

Techno India NJR Institute of Technology
Department of Civil Engineering

B. Tech Scheme 2022-23		
SEMESTER	1	
Category	Course Code	Course Title
BSC	1FY2-01	Engineering Mathematics-I
BSC	1FY2-03	Engineering Chemistry
HSMC	1FY1-04	Communication Skills
ESC	1FY3-06	Programming for Problem Solving
ESC	1FY3-09	Basic Civil Engineering
BSC	1FY2-21	Engineering Chemistry Lab
HSMC	1FY1-22	Human Values Activities
ESC	1FY3-24	Computer Programming Lab
ESC	1FY3-27	Basic Civil Engineering Lab
ESC	1FY3-28	Computer Aided Engineering Graphics
SODECA	1FY8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	2	
Category	Course Code	Course Title
BSC	2FY2-01	Engineering Mathematics-II
BSC	2FY2-02	Engineering Physics
HSMC	2FY1-05	Human Values
ESC	2FY3-07	Basic Mechanical Engineering
ESC	2FY3-08	Basic Electrical Engineering
BSC	2FY2-20	Engineering Physics Lab
HSMC	2FY1-23	Human Values Activities
ESC	2FY3-25	Manufacturing Practices Workshop
ESC	2FY3-26	Basic Electrical Engineering Lab
ESC	2FY3-29	Computer Aided Machine Drawing
SODECA	2FY8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	3	
Category	Course Code	Course Title
BSC	3CE2-01	ADVANCE ENGINEERING MATHEMATICS-I
HSMC	3CE1-02	TECHNICAL COMMUNICATION
ESC	3CE3-04	Engineering Mechanics
PCC	3CE4-05	SURVEYING
PCC	3CE4-06	FLUID MECHANICS

PCC	3CE4-07	BUILDING MATERIALS AND CONSTRUCTION
PCC	3CE4-08	ENGINEERING GEOLOGY
PCC	3CE4-21	Surveying Lab
PCC	3CE4-22	Fluid Mechanics Lab
PCC	3CE4-23	Computer Aided Civil Engineering Drawing
PCC	3CE4-24	Civil Engineering Materials Lab
PCC	3CE4-25	Geology Lab
PSIT	3CE7-30	Industrial Training
SODECA	3CE8-00	Social Outreach, Discipline & Extra Curricular Activities

SEMESTER		4
Category	Course Code	Course Title
BSC	4CE2-01	ADVANCE ENGINEERING MATHEMATICS-II
HSMC	4CE1-03	MANAGERIAL ECONOMICS AND FINANCIAL ACCOUNTING
ESC	4CE3-04	BASIC ELECTRONICS FOR CIVIL ENGINEERING APPLICATIONS
PCC	4CE4-05	STRENGTH OF MATERIALS
PCC	4CE4-06	HYDRAULICS ENGINEERING
PCC	4CE4-07	BUILDING PLANNING
PCC	4CE4-08	CONCRETE TECHNOLOGY
PCC	4CE4-21	Material Testing Lab
PCC	4CE4-22	Hydraulics Engineering Lab
PCC	4CE4-23	Building Drawing
PCC	4CE4-24	Advanced Surveying Lab
PCC	4CE4-25	Concrete Lab
SODECA	4CE8-00	Social Outreach, Discipline & Extra Curricular Activities

SEMESTER		5
Category	Course Code	Course Title
ESC	5CE3-01	CONSTRUCTION TECHNOLOGY AND EQUIPMENT
PCC	5CE4-02	STRUCTURE ANALYSIS-I
PCC	5CE4-03	DESIGN OF CONCRETE STRUCTURES
PCC	5CE4-04	GEOTECHNICAL ENGINEERING
PCC	5CE4-05	WATER RESOURCE ENGINEERING
PCC	5CE5-13	Town Planning
PCC	5CE5-14	Repair and Rehabilitation of Structures
PCC	5CE4-21	Concrete Structures Design
PCC	5CE4-22	Geotechnical Engineering Lab
PCC	5CE4-23	Water Resource Engineering Design
PSIT	5CE7-30	Industrial Training

SODECA	5CE8-00	Social Outreach, Discipline & Extra Curricular Activities
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SEMESTER	6	
Category	Course Code	Course Title
ESC	6CE3-01	WIND AND SEISMIC ANALYSIS
PCC	6CE4-02	STRUCTURAL ANALYSIS-II
PCC	6CE4-03	ENVIRONMENTAL ENGINEERING
PCC	6CE4-04	DESIGN OF STEEL STRUCTURES
PCC	6CE4-05	Estimating & Costing
PCC	6CE5-12	SOLID AND HAZARDOUS WASTE MANAGEMENT
PCC	6CE5-16	Geographic Information System & Remote Sensing
PCC	6CE4-21	Environmental Engineering Design and Lab
PCC	6CE4-22	Steel Structure Design
PCC	6CE4-23	Quantity Surveying and Valuation
PCC	6CE4-24	Water and Earth Retaining Structures Design
PCC	6CE4-25	Foundation Design
SODECA	6CE8-00	Social Outreach, Discipline & Extra Curricular Activities

SEMESTER	7	
Category	Course Code	Course Title
PEC	7CE4-01	Transportation Engineering
OE	7AG6-60.2	Environmental Engineering and Disaster Management
PCC	7CE4-21	Road Material Testing Lab
PCC	7CE4-22	Professional Practices & Field Engineering Lab
PCC	7CE4-23	Soft Skills Lab
PCC	7CE4-24	Environmental Monitoring and Design Lab
PSIT	7CE7-30	Practical Training
PSIT	7CE7-40	Seminar
SODECA	7CE8-00	Social Outreach, Discipline & Extra Curricular Activities

