



**TOTAL SUBJECTS OFFERED IN
B.TECH**

LIST OF HUMANITIES, SOCIAL SCIENCES & MANAGEMENT COURSES (HSM)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	HSM001	English	2	0	2	3	
2	HSM002	Values and Ethics	3	0	0	3	
3	HSM003	Organizational Behavior	3	0	0	3	
4	HSM004	Industrial Psychology	3	0	0	3	
5	HSM005	Operations Research	3	0	0	3	
6	HSM006	Economics	3	0	0	3	
7	HSM007	Finance & Accounting	3	0	0	3	
8	HSM008	Principle of Management	3	0	0	3	
9	HSM009	Total Quality Management	3	0	0	3	
10	HSM010	Professional Practice, Law & Ethics	2	0	0	2	
11	HSM011	Human Resource Development and Organizational Behavior	3	0	0	3	
12	HSM012	Global Warming and Climate Change	2	0	0	2	
13	HSM013	Values and Ethics in Profession	3	0	0	3	
14	HSM014	E Commerce	3	0	0	3	
15	HSM015	Civil Engineering- Societal & Global Impact	2	0	0	2	

LIST OF BASIC SCIENCE COURSES (BSC)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	BSC001	Physics - Semiconductor physics	3	1	3	5.5	None
2	BSC002	Physics - Introduction to Electromagnetic Theory	3	1	3	5.5	None
3	BSC003	Physics - Introduction to Mechanics	3	1	3	5.5	None
4	BSC004	Physics - Quantum Mechanics for Engineers	3	1	3	5.5	None
5	BSC005	Physics - Oscillation, Waves and Optics	3	1	3	5.5	None
6	BSC006	Chemistry	3	1	3	5.5	None
7	BSC007	Mathematics - Calculus and Linear Algebra	3	1	0	4	None

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
8	BSC008	Mathematics - Advanced Calculus & Differential Equation	3	1	0	4	None
9	BSC009	Mathematics - Probability and Statistics	3	1	0	4	None
10	BSC010	Mathematics - Discrete Mathematics	3	1	0	4	None
11	BSC011	Mathematics - Transform Calculus, Numerical Methods & Complex Variable	3	1	0	4	None
12	BSC012	Mathematics - Probability, Statistics & Stochastic Process	3	1	0	4	None
13	BSC013	Mathematics - Graph Theory	3	1	0	4	None
14	BSC014	Life Science	1	0	2	2	
15	BSC015	Biology	3	0	0	3	
16	BSC016	Operations Research	3	0	0	3	
17	BSC017	Statistics & Data Analysis	3	1	0	4	
18	BSC018	Physics - Semiconductor Optoelectronics	3	1	3	5.5	None

LIST OF MANDATORY COURSES (MC)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	MC0001	Basic Course in Entrepreneurship (From Idea to Business Model)	0	0	0	0	
2	MC0002	Advanced Course In Entrepreneurship (From Business Model To Product Market Fit)	0	0	0	0	
3	MC003	Environmental Science	0	0	0	0	
4	MC004	Disaster Management	0	0	0	0	
5	MC005	Constitution of India	0	0	0	0	
6	MC006	Essence of Indian Traditional Knowledge	0	0	0	0	

LIST OF CORE COURSES (CSE)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	CSC001	Programming for Problem Solving	3	0	4	5	
2	CSC002	Data Structure & Algorithms	3	0	4	5	
3	CSC003	Advanced OOPS using C++	2	0	2	3	
4	CSC004	Computer Organization and Architecture	3	0	4	5	
5	CSC005	Operating System	3	0	4	5	
6	CSC006	Design and Analysis of Algorithms	3	0	4	5	
7	CSC007	Object Oriented Programming	2	0	4	4	
8	CSC008	Data Base Management System	3	0	4	5	
9	CSC009	Formal Language & Automata Theory	3	0	0	3	
10	CSC010	Compiler Design	3	0	4	5	
11	CSC011	Computer Networks	3	0	4	5	
12	CSC012	IT Workshop on MATLAB	1	0	4	3	

