

Additional credit structure to earn B.Tech. in.Civil Engineering with Honors and MDM
Offered to batches entered into 2023-24 or later

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	5	Refer List	NPTEL course approved by BoS Chairman					3	30	20	50
2	5	Refer List	NPTEL course approved by BoS Chairman					3	30	20	50
3	6	Refer List	NPTEL course approved by BoS Chairman OR Additional Program Elective -1	3	0	0	3	3	30	20	50
4	6	Refer List	NPTEL course approved by BoS Chairman					2	30	30	40
5	A	Refer List	NPTEL course approved by BoS Chairman					3	30	20	50
6	B	7CV492	Minor Project					4			
Bucket for Elective Laboraory								18			
		7CV373	Foundation Engineering Lab								
		7CV374	Waste Management and Pollution Control Lab								
		7CV375	Design of Hydraulic Structure Lab								
		7CV376	Geomatics Laboratory								
		7CV377	Earthquake Engineering Lab								
		7CV378	Design of Prestressed structures Lab								
		7CV379	Concrete Mix Design Lab								

Additional credit structure to earn B.Tech. in Mechanical Engineering with Honors and MDM
Offered to batches entered into 2023-24 or later : Track : Turbomachinery

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	5	7ME305	Introduction to Turbomachinery	3	0	0	3	3	30	20	50
2	5	7ME306	Design Principles of Turbomachinery	3	0	0	3	3	30	20	50
3	6	7ME324	FEA & CFD Analysis of Turbomachinery	3	0	0	3	3	30	20	50
4	6	7ME325	Manufacturing Processes for Turbomachinery	3	0	0	3	3	30	20	50
5	A	7ME401	Assembly and Maintenance of Turbomachinery	3	0	0	3	3	30	20	50
6	B	7ME422	Global Scenario of Turbomachinery	3	0	0	3	3	30	20	50

18

Additional credit structure to earn B.Tech. in Mechanical Engineering with Honors and MDM
Offered to batches entered into 2023-24 or later : Track : Applied Mathematics for Mechanical Engineering

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	5	7ME307	Mathematical Thinking	3	0	0	3	3	30	20	50

2	5	7ME308	Applied Linear Algebra	3	0	0	3	3	30	20	50
3	6	7ME326	Numerical Methods	3	0	0	3	3	30	20	50
4	6	7ME327	Statistics for Engineers	3	0	0	3	3	30	20	50
5	A	7ME402	Data Manipulation and Feature Engineering	3	0	0	3	3	30	20	50
6	B	7ME423	Mathematics for Computer Vision and Optimization	3	0	0	3	3	30	20	50

18

**Additional credit structure to earn B.Tech. in Electronics Engineering with Honors and MDM
Offered to batches entered into 2023-24 or later**

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	5	7EN304	Digital System Engineering	3	0	0	3	3	30	20	50
2	5	7EN305	Wireless Communication	3	0	0	3	3	30	20	50
3	6	7EN324	Image analysis and pattern recognition	3	0	0	3	3	30	20	50
4	6	7EN325	VLSI DSP	3	0	0	3	3	30	20	50
5	A	7EN403	Speech Signal Processing	3	0	0	3	3	30	20	50
6	B	7EN421	Broadband Antenna Design	3	0	0	3	3	30	20	50

18

**Additional credit structure to earn B.Tech. in Electrical Engineering with Honors and MDM
Offered to batches entered into 2023-24 or later**

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	5	7EL305	Process Control	3	0	0	3	3	30	20	50
2	5	7EL306	Biomedical Instrumentation	3	0	0	3	3	30	20	50
3	6	7EL324	Power Plant Instrumentation	3	0	0	3	3	30	20	50
4	6	7EL325	Digital Protection of Power System	3	0	0	3	3	30	20	50
5	A	7EL401	Computer Aided Power System Analysis	3	0	0	3	3	30	20	50
6	B	7EL423	Power System Dynamics	3	0	0	3	3	30	20	50

18

**Additional credit structure to earn B.Tech. in Computer Science and Engineering with Honors and MDM
Offered to batches entered into 2023-24 or later : Track : Security and digital forensics**

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	5	7CS304	Advanced Cryptography	3	0	0	3	3	30	20	50
2	5	7CS354	Advanced Cryptography Lab	0	0	2	2	1	30	30	40

3	6	7CS324	Digital Forensics	3	0	0	3	3	30	20	50
4	6	7CS373	Digital Forensics Lab	0	0	2	2	1	30	30	40
5	6	7CS346	Seminar	0	0	2	2	1	30	30	40
6	B	7CS424	Quantum Cryptography and Quantum Security	3	0	0	3	3	30	20	50
7	B	7CS472	Quantum Cryptography and Quantum Security Lab	0	0	2	2	1	30	30	40
8	B	7CS446	Mini-Project	0	0	4	4	2	30	30	40
9	A	7CS401	NPTEL (Ethical Hacking)					3	30	20	50