SEMESTER	8	
Category	Course Code	Course Title
PEC	8CE4-01	Project Planning and Construction Management
OE	8TT6-60.2	Disaster Management
PCC	8CE4-21	Project Planning & Construction Management Lab
PCC	8CE4-22	Pavement Design
PSIT	8CE7-50	Project
SODECA	8CE8-00	Social Outreach, Discipline & Extra Curricular Activities

List & Description of courses which address the Professional Ethics, Gender, Human Values, Environmental and Sustainability into the Curriculum

CIVIL ENGINEERING DEPARTMENT

S.NO	NAME OF THE COURSE	YEAR	SEM
1	Project Planning & Construction Management	IV	VIII
	<u>Description</u>	<p>This course guides the students towards the planning of a project in accordance with the available resources. With the help of different types of visual graphs and figures one can get to know how someone can plan a project to complete in a specified interval of time by optimizing the resources. Methods such as critical path method and PERT are used to analyze the structure of the project flow in a better way and others techniques are induced to complete it on a particular time.</p>	
2	Professional Practices & Field Engineering Lab	IV	VII
		<p>This lab course helps students in preparing detailed estimates of any construction work. By introducing several methods such as center line method, long wall - short wall method one can easily calculated the dimension of a building. This subjects helps students in understanding the basic</p>	

		concepts of rate analysis, depreciation of building, salvage value and more.	
3	Discipline & Extra Curricular activity	IV	VIII
		The primary goals of extracurricular activities focus on the individual student level, the institutional level, and the broader community level. These activities exist to complement the university's academic curriculum and to augment the student's educational experience. Extracurricular activities provide a setting to become involved and to interact with other students, thus leading to increased learning and enhanced development.	
4	Communication Skills	I	I
		This course helps students improve their professional communication in English for successful business interactions. Each chapter focuses on a particular area of communication in English: writing emails, speaking at meetings and interviews, giving presentations, and networking online. Whether a person wants to communicate to potential employers, employees, partners or clients, better English communication can help them achieve their language and professional goals. This course will focus especially on making those important connections to take the career or business to the next level.	

5	Human Values	I	I
		<p>The Courses Human Values envisages to instill the ethical values and to provide the knowledge about Ethics as a subject matter. The Course Human Value Education is aimed at providing the students with knowledge on Value System and its importance in Human existence. The objective of the course is listed as: Values are socially accepted norms to evaluate objects, persons, and situations that form part and parcel of sociality. A value system is a set of consistent values and measures. Knowledge of the values are inculcated through education. It contributes in forming true human being, who are able to face life and make it meaningful.</p>	
6	Human Values Activities	I	II
		<p>Human Values involves various classroom activities through which teachers can take a measure of and improve the student's inherent qualities, including responsibility, confidence, co-operation, respect and empathy.</p> <p>Each activity featured as part of this innovation is focused on specific human values. The positive change in students and learning environment through all these activities can be ensured by carrying these out on a regular basis throughout the course. Activities Includes Scouts & Guides, Planning, Implementation, Surveying and many more.</p>	

7	Technical Communication	II	III/IV
		<p>In this course students will practice designing and giving strong, persuasive presentations. Students will learn how to communicate across cultures, genders, and generations, how to create a personal brand and leadership presence and how to hold effective meetings with global teams. Students will learn how to handle difficult conversations, and how to handle crisis communication; students will also learn writing skills immediately applicable in their daily activities.</p>	
8	Social Outreach, Discipline & Extra Curricular Activities	II	III/IV
		<p>The primary goals of extracurricular activities focus on the individual student level, the institutional level, and the broader community level. These activities exist to complement the university's academic curriculum and to augment the student's educational experience. Extracurricular activities provide a setting to become involved and to interact with other students, thus leading to increased learning and enhanced development.</p>	
9	Technical Communication	III	IV
		<p>In this course students will practice designing and giving strong, persuasive presentations. Students will learn how to communicate across cultures, genders, and</p>	

		<p>generations, how to create a personal brand and leadership presence and how to hold effective meetings with global teams. Students will learn how to handle difficult conversations, and how to handle crisis communication; students will also learn writing skills immediately applicable in their daily activities.</p>	
10	Disaster Management	IV	VIII
		<p>Disaster Management provides detailed knowledge to students on disaster preparedness, reducing the effect and rehabilitation. This course provides learners with a regional, national and international perspective on disaster management.</p>	
11	Solid and Hazardous Waste Management	III	VI
		<p>This course provides students with an overview of the municipal solid waste management situation in low- and middle-income countries. It covers key elements of the waste management system, such as its technical, environmental, social, financial and institutional aspects. Besides understanding the challenges, students will be introduced to appropriate and already applied solutions through selected case studies.</p>	
12	Environmental Engineering	III	VI
		<p>Environmental engineering is a subfield of engineering that is concerned with the</p>	

		protection and preservation of the environment and environmental resources as well as the protection of populations from environmental threats. Environmental engineers study population growth and monitor air and water quality.	
13	Environmental Engineering Lab	III	VI
		The Environmental Engineering laboratory practical provides good insight into different experimental methods relevant to Environmental Engineering. In this lab we performs various test on drinker water and sewage samples to check pH value, total dissolved solids, BOD and COD, total suspended particles etc.	
14	Environmental monitoring & Design Lab	IV	VII
		Environmental monitoring lab uses instruments to carry out environmental baseline and compliance monitoring in all walk of sectors like petrochemical, mining, cement, highways, housing and infrastructure for EIA studies. Sampling and Testing Includes: Ambient Air, Water, Soil, Noise for Ambient and Stationary Sources, Stack Emissions, Solid and Hazardous Wastes, VOCs and Hydrocarbons, Fugitive Gas emissions, Indoor gas quality, Mercury, CO.	