LIST OF DISCIPLINE SPECIFIC ELECTIVES (CSE)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	CSD001	Distributed Systems	3	0	0	3	
2	CSD002	Advanced Computer Architecture	3	0	0	3	
3	CSD003	Software Engineering	3	0	0	3	
4	CSD004	Data Mining	3	0	0	3	
5	CSD005	Data Communication & Networks	3	0	0	3	
6	CSD006	Digital Image and Video Processing	2	0	2	3	
7	CSD007	Distributed Database	3	0	0	3	
8	CSD008	Internet Security	3	0	0	3	
9	CSD009	Mobile Computing	3	0	0	3	
10	CSD010	Sensor Networks	3	0	0	3	
11	CSD011	Soft computing	3	0	0	3	
12	CSD012	Cloud Computing	3	0	0	3	

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
13	CSD013	Cryptography & Network Security	3	0	0	3	
14	CSD014	Speech and Natural Language Processing	3	0	0	3	
15	CSD015	Artificial Intelligence	3	0	0	3	
16	CSD016	Compiler Design	3	0	0	3	
17	CSD017	Cryptography & Network Security	3	0	0	3	
18	CSD018	Neural Network and application	3	0	0	3	
19	CSD019	Internet of Things	3	0	0	3	
20	CSD020	Advanced Algorithms	3	0	0	3	
21	CSD021	Advanced Operating Systems	3	0	0	3	
22	CSD022	Machine Learning	3	0	0	3	
23	CSD023	Data Analytics	3	0	0	3	
24	CSD024	Cyber Law and Ethics	3	0	0	3	
25	CSD025	Computer Architecture	3	0	0	3	
26	CSD026	Computer Graphics	3	0	0	3	

LIST OF CORE COURSES (ECE)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	ECC001	Basic Electronics Engineering	2	0	0	2	
2	ECC002	Electronic Devices	3	0	2	4	
3	ECC003	Digital System Design	3	0	2	4	
4	ECC004	Signals and Systems	3	0	0	3	
5	ECC005	Analog & Digital Communication	3	0	2	4	
6	ECC006	Analog Circuits	3	0	2	4	
7	ECC007	Microcontrollers	3	0	2	4	
8	ECC008	Electromagnetic Waves	3	0	2	4	
9	ECC009	Digital Signal Processing	3	0	2	4	
10	ECC010	Electronics Measurement Lab	0	0	2	1	

LIST OF DISCIPLINE SPECIFIC ELECTIVES (ECE)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	ECD001	Wireless Communication and Network	3	0	0	3	
2	ECD002	Information Theory and Coding	3	0	0	3	
3	ECD003	Biomedical Electronics	3	0	0	3	
4	ECD004	Mobile Communication and Network	3	0	0	3	
5	ECD005	Wavelets	3	0	0	3	
6	ECD006	Antennas and Propagation	3	0	2	4	
7	ECD007	FPGA & Reconfigurable Computing	3	0	0	3	
8	ECD008	Electronics Instrumentation	3	0	0	3	
9	ECD009	Nano Electronics	3	0	0	3	
10	ECD010	Fiber Optic Communication	3	0	0	3	
11	ECD011	Radar Engineering	3	0	0	3	
12	ECD012	Internet of Things using Raspberry pi	1	0	4	3	
13	ECD013	Embedded System	3	0	0	3	
14	ECD014	Microwave Theory and Techniques	3	0	0	3	
15	ECD015	Power Electronics	3	0	0	3	
16	ECD016	CMOS Design	3	0	0	3	
17	ECD017	Satellite Communication	3	0	0	3	
18	ECD018	Introduction to MEMS	3	0	0	3	
19	ECD019	Speech & Audio Processing	3	0	0	3	
20	ECD020	Wireless Sensor Networks	3	0	0	3	
21	ECD021	Adaptive Signal Processing	3	0	0	3	
22	ECD022	Digital Electronics	3	0	2	4	
23	ECD023	Microprocessors in Automation	3	0	0	3	
24	ECD024	Nanotechnology and Surface Engineering	3	0	0	3	
25	ECD025	Electronics Design Laboratory	1	0	4	3	

