BTech (Civil Engg.) Curriculum

Course Structure

	Semester - I	
Sr. No.	**Course Name**	**Credits**
1	Applied Mechanics	3
2	Engineering Chemistry	3
3	Mathematics I	3
4	Engineering Graphics	3.5
5	Problem Solving Using Python	3
6	Environmental Studies	4
7	Communication Skills	1

	Semester - II	
Sr. No.	**Course Name**	**Credits**
1	Engineering Physics	2
2	Engineering Physics Laboratory	1
3	Workshop Practices	1.5
4	Basic Electrical and Electronics	4
5	Mathematics II	3
6	Building planning and Drawing	3.5
7	Building Construction	3
8	Interdisciplinary Elective I	2

Semester - III

Sr. No.	Course Name	Credits
1	Surveying	5.5
2	Solid Mechanics	5.5
3	Fluid Mechanics I	4.5
4	Engineering Geology	2
5	Critical thinking and Technical reading	1
6	Interdisciplinary Elective II	2

Semester - IV

Sr. No.	Course Name	Credits
1	Humanities (Ethics and Values)	2
2	Theory of Structures I	3
3	Concrete Technology	4.5
4	Environmental Engineering I	3
5	Fluid Mechanics II	4.5
6	Transportation Engineering I	4.5

Semester - V

Sr. No.	Course Name	Credits
1	Design of Structures I	4.5
2	Environmental Engineering II	4.5
3	Transportation Engineering II	3
4	Project I	2
5	Theory of Structures II	3
6	Water Resources Engineering	4.5
7	Soft Skills	1
8	Advanced Concrete and Strengthening of Structures*	3
9	Saftey Considerations in Construction*	3

Semester - VI

Sr. No.	Course Name	Credits
1	Geotechnical Engineering I	4.5
2	Matrix Analysis of Framed Structures	4
3	Design of Structures II	4.5
4	Hydraulic Structures	3
5	KHOJ	3
6	Core Elective I	3
7	Codal Provisions in Civil Engineering*	3

Semester - VII

Sr. No.	Course Name	Credits
1	Estimating and Costing	4
2	Geotechnical Engineering II	3
3	Entrepreneurship	2
4	Core Elective II	3
5	Internship	2
6	Core Elective III	3
7	Project II	2
8	Advanced Construction Technology*	3
9	Construction Planning and Management *	3

Semester - VIII

Sr. No.	Course Name	Credits
1	BTech Project	14

Courses for Minor Specialization in Construction Engineering

Sr. No.	Course Name	Credits
1	Advanced Concrete and Strengthening of Structures*	3
2	Safety Considerations in Construction*	2
3	Universal Codal Provisions in Civil Engineering*	3
4	Advanced Construction Technology*	3
5	Construction Planning and Management *	3

Sr. No.	List of Choice Based Electives for Civil Engineering
1	Advanced Design of RCC Structures
2	Advanced Design of Steel Design
3	Solid Waste Management
4	Air pollution
5	Professional Practice
6	Substructure Design
7	Transportation Planning & pavement Design I
8	Transportation Planning & pavement Design II
9	Numerical methods with Programming
10	Introduction to Finite Element Method
11	Bridge Engineering
12	Offshore Structures
13	Structural Stability
14	Mechanics of Laminated composite Materials
15	Computing in Civil Engineering
16	Continuum Mechanics
17	Design of Bridge Structures
18	Earthquake engineering
19	Design of Earthquake resistant Structures
20	Advanced Foundation Engineering
21	Substructure Design
22	Applications of Numerical methods in Civil Engineering
23	Computer analysis and structural design
24	Prestress Concrete Structures
25	Theory of Plates and Shells
26	Advanced Solid Mechanics
27	Structural Dynamics
28	Wind and Tsunami analysis of Structures

BTech (Mech. Engg.) Curriculum

Course Structure

Semester - I		
Sr. No.	Course Name	Credits
1	Critical thinking/Technical Reading & Writing I	1
2	Experiential Engineering I	1
3	Free Hand Drawing	1
4	Environmental Science	3
5	Mathematics – 1	4
6	Physics for Mechanical Engineering	3
7	Physics Laboratory	1.5
8	Engineering Graphics	3.5
9	Engineering Mechanics	3
10	Engineering Mechanics Laboratory	1.5
11	Workshop Practice –I	1.5

Semester - II		
Sr. No.	Course Name	Credits
1	Critical thinking/Technical Reading & Writing II	1
2	Experiential Engineering II	1
3	Mathematics – II	4
4	Chemistry	3
5	Chemistry Laboratory	1.5
6	Strength of Material	3
7	Strength of Material Laboratory	1.5
8	Thermodynamics	4
9	Electrical Engineering	2
10	Electrical Engineering Laboratory	1.5
11	Interdisciplinary Elective	2