18

Additional credit structure to earn B.Tech. in Computer Science and Engineering with Honors and MDM

Offered to batches entered into 2023-24 or later : Track : Blockchain Technology

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
	5	7CS305	Introduction to Blockchain	3	0	0	3	3	30	20	50
	5	7CS354	Introduction to Blockchain Lab	0	0	2	2	1	30	30	40
	6	7CS325	Blockchain use cases	3	0	0	3	3	30	20	50
	6	7CS374	Blockchain use cases Lab	0	0	2	2	1	30	30	40
	6	7CS347	Seminar	0	0	2	2	1	30	30	40
	B	7CS425	cryptocurrency technology	3	0	0	3	3	30	20	50
	B	7CS473	cryptocurrency technology Lab	0	0	2	2	1	30	30	40
	B	7CS447	Mini-Project	0	0	4	4	2	30	30	40
	A	7CS402	NPTEL (Blockchain and its Applications)					3	30	20	50

18

Additional credit structure to earn B.Tech. in Computer Science and Engineering with Honors and MDM

Offered to batches entered into 2023-24 or later : Track : Augmented Reality and Virtual Reality

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
	5	7CS306	Introduction to AR and VR	3	0	0	3	3	30	20	50
	5	7CS355	Introduction to AR and VR Lab	0	0	2	2	1	30	30	40
	6	7CS326	3D modeling and Animation	3	0	0	3	3	30	20	50
	6	7CS375	3D modeling and Animation Lab	0	0	2	2	1	30	30	40
	6	7CS348	Seminar	0	0	2	2	1	30	30	40
	B	7CS426	Game Development for AR/VR	3	0	0	3	3	30	20	50
	B	7CS474	Game Development for AR/VR Lab	0	0	2	2	1	30	30	40
	B	7CS448	Mini-Project	0	0	4	4	2	30	30	40
	A	7CS403	NPTEL (HCI/Industry 4.0 and Metaverse)					3	30	20	50

18

Additional credit structure to earn B.Tech. in Information Technology with Honors and MDM**Offered to batches entered into 2023-24 or later : Track :GIS**

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	4	7IT225	Remote Sensing and Digital Image Processing	3	0	0	3	3	30	20	50
2	4	7IT275	Remote Sensing and Digital Image Processing Lab	0	0	2	1	1	30	30	40
3	5	7IT304	Geographic Information System	3	0	0	3	3	30	20	50
4	5	7IT354	Geographic information system Lab	0	0	2	1	1	30	30	40
5	5	7IT355	GPS Surveying and Data handling	0	0	2	1	1	30	30	40
6	6	7IT323	Spatial Data Analysis	3	0	0	3	3	30	20	50
7	6	7IT374	Spatial Data Analysis Lab	0	0	2	1	1	30	30	40
8	B	7IT422	Geoinformatics - Applications of GIS	3	0	0	3	3	30	20	50
9	B	7IT473	Geoinformatics Lab	0	0	2	1	1	30	30	40
10	B	7IT446	Mini-Project	0	0	2	1	1	30	30	40

18**Additional credit structure to earn B.Tech. in Information Technology with Honors and MDM****Offered to batches entered into 2023-24 or later : Track :Cloud Computing**

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	4	7IT226	Cloud Technologies	3	0	0	3	3	30	20	50
2	4	7IT276	Cloud Technologies Lab	0	0	2	2	1	30	30	40
3	5	7IT306	Virtualization Techniques	3	0	0	3	3	30	20	50
4	5	7IT356	Open Source Virtualization Tools	0	0	2	4	1	30	30	40
5	5	7IT357	AWS Cloud Sevices Lab	0	0	2	4	1	30	30	40
6	6	7IT324	Cloud Computing and Services	3	0	0	3	3	30	20	50
7	6	7IT374	Cloud Computing and Services Lab	0	0	2	4	1	30	30	40
8	B	7IT423	Data Centre Network	3	0	0	3	3	30	20	50
9	B	7IT474	Data Centre Network Lab	0	0	2	4	1	30	30	40
10	B	7IT447	Mini-Project	0	0	2	4	1	30	30	40

18**Additional credit structure to earn B.Tech. in Information Technology with Honors and MDM****Offered to batches entered into 2023-24 or later : Track :Cyber Security**

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	4	7IT227	Cyber Security, Law and Ethics	3	0	0	3	3	30	20	50
2	4	7IT277	Cyber Security, Law and Ethics Lab	0	0	2	4	1	30	30	40