Techno India NJR Institute of Technology
Department of Computer Science Engineering

B. Tech Scheme 2022-23		
SEMESTER	1	
Category	Course Code	Course Title
BSC	1FY2-01	Engineering Mathematics-I
BSC	1FY2-03	Engineering Chemistry
HSMC	1FY1-04	Communication Skills
ESC	1FY3-06	Programming for Problem Solving
ESC	1FY3-09	Basic Civil Engineering
BSC	1FY2-21	Engineering Chemistry Lab
HSMC	1FY1-22	Human Values Activities
ESC	1FY3-24	Computer Programming Lab
ESC	1FY3-27	Basic Civil Engineering Lab
ESC	1FY3-28	Computer Aided Engineering Graphics
SODECA	1FY8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	2	
Category	Course Code	Course Title
BSC	2FY2-01	Engineering Mathematics-II
BSC	2FY2-02	Engineering Physics
HSMC	2FY1-05	Human Values
ESC	2FY3-07	Basic Mechanical Engineering
ESC	2FY3-08	Basic Electrical Engineering
BSC	2FY2-20	Engineering Physics Lab
HSMC	2FY1-23	Human Values Activities
ESC	2FY3-25	Manufacturing Practices Workshop
ESC	2FY3-26	Basic Electrical Engineering Lab
ESC	2FY3-29	Computer Aided Machine Drawing
SODECA	2FY8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	3	
Category	Course Code	Course Title
BSC	3CS2-01	Advanced Engineering Mathematics
HSMC	3CS1-02	Technical Communication
ESC	3CS3-04	Digital Electronics
PCC	3CS4-05	Data Structures and Algorithms

PCC	3CS4-06	Object Oriented Programming
PCC	3CS4-07	Software Engineering
PCC	3CS4-21	Data Structures and Algorithms Lab
PCC	3CS4-22	Object Oriented Programming Lab
PCC	3CS4-23	Software Engineering Lab
PCC	3CS4-24	Digital Electronics Lab
PSIT	3CS7-30	Industrial Training
SODECA	3CS8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	4	
Category	Course Code	Course Title
BSC	4CS2-01	Discrete Mathematics Structures
HSMC	4CS1-03	Managerial Economics and Financial Accounting
ESC	4CS3-04	Microprocessor & Interface
PCC	4CS4-05	Database Management System
PCC	4CS4-06	Theory of Computation
PCC	4CS4-07	Data Communication and Computer Networks
PCC	4CS4-21	Microprocessor & Interfaces Lab
PCC	4CS4-22	Database Management System Lab
PCC	4CS4-23	Network Programming Lab
PCC	4CS4-24	Linux Shell Programming Lab
PCC	4CS4-25	Java Lab
SODECA	4CS8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	5	
Category	Course Code	Course Title
ESC	5CS3-01	Information Theory & Coding
PCC	5CS4-02	Compiler Design
PCC	5CS4-03	Operating System
PCC	5CS4-04	Computer Graphics & Multimedia
PCC	5CS4-05	Analysis of Algorithms
PCC	5CS5-12	Human-Computer Interaction
PCC	5CS4-21	Computer Graphics & Multimedia Lab
ESC	5CS4-22	Compiler Design Lab
PCC	5CS4-23	Analysis of Algorithms Lab
PCC	5CS4-24	Advance Java Lab
PSIT	5CS7-30	Industrial Training
SODECA	5CS8-00	Social Outreach, Discipline & Extra Curricular Activities

SEMESTER	6	
Category	Course Code	Course Title
ESC	6CS3-01	Digital Image Processing
PCC	6CS4-02	Machine Learning
PCC	6CS4-03	Information Security System
PCC	6CS4-04	Computer Architecture and Organization
PCC	6CS4-05	Artificial Intelligence
PCC	6CS4-06	Cloud Computing
PCC	6CS5-11	Distributed System
ESC	6CS4-21	Digital Image Processing Lab
PCC	6CS4-22	Machine Learning Lab
PCC	6CS4-23	Python Lab
PCC	6CS4-24	Mobile Application Development Lab
SODECA	6CS8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	7	
Category	Course Code	Course Title
PEC	7CS4-01	Internet of Things
OE	7CE6-60.2	Disaster Management
OE	7AG6-60.2	Environment Engg and Disaster Management
PCC	7CS4-21	Internet of Things Lab
PCC	7CS4-22	Cyber Security Lab
PSIT	7CS7-30	Industrial Training
PSIT	7CS7-40	Seminar
SODECA	7CS8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	8	
Category	Course Code	Course Title
PEC	8CS4-01	Big Data Analytics
OE	8AN6-60.2	Factor of Human Interactions
PCC	8CS4-21	Big Data Analytics Lab
PCC	8CS4-22	Software Testing and Validation Lab
PSIT	8CS7-50	Project
SODECA	8CS8-00	Social Outreach, Discipline & Extra Curricular Activities