LIST OF CORE COURSES (ME)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	MEC001	Engineering Graphics & Design	1	0	4	3	
2	MEC002	Workshop/Manufacturing Practices	1	0	4	3	
3	MEC003	Engineering Mechanics	3	1	0	4	
4	MEC004	Thermodynamics	3	1	0	4	
5	MEC005	Strength of Materials	3	1	0	4	
6	MEC006	Applied Thermodynamics	3	1	0	4	
7	MEC007	Fluid Mechanics & Fluid Machines	3	1	0	4	
8	MEC008	Kinematics & Theory of Machines	3	1	0	4	
9	MEC009	Materials Engineering	3	0	0	3	
10	MEC010	Instrumentation & Control	3	1	0	4	
11	MEC011	Heat Transfer	3	1	0	4	
12	MEC012	Solid Mechanics	3	1	0	4	
13	MEC013	Manufacturing Processes	3	0	0	3	
14	MEC014	Dynamics of Machine	3	1	0	4	
15	MEC015	Mechanical Engineering Laboratory (Thermal) I	0	0	3	1.5	
16	MEC016	Manufacturing Technology	4	0	0	4	
17	MEC017	Design of Machine Elements	3	1	0	4	
18	MEC018	Mechanical Engineering Laboratory (Design) II	0	0	3	1.5	
19	MEC019	Automation in Manufacturing	3	0	0	3	
20	MEC020	Mechanical Engineering Laboratory III (Manufacturing)	0	0	3	1.5	

LIST OF DISCIPLINE SPECIFIC ELECTIVES (ME)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	MED001	Internal Combustion Engines	3	0	0	3	
2	MED002	Mechatronic Systems	3	0	0	3	
3	MED003	Composite Materials	3	0	0	3	

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
4	MED004	Refrigeration and Air Conditioning	3	0	0	3	
5	MED005	Turbo Machinery	3	0	0	3	
6	MED006	Power Plant Engineering	3	0	0	3	
7	MED007	Finite Element Analysis	3	0	0	3	
8	MED008	Gas Dynamics and Jet Propulsion	3	0	0	3	
9	MED009	Process Planning and Cost Estimation	3	0	0	3	
10	MED010	Computer Aided Design	3	0	0	3	
11	MED011	Automobile Engineering	3	0	0	3	
12	MED012	Design of Transmission Systems	3	0	0	3	
13	MED013	Material Handling	3	0	0	3	
14	MED014	Energy Conservation and Management	3	0	0	3	
15	MED015	Mechanical Engineering	2	1	0	3	
16	MED016	Renewable Energy Technology	3	0	0	3	

LIST OF CORE COURSES (EE)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	EEC001	Basic Electrical Engineering	3	1	2	5	
2	EEC002	Electrical Circuit Analysis	3	1	2	5	
3	EEC003	Electromagnetic Fields	3	1	0	4	
4	EEC004	Electric Machine-I	3	0	2	4	
5	EEC005	Measurement & Instrumentation	2	0	2	3	
6	EEC006	Electrical Machine-II	3	0	2	4	
7	EEC007	Power System-I	3	0	2	4	
8	EEC008	Power Electronics	3	0	2	4	
9	EEC009	Control System	3	0	2	4	
10	EEC010	Power System-II	3	0	2	4	
11	EEC011	Electric Drive	3	0	2	4	
12	EEC012	Electrical System Design Lab-I	0	0	3	1.5	

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
13	EEC013	Electrical System Design Lab-II	0	0	3	1.5	

