B	3	MOC5401/5403/.....	Elective 1	Elective	4	3	0	2	15	25	20	40	-	
	4	MOC5301/5303/.....	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	MOC5201/5203/...../ UEC5201/5203/.....	Elective 3/University Elective I	Elective	2	2/0	0	0/4	20/ 0	0/4 0	30/ 0	50/ 0	0/ 6 0	

Semester-II

	S.No.	Course Code	Course Name	Type/A rea	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	MOC502	Digital Microwave Engineering	Core	4	3	0	2	15	25	20	40	-	17
	2	MOC504	Optical Networks	Core	4	3	0	2	15	25	20	40	-	

Group D	3	MOC5402/5404/.....	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	MOC5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	MOC5202/5204/...../ UEC5202/5204/.....	Elective 6/University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Semester-III

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													**12**
Group E	1	MOC651	Research Project	Core	12	0	0	12	0	-	0	100	-	
	Track 2													
	1	MOC601	Major Project I	Core	3						40	60		
	2	MOC6401/6403/.....	Elective 7	Elective	4	3	0	2	15	25	20	40	-	
	3	MOC6301/6303/.....	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	MOC6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	**Track 1**													**12**
	1	MOC652	Research Project	Core	12	0	0	12	0	-	0	100	0	
	Track 2													
	1	MOC602	Major Project II	Core	12						40	60		

List of Elective Courses

LIST OF ELECTIVES :													
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	MOC5401	Advanced Microwave Devices & Circuits	Elective	4	3	0	2	15	25	20	40	-
	2	MOC5403	Photonic switching & Networks		4	3	0	2	15	25	20	40	-
	3	MOC5405	Wireless Communications		4	3	0	2	15	25	20	40	-
	4	MOC5407	Optics & Lasers		4	3	0	2	15	25	20	40	-
	5	MOC5409	Quantum Computing		4	3	0	2	15	25	20	40	-
	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 2	1	MOC5301	Communication Networks	Elective	3	3	0	0	20	-	30	50	-
	2	MOC5303	RF Microwave & Millimeter circuits		3	3	0	0	20	-	30	50	-
	3	MOC5305	Nano photonics &Plasmonics		3	3	0	0	20	-	30	50	-
	4	MOC5307	Optical Electronics		3	3	0	0	20	-	30	50	-
	5	MOC5309	Soft Computing in Microwave Engineering		3	3	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 3	1	MOC5201	SEMINAR	Elective	2	0	0	2	-	100	-	-	-
	2	MOC5203	Optical Interconnects		2	2	0	0	20	-	30	50	-
	3	MOC5205	Radar Engineering		2	2	0	0	20	-	30	50	-
	4	MOC5207	Information Theory		2	2	0	0	20	-	30	50	-
	5	MOC5209	Language Lab		2	0	0	4	-	40	-	-	60
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	MOC5402	Antenna Design	Elective	4	3	0	2	15	25	20	40	-
	2	MOC5404	Communication Protocol Design		4	3	0	2	15	25	20	40	-
	3	MOC5406	Optoelectronic Devices and Circuits		4	3	0	2	15	25	20	40	-
	4	MOC5408	Optical Sensors		4	3	0	2	15	25	20	40	-
	5	MOC5410	Satellite Communications		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	MOC5302	Minor Project	Elective	3	0	0	-	-	40	-	-	60
	2	MOC5304	Numerical Techniques in Electromagnetics		3	3	0	0	20	-	30	50	-
	3	MOC5306	EMI/EMC		3	3	0	0	20	-	30	50	-
	4	MOC5308	Radar Signal Processing		3	3	0	0	20	-	30	50	-

	5	MOC5310	Radiating Systems in RF Communications		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 6	1	MOC5202	Photo voltaics	Elective	2	2	0	0	20	-	30	50	-
	2	MOC5204	Bio-Photonics		2	2	0	0	20	-	30	50	-
	3	MOC5206	MIMO Wireless Communication		2	2	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 7	1	MOC6401	Smart Antenna	Elective	4	3	0	2	15	25	20	40	-
	2	MOC6403	Fiber optic Components		4	3	0	2	15	25	20	40	-
	3	MOC6405	Wireless Optical Communication		4	3	0	2	15	25	20	40	-
	4	MOC6407	Biological Effects of Electromagnetic Fields		4	3	0	2	15	25	20	40	-
	5	MOC6409	Broadband Communication Systems		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
	1	MOC6301	Statistical Mathematics		3	3	0	0	20	-	30	50	-
Elective 8	2	MOC6303	Integrated Optics	Elective	3	3	0	0	20	-	30	50	-
	3	MOC6305	Quantum Electronics		3	3	0	0	20	-	30	50	-

	4	MOC6307	Optical Computing		3	3	0	0	20	-	30	50	-
	5	MOC6309	Optical Signal Processing		3	3	0	0	20	-	30	50	-
	6	MOC6311	Spread Spectrum Communication		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	MOC6201	Wireless Sensor Networks	Elective	2	2	0	0	20	-	30	50	-
	2	MOC6203	Special Topics on Optical Communications		2	2	0	0	20	-	30	50	-
	3	MOC6205	Special Topics on Microwave communication		2	2	0	0	20	-	30	50	-
	4	MOC6207	Neuromorphic Engineering		2	2	0	0	20	-	30	50	-

CoE.

DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN POLYMER TECHNOLOGY (PTE)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN

XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	PTE501	Polymer Chemistry	Core	4	3	0	2	15	25	20	40	-	27
	2	PTE503	Polymer Structure and Properties	Core	4	3	0	2	15	25	20	40	-	
Group B	3	PTE5401/5403/.....	Elective 1	Elective	4	3	0	2	15	25	20	40	-	
	4	PTE5301/5303/.....	Elective 2	Elective	3	3	0	0	20	0	30	50	-	
	5	PTE5201/5203/..... /UEC5201/5203/.....	Elective 3/ University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Gr ou	1	PTE502	Polymer Processing	Core	4	3	0	2	15	25	20	40	-	27

Course code, course name, Type/Area has been verified/checked.
30.7.19

	2	PTE504	Polymer Testing and Characterization	Core	4	3	0	2	15	25	20	40	-	
Group D	3	PTE5402/5404/.....	Elective 4	Elective	4	4	0	0	20	-	30	50	-	
	4	PTE5302/5304/.....	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	PTE5202/5204/...../ UEC5202/5204/.....	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Semester-III

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													12
Group E	1	PTE651	Research Project	Core	12	0	0	12	0	-	40	60	-	
	Track 2													
	1	PTE601	Major Project I	Core	3						40	60		12
	2	PTE6401/6403/.....	Elective 7	Elective	4	3	0	2	15	25	20	40	-	
	3	PTE6301/6303/.....	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	PTE6201/6203/.....	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Gro	**Track 1**													

Course code, course name, Type/Area checked
30.7.19

	1	PTE652	Research Project	Core	12 2 1	0	0	12 2 1	0	-	40	60	0	12
	Track 2													
	1	PTE602	Major Project II	Core	12 2 1	0	0	12 2 1	0	-	40	60	0	12

LIST OF ELECTIVES :

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 1	1	PTE5401	Plastic Technology	Elective	4	3	0	2	15	25	20	40	-
	2	PTE5403	Rubber Technology		4	3	0	2	15	25	20	40	-
	3	PTE5405	Fiber Technology		4	3	0	2	15	25	20	40	-
	4	PTE5407	Resin Technology		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	PTE5301	Polymer Degradation	Elective	3	3	0	0	20	-	30	50	-
	2	PTE5303	Polymer Recycling		3	3	0	0	20	-	30	50	-
	3	PTE5305	Environment Impact Assessment of Polymer		3	3	0	0	20	-	30	50	-
	4	PTE5307	Green Polymers		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**		**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
	1	PTE5201	SEMINAR		2	2	0	0	20	-	~~100~~ 80	-	-

Course code, course Name, Type Area Checked
AK 30.7.19

Elective 3	2	PTE5203	Engineering Concepts in Polymers (for Science students)	Elective	2	2	0	0	20	-	30	50	-
	3	PTE5205	Chemical Concepts in Polymers (for Engineering Students)		2	2	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 4	1	PTE5402	Polymer Blends and Composites	Elective	4	4	0	0	20	0	30	50	-
	2	PTE5404	Membrane Technology		4	4	0	0	20	0	30	50	-
	3	PTE5406	Adhesive and Coating Technology		4	4	0	0	20	0	30	50	-
	4	PTE5408	Tyre Technology		4	4	0	0	20	0	30	50	-
	5	PTE5410	Paint Technology		4	4	0	0	20	0	30	50	
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	PTE5302	MINOR PROJECT	Elective	3	0	0	-	-	40	-	60	
	2	PTE5304	Packaging Technology		3	3	0	0	20	-	30	50	-
	3	PTE5306	Biomedical Applications of Polymers		3	3	0	0	20	-	30	50	-
	4	PTE5308	Polymers in Food and Healthcare Applications		3	3	0	0	20	-	30	50	-

Course code, Course Name, Type/Area checked

30.7.19

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 6	1	PTE5202	Commercialization of Polymers and Chemical Technology Products	Elective	2	2	0	0	20	-	30	50	-
	2	PTE5204	Engineering economics and Entrepreneurship		2	2	0	0	20	-	30	50	-
	3	PTE5206	Statistical Quality control		2	2	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 7	1	PTE6401	Rheology	Elective	4	3	0	2	15	25	20	40	-
	2	PTE6403	Polymer product and Die Design		4	3	0	2	15	25	20	40	-
	3	PTE6405	Additives and Compounding		4	3	0	2	15	25	20	40	-
	4	PTE6407	Extrusion and Injection Molding		4	3	0	2	15	25	20	40	-
	5	PTE6409	Nonwoven Technology		4	3	0	2	15	25	20	40	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elect	1	PTE6301	Specialty Polymers	Elective	3	3	0	0	20	-	30	50	-

Course code, Course Name, Type Area checked
30.7.18

	2	PTE6303	Application of nanomaterials in Polymers		3	3	0	0	20	-	30	50	-
	3	PTE6305	Inorganic polymers		3	3	0	0	20	-	30	50	-
	4	PTE6307	Biosensors		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	PTE6201	Practical Training in Industry	Elective	2	2	0	0	20	-	30	50	-
	2	PTE6203	Research Exploration		2	2	0	0	20	-	30	50	-
	3	PTE6205	Special Lectures in Polymers and Industrial Visits		2	2	0	0	20	-	30	50	-

Course code, Name, Type checked
30.7.19