List & Descriptions of courses which address the Professional Ethics,
Gender, Human Values, Environmental and Sustainability into the
Curriculum

COMPUTER SCIENCE & ENGINEERING

S.NO	NAME OF THE COURSE	YEAR	SEM
1	Disaster Management	IV	VII
	<u>Description</u>	Disaster Management provides detailed knowledge to students on disaster preparedness, reducing the effect and rehabilitation. This course provides learners with a regional, national and international perspective on disaster management.	
2	Communication skills	I	I
	<u>Description</u>	This course helps students improve their professional communication in English for successful business interactions. Each chapter focuses on a particular area of communication in English: writing emails, speaking at meetings and interviews, giving presentations, and networking online. Whether a person wants to communicate to potential employers, employees, partners or clients, better English communication can help them achieve their language and professional goals. This course will focus especially on making those important connections to take the career or business to the next level.	

3	Technical Communication	II	III/IV
	<u>Description</u>	In this course students will practice designing and giving strong, persuasive presentations. Students will learn how to communicate across cultures, genders, and generations, how to create a personal brand and leadership presence and how to hold effective meetings with global teams. Students will learn how to handle difficult conversations, and how to handle crisis communication; students will also learn writing skills immediately applicable in their daily activities.	
4	Social Outreach, Discipline & Extra Curricular Activities	II	III/IV
	<u>Description</u>	The primary goals of extracurricular activities focus on the individual student level, the institutional level, and the broader community level. These activities exist to complement the university's academic curriculum and to augment the student's educational experience. Extracurricular activities provide a setting to become involved and to interact with other students, thus leading to increased learning and enhanced development.	
6	Environmental Engineering and Disaster Management	IV	VII
		Environmental engineering is a subfield of engineering that is concerned with the protection and preservation of the environment and environmental resources	

	<u>Description</u>	as well as the protection of populations from environmental threats. Environmental engineers study population growth and monitor air and water quality.	
8	Factor of Human Interactions	IV	VIII
	<u>Description</u>	Factor of Human Interactions (FHI) provide detail knowledge of process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.	

Techno India NJR Institute of Technology
Department of Electronics & Communication Engineering

B. Tech Scheme 2022-23		
SEMESTER	1	
Category	Course Code	Course Title
BSC	1FY2-01	Engineering Mathematics-I
BSC	1FY2-03	Engineering Chemistry
HSMC	1FY1-04	Communication Skills
ESC	1FY3-06	Programming for Problem Solving
ESC	1FY3-09	Basic Civil Engineering
BSC	1FY2-21	Engineering Chemistry Lab
HSMC	1FY1-22	Human Values Activities
ESC	1FY3-24	Computer Programming Lab
ESC	1FY3-27	Basic Civil Engineering Lab
ESC	1FY3-28	Computer Aided Engineering Graphics
SODECA	1FY8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	2	
Category	Course Code	Course Title
BSC	2FY2-01	Engineering Mathematics-II
BSC	2FY2-02	Engineering Physics
HSMC	2FY1-05	Human Values
ESC	2FY3-07	Basic Mechanical Engineering
ESC	2FY3-08	Basic Electrical Engineering
BSC	2FY2-20	Engineering Physics Lab
HSMC	2FY1-23	Human Values Activities
ESC	2FY3-25	Manufacturing Practices Workshop
ESC	2FY3-26	Basic Electrical Engineering Lab
ESC	2FY3-29	Computer Aided Machine Drawing
SODECA	2FY8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	3	
Category	Course Code	Course Title
BSC	3EC2-01	Advanced Engineering Mathematics-I
HSMC	3EC1-02	Technical Communication
PCC	3EC4-04	Digital System Design
PCC	3EC4-05	Signal & Systems
PCC	3EC4-06	Network Theory

PCC	3EC4-07	Electronics Devices
PCC	3EC4-21	Electronics Devices Lab
PCC	3EC4-22	Digital System Design Lab
PCC	3EC4-23	Signal Processing Lab
ESC	3EC3-24	Computer Programming Lab-I
PSIT	3EC7-30	Industrial Training
SODECA	3EC8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	4	
Category	Course Code	Course Title
BSC	4EC2-01	Advanced Engineering Mathematics-II
HSMC	4EC1-03	Managerial Economics and Financial Accounting
PCC	4EC4-04	Analog Circuits
PCC	4EC4-05	Microcontrollers
ESC	4EC3-06	Electronics Measurement & Instrumentation
PCC	4EC4-07	Analog and Digital Communication
PCC	4EC4-21	Analog and Digital Communication Lab
PCC	4EC4-22	Analog Circuits Lab
PCC	4EC4-23	Microcontrollers Lab
PCC	4EC4-24	Electronics Measurement & Instrumentation Lab
SODECA	4EC8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	5	
Category	Course Code	Course Title
ESC	5EC 3-01	Computer Architecture
PCC	5EC 4-02	Electromagnetics Waves
PCC	5EC 4-03	Control system
PCC	5EC 4-04	Digital Signal Processing
PCC	5EC 4-05	Microwave Theory & Techniques
PCC	5EC 5-12	Embedded Systems
PCC	5EC 4-21	RF Simulation Lab
ESC	5EC 4-22	Digital Signal Processing Lab
PCC	5EC 4-23	Microwave Lab
PSIT	5EC 7-30	Industrial Training
SODECA	5EC8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	6	
Category	Course	Course Title