LIST OF DISCIPLINE SPECIFIC ELECTIVES (EE)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	EED001	High Voltage Engineering	3	0	0	3	
2	EED002	Power Generation & Economics	3	0	0	3	
3	EED003	Power System III	3	0	0	3	
4	EED004	Digital Control Systems	3	0	0	3	
5	EED005	Electric Machine III	3	0	0	3	
6	EED006	Wind and Solar Energy Systems	3	0	0	3	
7	EED007	Renewable & Non-Conventional Energy	3	0	0	3	
8	EED008	HVDC Transmission Systems	3	0	0	3	
9	EED009	Illumination Engineering	3	0	0	3	
10	EED010	Energy Management & Audit	3	0	0	3	
11	EED011	Digital Speech Signal Processing	3	0	0	3	
12	EED012	Power Plant Instrumentation & Control	3	0	0	3	
13	EED013	Sensors & Transducers	3	0	0	3	
14	EED014	Biomedical Instrumentation	3	0	0	3	
15	EED015	Process Control	3	0	0	3	
16	EED016	Network Theory	3	0	0	3	
17	EED017	Renewable & Non-conventional	3	0	0	3	
18	EED018	Advance Control System	3	0	0	3	
19	EED019	Control Systems	3	0	0	3	
20	EED020	Electrical Machine	3	0	0	3	
21	EED021	Line Commutated and Active Rectifiers	3	0	0	3	
22	EED022	Electrical Energy Conservation and Auditing	3	0	0	3	
23	EED023	Industrial Electrical Systems	3	0	0	3	
24	EED024	Power System Protection	3	0	0	3	

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
25	EED025	Electrical and Hybrid Vehicles	3	0	0	3	
26	EED026	Digital Signal Processing	3	0	0	3	
27	EED027	Signals & Systems	2	1	0	3	

LIST OF CORE COURSES (CE)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	CEC001	Surveying	2	0	4	4	
2	CEC002	Computer- aided Civil Engineering Drawing	1	0	2	2	
3	CEC003	Engineering Mechanics	3	1	0	4	
4	CEC004	Energy Science and Engineering	1	1	0	2	
5	CEC005	Engineering Geology	1	0	2	2	
6	CEC006	Disaster Preparedness & Planning	1	1	0	2	
7	CEC007	Introduction to Fluid Mechanics	2	0	2	3	
8	CEC008	Introduction to Solid Mechanics	2	0	0	2	
9	CEC009	Surveying & Geomatics	1	1	2	3	
10	CEC010	Concrete Technology	2	0	2	3	
11	CEC011	Civil Engineering- Societal & Global Impact	2	0	0	2	
12	CEC012	Mechanics of Material	3	0	0	3	
13	CEC013	Hydraulic Engineering	2	0	2	3	
14	CEC014	Structural Engineering	2	1	0	3	
15	CEC015	Geotechnical Engineering	2	0	2	3	
16	CEC016	Hydrology & Water Resource Engineering	2	0	0	2	
17	CEC017	Environmental Engineering	2	1	0	3	
18	CEC018	Transportation Engineering	2	0	2	3	
19	CEC019	Material Testing & Evaluation	1	1	2	3	
20	CEC020	Construction Engineering & Management	2	1	0	3	
21	CEC021	Engineering Economics, Estimating & Costing	2	1	4	5	
22	CEC022	Design Of RC and Steel Structures Lab	0	0	2	2	

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
23	CEC023	Design of Steel Structure	3	0	0	3	
24	CEC024	Design Of RC and Steel Structures Lab	0	0	2	1	

LIST OF DISCIPLINE SPECIFIC ELECTIVES (CE)

Sl No.	Subject Code	Topic	L	T	P	Credit Points	Pre-Requisite
1	CED001	Foundation Engineering	3	0	0	3	
2	CED002	Design Of R C Structures	3	0	0	3	
3	CED003	Municipal Solid waste management	3	0	0	3	
4	CED004	Advanced Highway and Transportation Engineering	3	0	0	3	
5	CED005	Pre-Stressed Concrete	3	0	0	3	
6	CED006	Bridge Engineering	3	0	0	3	
7	CED007	Structural Dynamics & Earthquake Design	3	0	0	3	
8	CED008	Environmental Pollution and Control	3	0	0	3	
9	CED009	Design of Multistoreyed Buildings	3	0	0	3	
10	CED010	Dynamics of soil and Foundation	3	0	0	3	
11	CED011	Finite Element Method	3	0	0	3	
12	CED012	Water Pollution and its Management	2	0	0	2	
13	CED013	Pavement Design	2	0	0	2	
14	CED014	Instrumentation & Sensor Technologies for Civil Engineering applications	1	1	2	3	