Semester - III		
Sr. No.	Course Name	Credits
1	Critical thinking/Technical Reading & Writing III	1
2	Experiential Engineering III	1
3	Numerical Methods and Computer Programming	4
4	Numerical Methods and Computer Programming Laboratory	1.5
5	Kinematics and dynamics of Machine I	4
6	Fluid Mechanics-I	4
7	Fluid Mechanics-I Laboratory	1.5
8	Engineering Metallurgy	4
9	Engineering Measurement and Metrology	3
10	Engineering Measurement and Metrology Lab	1.5
11	Interdisciplinary Elective	2

Semester - IV		
Sr. No.	Course Name	Credits
1	Critical thinking/Technical Reading & Writing IV	1
2	Experiential Engineering IV	1
3	Machine Design I	4
4	Machine Design I Laboratory	1.5
5	Fluid Mechanics-II	4
6	Fluid Mechanics-II Laboratory	1.5
7	Basic Electronics	3
8	Basic Electronics Laboratory	1.5
9	Manufacturing Technology I	4
10	Manufacturing Technology I Laboratory	1.5
11	Humanities	2

Semester - V		
Sr. No.	Course Name	Credits
1	Critical thinking/Technical Reading & Writing V	1
2	Kinematics and dynamics of Machine II	3
3	Kinematics and dynamics of Machine II Laboratory	1.5
4	Heat & Mass Transfer	4
5	Heat & Mass Transfer Laboratory	1.5
6	Energy Conversion I	4
7	Energy Conversion I Laboratory	1.5
8	Automation and Control system	3
9	Automation and Control system Laboratory	1.5
10	Manufacturing Technology II	4
11	Manufacturing Technology II Laboratory	1.5

Semester - VI		
Sr. No.	Course Name	Credits
1	Critical thinking/Technical Reading & Writing VI	1
2	Machine Design II	4
3	Machine Design II Laboratory	1.5
4	Energy Conversion II	3
5	Energy Conversion II Laboratory	1.5
6	Industrial Engineering & Operations Research	4
7	Core Elective I	3
8	Design & Manufacturing Projects	4
9	Entrepreneurship	3

Semester - VII		
Sr. No.	**Course Name**	**Credits**
1	Critical thinking/Technical Reading & Writing VII	1
2	Machine Design III	3
3	Fluid Machinery	4
4	Fluid Machinery Laboratory	1.5
5	Quality Management	3
6	Core Elective II	3
7	BTP – I	4

Semester - VIII		
Sr. No.	**Course Name**	**Credits**
1	Critical thinking/Technical Reading & Writing VIII	1
2	Core Elective III	3
3	Core Elective IV	3
4	Core Elective IV Laboratory	1.5
5	BTP – II	8
6	Khoj	3

BTech (EEE Engg.) Curriculum

Course Structure

Semester - I		
Sr. No.	**Course Name**	**Credits**
1	Mathematics – I	3
2	Applied Mechanics	2
3	Applied Mechanics Laboratory	1
4	Engineering Graphics	3.5
5	Engineering Chemistry	2
6	Engineering Chemistry Laboratory	1
7	Communication Skills	1
8	Environmental Studies	4

Semester - II		
Sr. No.	**Course Name**	**Credits**
1	Basic Electrical & Electronics Engineering	3
2	Basic Electrical & Electronics Engineering Laboratory	1
3	Workshop Practices	1.5
4	Engineering Physics	2
5	Engineering Physics Laboratory	1
6	Mathematics-II	3
7	Analog Electronics & Circuit Theory	4
8	Analog Electronics & Circuit Theory Laboratory	1.5
9	Problem Solving Using Python	3
10	Inter Disciplinary Elective I	2

Semester - III

Sr. No.	Course Name	Credits
1	Network Theory	3
2	Network Theory lab	1.5
3	Mathematics-III	3
4	Electrical Machines I	4
5	Electrical Machines I Laboratory	1.5
6	Signals and Systems	2
7	Critical Thinking/Technical Reading and Writing	1
8	Inter Disciplinary Elective II	2
9	Digital Electronics	3
10	Digital Electronics Laboratory	1.5

Semester - IV

Sr. No.	Course Name	Credits
1	Electrical Machines II	4
2	Electrical and Electronics Measurements	3
3	Electro-Magnetic Field Theory	4
4	Electrical Machines II Laboratory	1.5
5	Electrical and Electronics Measurements Laboratory	1.5
6	Microcontrollers	4
7	Microcontrollers Laboratory	1.5
8	Humanities	2