	Code	
ESC	6EC 3-01	Power Electronics
PCC	6EC 4-02	Computer Network
PCC	6EC 4-03	Fiber Optics Communications
PCC	6EC 4-04	Antennas and Propagation
PCC	6EC 4-05	Information theory and coding
PCC	6EC 5-11	Introduction to MEMS
PCC	6EC 4-21	Computer Network Lab
ESC	6EC 4-22	Antenna and wave propagation Lab
PCC	6EC 4-23	Electronics Design Lab
PSIT	6EC 4-24	Power Electronics Lab
SODECA	6EC8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	7	
Category	Course Code	Course Title
PEC	7EC5-11	VLSI Design
OE	7CE6-60.2	Disaster Management
OE	7AG6-60.2	Environment Engg and Disaster Management
PCC	7EC4-21	VLSI Design Lab
PCC	7EC4-22	Advance communication lab (MATLAB Simulation)
PCC	7EC4-23	Optical Communication Lab
PSIT	7EC7-30	Industrial Training
PSIT	7EC7-40	Seminar
SODECA	7EC8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	8	
Category	Course Code	Course Title
PEC	8EC5-11	Artificial Intelligence And Expert Systems
OE	8AN6-60.2	Factor of Human Interactions
PCC	8EC4-21	Internet of Things (IOT) Lab
PCC	8EC4-22	Skill Development Lab
PSIT	8EC7-50	Project
SODECA	8EC8-00	Social Outreach, Discipline & Extra Curricular Activities

List & Description of courses which address the Professional Ethics, Gender, Human Values, Environmental and Sustainability into the Curriculum

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

S.NO	NAME OF THE COURSE	YEAR	SEM
1	Discipline & Extra Curricular activity	IV	VII/VIII
		<p>The primary goals of extracurricular activities focus on the individual student level, the institutional level, and the broader community level. These activities exist to complement the university's academic curriculum and to augment the student's educational experience. Extracurricular activities provide a setting to become involved and to interact with other students, thus leading to increased learning and enhanced development.</p>	
2	Communication skills	I	I
		<p>This course helps students improve their professional communication in English for successful business interactions. Each chapter focuses on a particular area of communication in English: writing emails, speaking at meetings and interviews, giving presentations, and networking online. Whether a person wants to communicate to potential employers, employees, partners or clients, better English communication can help them achieve their language and</p>	

		professional goals. This course will focus especially on making those important connections to take the career or business to the next level.	
3	Human Values	I	I
		<p>The Courses Human Values envisages to instill the ethical values and to provide the knowledge about Ethics as a subject matter. The Course Human Value Education is aimed at providing the students with knowledge on Value System and its importance in Human existence. The objective of the course is listed as: Values are socially accepted norms to evaluate objects, persons, and situations that form part and parcel of sociality. A value system is a set of consistent values and measures. Knowledge of the values are inculcated through education. It contributes in forming true human being, who are able to face life and make it meaningful.</p>	
4	Human Values Activities	I	II
		<p>Human Values involves various classroom activities through which teachers can take a measure of and improve the student's inherent qualities, including responsibility, confidence, co-operation, respect and empathy.</p> <p>Each activity featured as part of this innovation is focused on specific human values. The positive change in students and learning environment through all these activities can be ensured by carrying these out on a regular basis throughout the course. Activities Includes Scouts &</p>	

		Guides, Planning, Implementation, Surveying and many more.	
5	Technical Communication	II	III/IV
		In this course students will practice designing and giving strong, persuasive presentations. Students will learn how to communicate across cultures, genders, and generations, how to create a personal brand and leadership presence and how to hold effective meetings with global teams. Students will learn how to handle difficult conversations, and how to handle crisis communication; students will also learn writing skills immediately applicable in their daily activities.	
6	Social Outreach, Discipline & Extra Curricular Activities	II	III/IV
		The primary goals of extracurricular activities focus on the individual student level, the institutional level, and the broader community level. These activities exist to complement the university's academic curriculum and to augment the student's educational experience. Extracurricular activities provide a setting to become involved and to interact with other students, thus leading to increased learning and enhanced development.	
7	Technical Communication	II	III
		In this course students will practice	

		<p>designing and giving strong, persuasive presentations. Students will learn how to communicate across cultures, genders, and generations, how to create a personal brand and leadership presence and how to hold effective meetings with global teams. Students will learn how to handle difficult conversations, and how to handle crisis communication; students will also learn writing skills immediately applicable in their daily activities.</p>
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Techno India NJR Institute of Technology
Department of Electrical Engineering

B. Tech Scheme 2022-23		
SEMESTER	1	
Category	Course Code	Course Title
BSC	1FY2-01	Engineering Mathematics-I
BSC	1FY2-03	Engineering Chemistry
HSMC	1FY1-04	Communication Skills
ESC	1FY3-06	Programming for Problem Solving
ESC	1FY3-09	Basic Civil Engineering
BSC	1FY2-21	Engineering Chemistry Lab
HSMC	1FY1-22	Human Values Activities
ESC	1FY3-24	Computer Programming Lab
ESC	1FY3-27	Basic Civil Engineering Lab
ESC	1FY3-28	Computer Aided Engineering Graphics
SODECA	1FY8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	2	
Category	Course Code	Course Title
BSC	2FY2-01	Engineering Mathematics-II
BSC	2FY2-02	Engineering Physics
HSMC	2FY1-05	Human Values
ESC	2FY3-07	Basic Mechanical Engineering
ESC	2FY3-08	Basic Electrical Engineering
BSC	2FY2-20	Engineering Physics Lab
HSMC	2FY1-23	Human Values Activities
ESC	2FY3-25	Manufacturing Practices Workshop
ESC	2FY3-26	Basic Electrical Engineering Lab
ESC	2FY3-29	Computer Aided Machine Drawing
SODECA	2FY8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	3	
Category	Course Code	Course Title
BSC	3EE2-01	Advance Mathematics
HSMC	3EE1-02	Technical Communication
PCC	3EE3-04	Power generation Process
PCC	3EE4-05	Electrical Circuit Analysis
ESC	3EE4-06	Analog Electronics