3	5	7IT308	Network Security and Access Management	3	0	0	3	3	30	20	50
4	5	7IT358	Network Security and Access Management Lab	0	0	2	4	1	30	30	40
5	5	7IT359	Digital Forensic and Detection Lab	0	0	2	4	1	30	30	40
6	6	7IT325	Applied Cryptography	3	0	0	3	3	30	20	50
7	6	7IT375	Applied Cryptography Lab	0	0	2	4	1	30	30	40
8	B	7IT424	Handling Blockchains	3	0	0	3	3	30	20	50
9	B	7IT475	Handling Blockchains Lab	0	0	2	4	1	30	30	40
10	B	7IT448	Mini-Project	0	0	2	4	1	30	30	40

18

Additional credit structure to earn B.Tech. in Robotics and Automation with Honors and MDM

Offered to batches entered into 2024-25 or later : Turbomachinery

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	5	7RA305	Introduction to Turbomachinery	3	0	0	3	3	30	20	50
2	5	7RA355	Design Principles of Turbomachinery	0	0	2	4	3	30	30	40
3	6	7RA324	FEA & CFD Analysis of Turbomachinery	3	0	0	3	3	30	20	50
4	6	7RA374	Manufacturing Processes for Turbomachinery	0	0	2	4	3	30	30	40
5	A	7RA451	Assembly and Maintenance of Turbomachinery	0	0	2	4	3	30	30	40
6	B	7RA473	Global Scenario of Turbomachinery	3	0	0	3	3	30	20	50

18

Additional credit structure to earn B.Tech. in AI-ML with Honors and MDM

Offered to batches entered into 2024-25 or later : Track :GIS

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	4	7AI225	Remote Sensing and Digital Image Processing	3	0	0	3	3	30	20	50
2	4	7AI275	Remote Sensing and Digital Image Processing Lab	0	0	2	2	1	30	30	40
3	5	7AI304	Geographic Information System	3	0	0	3	3	30	20	50
4	5	7AI354	Geographic information system Lab	0	0	2	2	1	30	30	40
5	5	7AI355	GPS Surveying and Data handling	0	0	2	2	1	30	30	40
6	6	7AI323	Spatial Data Analysis	3	0	0	3	3	30	20	50
7	6	7AI374	Spatial Data Analysis Lab	0	0	2	2	1	30	30	40
8	B	7AI422	Geoinformatics - Applications of GIS	3	0	0	3	3	30	20	50
9	B	7AI473	Geoinformatics Lab	0	0	2	2	1	30	30	40
10	B	7AI446	Mini-Project	0	0	2	2	1	30	30	40

18

Additional credit structure to earn B.Tech. in AI-ML with Honors and MDM

Offered to batches entered into 2024-25 or later : Track :Cloud Computing

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	4	7AI226	Cloud Technologies	3	0	0	3	3	30	20	50
2	4	7AI276	Cloud Technologies Lab	0	0	2	2	1	30	30	40
3	5	7AI305	Virtualization Techniques	3	0	0	3	3	30	20	50
4	5	7AI356	Open Source Virtualization Tools	0	0	2	2	1	30	30	40
5	5	7AI357	AWS Cloud Sevices Lab	0	0	2	2	1	30	30	40
6	6	7AI323	Cloud Computing and Services	3	0	0	3	3	30	20	50
7	6	7AI374	Cloud Computing and Services Lab	0	0	2	2	1	30	30	40
8	B	7AI423	Data Centre Network	3	0	0	3	3	30	20	50
9	B	7AI474	Data Centre Network Lab	0	0	2	2	1	30	30	40
10	B	7AI447	Mini-Project	0	0	2	2	1	30	30	40

18

Additional credit structure to earn B.Tech. in AI-ML with Honors and MDM

Offered to batches entered into 2024-25 or later : Track :Cyber Security

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs.	Cr	MSE/LA1	ISE/LA2	ESE
1	4	7AI227	Cyber Security, Law and Ethics	3	0	0	3	3	30	20	50
2	4	7AI277	Cyber Security, Law and Ethics Lab	0	0	2	2	1	30	30	40
3	5	7AI306	Network Security and Access Management	3	0	0	3	3	30	20	50
4	5	7AI358	Network Security and Access Management Lab	0	0	2	2	1	30	30	40
5	5	7AI359	Digital Forensic and Detection Lab	0	0	2	2	1	30	30	40
6	6	7AI324	Applied Cryptography	3	0	0	3	3	30	20	50
7	6	7AI375	Applied Cryptography Lab	0	0	2	2	1	30	30	40
8	B	7AI4275	Handling Blockchains	3	0	0	3	3	30	20	50
9	B	7AI476	Handling Blockchains Lab	0	0	2	2	1	30	30	40
10	B	7AI448	Mini-Project	0	0	2	2	1	30	30	40

18