Semester - V

Sr. No.	Course Name	Credits
1	Power Electronics and Drives I	3
2	Electrical Power Systems-I	4
3	Control System	4
4	Electronics Communication And Computer Networks	3
5	Power Electronics and Drives I Laboratory	1.5
6	Electronics Communication And Computer Networks Laboratory	1.5
7	Control System Laboratory	1.5
8	Soft Skills	1
9	Project	2

Semester - VI		
Sr. No.	**Course Name**	**Credits**
1	Analog Circuits and Sensors	3
2	Electrical Power Systems-II	4
3	Power Electronics & Drives II	3
4	Power Electronics & Drives II Laboratory	1.5
5	Fundamentals of Internet of Things (IoT)	3
6	Fundamentals of Internet of Things (IoT) Laboratory	1.5
7	Simulation Laboratory	1
8	Analog Circuits and Sensors Laboratory	1.5
9	KHOJ	3
10	Comprehensive exam	2

Semester - VII		
Sr. No.	**Course Name**	**Credits**
1	Renewable Energy Sources	3
2	Switch gear and Protection	4
3	Switch gear & Protection Laboratory	1.5
4	Electrical Machine Design	4
5	Electrical Machine Design Laboratory	1.5
6	Entrepreneurship	2
7	Core Elective	3
8	Digital Signal Processing	2
9	Digital Signal Processing Laboratory	1
10	Internship	2

Semester - VIII		
Sr. No.	**Course Name**	**Credits**
1	Capstone Project	14

Minor Course Structure for Internet of Things (IoT):

Sr. No.	Course Name	Credits
1	Relational Database Management System (RDBMS)	3
2	Relational Database Management System (RDBMS Laboratory)	1.5
3	IoT Security	3
4	Data analytics in IoT	3
5	Data analytics in IoT Laboratory	1.5

Sr. No.	Course Name
1	High Voltage Engineering
2	Advanced Power Electronics
3	TV and Video Engineering
4	Advanced Power System
5	Generalized Approach to Electrical machines
6	Embedded System and Advanced Micro Controller
7	Advanced Power Converters
8	Special Electrical Machines
9	Flexible AC Transmission System (FACTs)
10	EHV AC/DC Transmission
11	Mobile Communication
12	Utilization of Electrical Energy
13	VLSI
14	Smart Grid
15	Bio-Medical Engineering
16	Health Safety and Environment
17	Optimization Methods

BTech (CSE Engg.) Curriculum

Course Structure

Semester - I		
Sr. No.	**Course Name**	**Credits**
1	Mathimatics-1 (Linear Algebra & Calculus)	3
2	Basic Electrical and Electronics Engineering	4
3	Computer program Utilization (C & C++)	4
4	GUI based web design(HTML , CSS)	3
5	Engineering Physics	3
6	Workshop Practice	1.5

Semester - II		
Sr. No.	**Course Name**	**Credits**
1	Problem Solving using Python	3
2	Engineering Chemistry	3
3	Digital Logic Design & Computer Architecture	3
4	ID-1	2
5	Mathematics -II (probability and statistics)	3
6	Communication Skills	1
7	Applied Mechanics	2
8	Applied Mechanics Labs	1
9	Engineering Graphics	3.5

Semester - III		
Sr. No.	Course Name	Credits
1	Computer Network	4
2	Object Oriented Programming using Python	4
3	Operating System	4
4	ID-II	2
5	Microprocessor and Interfacing Techniques	3
6	Mathematics -III(Discrete Maths)	3
7	Data Structures	4

Semester - IV		
Sr. No.	Course Name	Credits
1	Software Engineering	3
2	DBMS	4
3	Introduction to IoT	4
4	Core JAVA	4
5	Design and Analysis of Algorithm	4
6	Computer Graphics	4
7	Critical Thinking and Technical Writing	1

Semester - V		
Sr. No.	Course Name	Credits
1	Web Technology	1
2	Image Processing	4
3	Data Mining and Data Warehousing	3
4	Humanities and Social Science(Ethics and Values)	2
5	Environmental Studies	4
6	TOC & Complier Design	3
7	Software Project Management	3
8	Mobile Application Development	3

Semester - VI		
Sr. No.	Course Name	Credits
1	Big Data Analytics	4
2	Elective -1	4
3	Elective – 2	3
4	KHOJ	3
5	Cyber Security	3
6	Soft Skills	1
7	Artificial Intelligence & Machine Learning	4

Semester - VII		
Sr. No.	Course Name	Credits
1	Elective -3	4
2	Elective -4	3
3	Entrepreneurship	3
4	Cloud Computing	3
5	Mini Project	2
6	Operation Research	3

Semester - VIII		
Sr. No.	Course Name	Credits
1	Internship	2
2	Comprehensive Exam(at the end of 6th Semester)	2