PCC	3EE4-07	Electrical Machine - I
PCC	3EE4-08	Electromagnetic Field
PCC	3EE4-21	Analog Electronics Lab
PCC	3EE4-22	Electrical Machine-I Lab
PCC	3EE4-23	Electrical circuit design Lab
PSIT	3EE7-30	Training Seminar
SODECA	3EE8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	4	
Category	Course Code	Course Title
BSC	4EE2-01	Biology
HSMC	4EE1-03	Managerial Economics and Financial Accounting
ESC	4EE3-04	Electronic Measurement & Instrumentation
PCC	4EE4-05	Electrical Machine - II
PCC	4EE4-06	Power Electronics
PCC	4EE4-07	Signals & Systems
PCC	4EE4-08	Digital Electronics
PCC	4EE4-21	Electrical Machine - III Lab
PCC	4EE4-22	Power Electronics Lab
PCC	4EE4-23	Digital Electronics Lab
PCC	4EE4-24	Measurement Lab
SODECA	4EE8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	5	
Category	Course Code	Course Title
ESC	5EE3-01	Electrical Materials
PCC	5EE4-02	Power System - I
PCC	5EE4-03	Control System
PCC	5EE4-04	Microprocessor
PCC	5EE4-05	Electrical Machine Design
PCC	5EE5-12	Electromagnetic Wave.
PCC	5EE4-21	Power System - I Lab
ESC	5EE4-22	Control System Lab
PCC	5EE4-23	Microprocessor Lab
PCC	5EE4-24	System Programming Lab
PSIT	5EE7-30	Industrial Training
SODECA	5EE8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	6	
Category	Course Code	Course Title

ESC	6EE3-01	Computer Architecture
PCC	6EE4-02	Power System - II
PCC	6EE4-03	Power System Protection
PCC	6EE4-04	Electrical Energy Conversion and Auditing
PCC	6EE4-05	Electric Drives
PCC	6EE5-11	Power System Planning.
PCC	6EE4-21	Power System - II Lab
ESC	6EE4-22	Electric Drives Lab
PCC	6EE4-23	Power System Protection Lab
PCC	6EE4-24	Modelling and simulation lab
SODECA	6EE8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	7	
Category	Course Code	Course Title
OE	7CE6-60.2	Disaster Management
OE	7AG6-60.2	Environment Engg and Disaster Management
PEC	7EE5-11	Wind and Solar Energy Systems
PCC	7EE4-21	Embedded Systems Lab
PCC	7EE4-22	Advance control system lab
PSIT	7EE7-30	Industrial Training
PSIT	7EE7-40	Seminar
SODECA	7EE8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	8	
Category	Course Code	Course Title
PEC	8EE4-11	HVDC Transmission System
OE	8AN6-60.2	Factor of Human Interactions
PCC	8EE4-21	Energy Systems Lab
PSIT	8EE7-50	Project
SODECA	8EE8-00	Social Outreach, Discipline & Extra Curricular Activities

List & Descriptions of courses which address the Professional Ethics, Gender, Human Values, Environmental and Sustainability into the Curriculum

ELECTRICAL ENGINEERING DEPARTMENT

S.NO	NAME OF THE COURSE	YEAR	SEM
1	Discipline & Extra Curricular activity	IV	VIII
	<u>Description</u>	The primary goals of extracurricular activities focus on the individual student level, the institutional level, and the broader community level. These activities exist to complement the university's academic curriculum and to augment the student's educational experience. Extracurricular activities provide a setting to become involved and to interact with other students, thus leading to increased learning and enhanced development.	
2	Communication skills	I	I
	<u>Description</u>	This course helps students improve their professional communication in English for successful business interactions. Each chapter focuses on a particular area of communication in English: writing emails, speaking at meetings and interviews, giving presentations, and networking online. Whether a person wants to communicate to potential employers, employees, partners or clients, better English communication can help them	

		achieve their language and professional goals. This course will focus especially on making those important connections to take the career or business to the next level.	
3	Human Values	I	I
	<u>Description</u>	The Courses Human Values envisages to instill the ethical values and to provide the knowledge about Ethics as a subject matter. The Course Human Value Education is aimed at providing the students with knowledge on Value System and its importance in Human existence. The objective of the course is listed as: Values are socially accepted norms to evaluate objects, persons, and situations that form part and parcel of sociality. A value system is a set of consistent values and measures. Knowledge of the values are inculcated through education. It contributes in forming true human being, who are able to face life and make it meaningful.	
4	Human Values Activities	I	II
	<u>Description</u>	Human Values involves various classroom activities through which teachers can take a measure of and improve the student's inherent qualities, including responsibility, confidence, co-operation, respect and empathy. Each activity featured as part of this innovation is focused on specific human values. The positive change in students and learning environment through all these activities can be ensured by carrying these	

		out on a regular basis throughout the course. Activities Includes Scouts & Guides, Planning, Implementation, Surveying and many more.	
5	Technical Communication	II	III/IV
	<u>Description</u>	In this course students will practice designing and giving strong, persuasive presentations. Students will learn how to communicate across cultures, genders, and generations, how to create a personal brand and leadership presence and how to hold effective meetings with global teams. Students will learn how to handle difficult conversations, and how to handle crisis communication; students will also learn writing skills immediately applicable in their daily activities.	
6	Social Outreach, Discipline & Extra Curricular Activities	II	III/IV
	<u>Description</u>	The primary goals of extracurricular activities focus on the individual student level, the institutional level, and the broader community level. These activities exist to complement the university's academic curriculum and to augment the student's educational experience. Extracurricular activities provide a setting to become involved and to interact with other students, thus leading to increased learning and enhanced development.	
7	Technical Communication	III	IV

	<u>Description</u>	In this course students will practice designing and giving strong, persuasive presentations. Students will learn how to communicate across cultures, genders, and generations, how to create a personal brand and leadership presence and how to hold effective meetings with global teams. Students will learn how to handle difficult conversations, and how to handle crisis communication; students will also learn writing skills immediately applicable in their daily activities.	
8	Biology	II	IV
	<u>Description</u>	Objectives of this course provides a Purpose: To convey that Biology is as important a scientific discipline as Mathematics, Physics and Chemistry. Bring out the fundamental differences between science and engineering by drawing a comparison between eye and camera, Bird flying and aircraft. Mention the most exciting aspect of biology as an independent scientific discipline.	
9	Disaster Management	IV	VII
	<u>Description</u>	Disaster Management provides detailed knowledge to students on disaster preparedness, reducing the effect and rehabilitation. This course provides learners with a regional, national and international perspective on disaster management.	
10	Neural Network	III	VI
	<u>Description</u>	The course has contents to develop Know the main provisions neuro mathematics, Know the main types of neural networks, Know and apply the methods of training	

		neural networks, Know the application of artificial neural networks, To be able to formalize the problem, to solve it by using a neural network.	
11	Sustainable Engineering	IV	VII
	<u>Description</u>	This course provides students with an overview of develop an increased awareness among students on issues in areas of sustainability, To make students understand the role of engineering and technology within sustainable development, To give students some familiarity with the methods and tools used for sustainable product-service system development, To establish in students an understanding of the role and impact of engineering activities and engineering decisions on environmental, societal, and economic well-being.	

Techno India NJR Institute of Technology
Department of Mechanical Engineering

B. Tech Scheme 2022-23		
SEMESTER	1	
Category	Course Code	Course Title
BSC	1FY2-01	Engineering Mathematics-I
BSC	1FY2-03	Engineering Chemistry
HSMC	1FY1-04	Communication Skills
ESC	1FY3-06	Programming for Problem Solving
ESC	1FY3-09	Basic Civil Engineering
BSC	1FY2-21	Engineering Chemistry Lab
HSMC	1FY1-22	Human Values Activities
ESC	1FY3-24	Computer Programming Lab
ESC	1FY3-27	Basic Civil Engineering Lab
ESC	1FY3-28	Computer Aided Engineering Graphics
SODECA	1FY8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	2	
Category	Course Code	Course Title
BSC	2FY2-01	Engineering Mathematics-II
BSC	2FY2-02	Engineering Physics
HSMC	2FY1-05	Human Values
ESC	2FY3-07	Basic Mechanical Engineering
ESC	2FY3-08	Basic Electrical Engineering
BSC	2FY2-20	Engineering Physics Lab
HSMC	2FY1-23	Human Values Activities
ESC	2FY3-25	Manufacturing Practices Workshop
ESC	2FY3-26	Basic Electrical Engineering Lab
ESC	2FY3-29	Computer Aided Machine Drawing
SODECA	2FY8-00	Social Outreach, Discipline & Extra Curricular Activities
SEMESTER	3	
Category	Course Code	Course Title
BSC	3ME2-01	Advance Engineering Mathematics-I
HSMC	3ME1-02	Technical Communication
ESC	3ME3-04	Engineering Mechanics
PCC	3ME4-05	Engineering Thermodynamics

PCC	3ME4-06	Materials Science and Engineering
PCC	3ME4-07	Mechanics of Solids
PCC	3ME4-21	Machine Drawing Practice
PCC	3ME4-22	Materials Testing Lab
PCC	3ME4-23	Basic Mechanical Engineering Lab
PCC	3ME4-24	Programming using MATLAB
PSIT	3ME7-30	Industrial Training
SODECA	3ME8-00	Social Outreach, Discipline & Extra Curricular Activities

SEMESTER		4
Category	Course Code	Course Title
BSC	4ME2-01	Data analytics
HSMC	4ME1-03	Managerial Economics and Financial Accounting
ESC	4ME3-04	Digital Electronics
PCC	4ME4-05	Fluid Mechanics and Fluid Machines
PCC	4ME4-06	Manufacturing Processes
PCC	4ME4-07	Theory of machines
PCC	4ME3-21	Digital Electronics lab
PCC	4ME4-22	Fluid Mechanics lab
PCC	4ME4-23	Production practice lab
PCC	4ME4-24	Theory of machines Lab
SODECA	4ME8-00	Social Outreach, Discipline & Extra Curricular Activities

SEMESTER		5
Category	Course Code	Course Title
ESC	5ME3-01	Mechatronics System
PCC	5ME4-02	Heat Transfer
PCC	5ME4-03	Manufacturing Technology
PCC	5ME4-04	Design of Machine Element-I
PCC	5ME4-05	Principles of Management
PCC	5ME5-11	Steam Engineering
PCC	5ME4-12	Automobile Engineering
ESC	5ME3-21	Mechatronics Lab
PCC	5ME4-22	Heat Transfer lab
PCC	5ME4-23	Production Engineering lab
PCC	5ME4-24	Machine Design Practice-I
PSIT	3ME7-30	Industrial Training
SODECA	5ME8-00	Social Outreach, Discipline & Extra Curricular Activities

SEMESTER	6	
Category	Course Code	Course Title
ESC	6ME3-01	Measurement & Metrology
PCC	6ME4-02	Computer Integrated Manufacturing Systems
PCC	6ME4-03	Mechanical Vibrations
PCC	6ME4-04	Design of Machine Element-II
PCC	6ME4-05	Quality Management
PCC	6ME5-11	Refrigeration & Air Conditioning
PCC	6ME4-21	CIMS Lab
PCC	6ME4-22	Vibration Lab
PCC	6ME4-23	Machine Design Practice-II
PCC	6ME4-24	Thermal Engineering Lab-I
SODECA	6ME8-00	Social Outreach, Discipline & Extra Curricular Activities

SEMESTER	7	
Category	Course Code	Course Title
PEC	7ME5-11	IC Engine
OE	7AG6-60.1	Human Engineering and Safety
PCC	7ME4-21	FEA Lab
PCC	7ME4-22	Thermal Engineering Lab II
PCC	7ME4-23	Quality Control Lab
PSIT	7ME7-30	Industrial Training
PSIT	7ME7-40	Seminar
SODECA	7ME8-00	Social Outreach, Discipline & Extra Curricular Activities

SEMESTER	8	
Category	Course Code	Course Title
PEC	8ME5-12	Supply and Operations Management
OE	8TT6-60.2	Disaster Management
PCC	8ME4-21	Industrial Engineering Lab
PCC	8ME4-22	Metrology Lab
PSIT	8ME7-50	Project
SODECA	8ME8-00	Social Outreach, Discipline & Extra Curricular Activities

List & Description of courses which address the Professional Ethics, Gender, Human Values, Environmental and Sustainability into the Curriculum

DEPARTMENT OF MECHANICAL ENGINEERING

S.NO	NAME OF THE COURSE	YEAR	SEM
1	Discipline & Extra Curricular activity	IV	VII,VIII
		<p>The primary goals of extracurricular activities focus on the individual student level, the institutional level, and the broader community level. These activities exist to complement the university's academic curriculum and to augment the student's educational experience. Extracurricular activities provide a setting to become involved and to interact with other students, thus leading to increased learning and enhanced development.</p>	
2	Human Engineering and Safety	IV	VII
	<u>Description</u>	<p>A human engineering effort is conducted to develop or improve human interface of the system Achieve required effectiveness of human performance during system operation, maintenance and support and make economical demands upon personnel resources skills, training and costs.</p>	
3	Communication skills	I	I/II
		<p>This course helps students improve their</p>	

		<p>professional communication in English for successful business interactions. Each chapter focuses on a particular area of communication in English: writing emails, speaking at meetings and interviews, giving presentations, and networking online. Whether a person wants to communicate to potential employers, employees, partners or clients, better English communication can help them achieve their language and professional goals. This course will focus especially on making those important connections to take the career or business to the next level.</p>	
4	Human Values	I	I/II
		<p>The Courses Human Values envisages to instill the ethical values and to provide the knowledge about Ethics as a subject matter. The Course Human Value Education is aimed at providing the students with knowledge on Value System and its importance in Human existence. The objective of the course is listed as: Values are socially accepted norms to evaluate objects, persons, and situations that form part and parcel of sociality. A value system is a set of consistent values and measures. Knowledge of the values are inculcated through education. It contributes in forming true human being, who are able to face life and make it meaningful.</p>	
5	Human Values Activities	I	II
		Human Values involves various classroom	

		<p>activities through which teachers can take a measure of and improve the student's inherent qualities, including responsibility, confidence, co-operation, respect and empathy.</p> <p>Each activity featured as part of this innovation is focused on specific human values. The positive change in students and learning environment through all these activities can be ensured by carrying these out on a regular basis throughout the course. Activities Includes Scouts & Guides, Planning, Implementation, Surveying and many more.</p>	
6	Technical Communication	II	III/IV
		<p>In this course students will practice designing and giving strong, persuasive presentations. Students will learn how to communicate across cultures, genders, and generations, how to create a personal brand and leadership presence and how to hold effective meetings with global teams. Students will learn how to handle difficult conversations, and how to handle crisis communication; students will also learn writing skills immediately applicable in their daily activities.</p>	
7	Social Outreach, Discipline & Extra Curricular Activities	II	III/IV
		<p>The primary goals of extracurricular activities focus on the individual student level, the institutional level, and the</p>	

		<p>broader community level. These activities exist to complement the university's academic curriculum and to augment the student's educational experience. Extracurricular activities provide a setting to become involved and to interact with other students, thus leading to increased learning and enhanced development.</p>	
8	Technical Communication	II	III
		<p>In this course students will practice designing and giving strong, persuasive presentations. Students will learn how to communicate across cultures, genders, and generations, how to create a personal brand and leadership presence and how to hold effective meetings with global teams. Students will learn how to handle difficult conversations, and how to handle crisis communication; students will also learn writing skills immediately applicable in their daily activities.</p>	