COURSE STRUCTURE

&

DETAILED SYLLABUS

OF

ELECTRICAL AND ELECTRONICS ENGINEERING

FOR

BACHELOR OF TECHNOLOGY

4 YEAR DEGREE COURSE

(Applicable for the batches admitted from 2025-2026)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEEERING

NETAJI SUBHAS UNIVERSITY, JAMSHEDPUR

Jharkhand, India

Received

PREAMBLE

Electrical and Electronics Engineering involves scientific analysis, problem-solving and knowledge integration using appropriate tools to model, design, produce and maintains products or systems containing Electrical and Electronics Engineering elements to meet the desired requirements.

The curriculum revision committee included representation from various engineering institutes, government R&D labs and manufacturing sector. The committee members met multiple times in 2021-2022 to deliberate the curriculum. They studied existing curricula at well-known universities across the world, and had extensive discussions with domain experts representing a wide range of backgrounds and experience.

The revised model curriculum takes into cognizance the prevailing and emerging requirements of the industry and society. It provides a balanced mix of courses related to science, engineering, technology and practice (labs, projects), as well as humanities.

Given the rising importance of electronics, information and communication technology in all aspects of life, the relevant courses have been introduced or strengthened.

Students are provided greater flexibility in electives based on their career aspirations. They can suitably orient themselves toward academics, research, innovation, industry, entrepreneurship or any other direction.

The revised model curriculum is aligned with the New Education Policy, which promotes holistic, experiential and inter-disciplinary education. Hands-on learning, relevant lab experiments and examples from industry have been emphasised.

Program Educational Objectives

PEO-1	Apply knowledge of mathematics, science, and engineering to solve complex problems in Electrical and Electronics Engineering and contribute effectively to industry, research, or higher education.
PEO-2	Pursue lifelong learning through professional development courses, higher education, or certifications to adapt to rapidly evolving technologies and global challenges.
PEO-3	Demonstrate leadership, ethical responsibility, and the ability to work effectively in multidisciplinary teams to deliver engineering solutions for real-world problems.
PEO-4	Innovate and contribute to the development of sustainable solutions addressing societal, environmental, and economic challenges through responsible engineering practices.

Program Outcomes

PO-1	Apply the knowledge of mathematics, science, engineering fundamentals, and electrical and electronics engineering to solve complex engineering problems.
PO-2	Identify, formulate, research literature, and analyze complex electrical and electronics engineering problems to reach substantiated conclusions.
PO-3	Design solutions for complex engineering problems and design system components or processes to meet specified needs with appropriate consideration for public health, safety, culture, society, and environment.
PO-4	Use research-based knowledge and methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

PO-5	Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools for electrical and electronics engineering activities with an understanding of limitations.
PO-6	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to electrical and electronics engineering practice.
PO-7	Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of, and need for, sustainable development.
PO-8	Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
PO-9	Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.
PO-10	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports, make effective presentations, and give and receive clear instructions.
PO-11	Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member or leader in a team, to manage projects in multidisciplinary environments.
PO-12	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the context of technological change

Program Specific Outcomes

PSO-1	Apply the knowledge of electrical science and engineering fundamentals to analyze, design, and maintain electrical systems such as power generation, transmission, distribution, and protection systems.
PSO-2	Design and implement electronic circuits, embedded systems, and control systems for applications in automation, instrumentation, and consumer electronics.
PSO-3	Use modern tools, simulation software, and programming languages for modeling, analysis, and optimization of electrical and electronics systems while considering energy efficiency and sustainability.

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B. TECH IN ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE STRUCTURE

GENERAL COURSE STRUCTURE & THEME

A. Definition of Credit:

1 Hr. Lecture (L) per week	1 Credit
1 Hr. Tutorial (T) per week	1 Credit
1 Hr. Practical (P) per week	0.5 Credit
2 Hours Practical (P) per week	1 Credit

B. Range of Credits: In the light of the fact that a typical Model Four-year Under Graduate degree program in Engineering has about 160 credits, the total number of credits proposed for the four-year B. Tech/B.E. in Electrical and Electronics Engineering (Engineering & Technology) is kept as 160.

C. Structure of UG Program in EEE: The structure of UG program in Electrical and Electronics Engineering shall have essentially the following categories of courses with the breakup of credits as given:

Sl. No.	Category	Suggested Breakup of Credits (Total 160)
1	Humanities and Social Sciences including Management courses	12*
2	Basic Science courses	29*
3	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	27*
4	Professional core courses	58*
5	Professional Elective courses relevant to chosen specialization/branch	9*
6	Open subjects – Electives from other technical and /or emerging subjects	9*
7	Project work, seminar and internship in industry or elsewhere	16*
8	Mandatory Courses [Environmental Sciences, Induction Program, Indian Constitution, Essence of Indian Knowledge Tradition]	(non-credit)
Total		**160***

**Minor variation is allowed as per need of the respective disciplines.*

D. Course code and definition:

Course code	Definitions
L	Lecture
T	Tutorial
P	Practical
C	Credits
BSC	Basic Science Courses
ESC	Engineering Science Courses
HSMC	Humanities and Social Sciences including Management courses
PCC	Professional core courses
PEC	Professional Elective courses
OEC	Open Elective courses
EEC	Employment Enhancement Courses (Summer Internship/Seminar/Project)
LC	Laboratory course
MC	Mandatory courses

Category-wise Courses

HUMANITIES & SOCIAL SCIENCES COURSES [HS] & MANAGEMENT COURSES

(2 compulsory+2 others)

Number of Humanities & Social Science Courses: 4
Credits: 12

Sl.	Code No.	Subject	Semester	Credits
1	HSMC01	Communication Skills/English (Compulsory)	2	2:0:2=3
2	HSMC02	Universal Human Values-2 (Compulsory course)	2	2:1:0=3
3	HSMC03	Industrial Psychology	5 / 6	3:0:0=3
4	HSMC04	Operations Research	5 / 6	3:0:0=3

5	HSMC05	Project Management	5 / 6	3:0:0=3
6	HSMC06	Finance & Accounting	5 / 6	3:0:0=3
			Total Credits:	**12**

BASIC SCIENCE COURSE [BSC] (Total 8)

Sl.	Code No.	Subject	Semester	Credits
1	BSC101	Physics-1 (Electromagnetism)	1	3:1:2=5
2	BSC301	Physics-2 (Optics & Waves)	3	3:1:2=5
3	BSC102	Mathematics-1(Calculus & Linear Algebra)	1	3:1:0=4
4	BSC203	Chemistry-1	2	3:0:2=4
5	BSC204	Mathematics-2 (ODE, Complex variables)	2	3:1:0=4
6	BSC302	Mathematics-3 (PDE, Prob/Stat)	3	3:1:0=4
7	BSC303	Biology for Engineers	3	3:0:0=3
8	BSC304	Environment Science(Audit)	3	2:0:0=0
			Total Credits:	**29**

ENGINEERING SCIENCE COURSE [ESC] (Total 8)

Sl.	Code No.	Subject	Semester	Credits
1	ESC101	Basic Electrical Engineering	1	2:1:2=4
2	ESC102	Engineering Graphics & Design	1	1:0:4=3
3	ESC103	Design Thinking + Idea Lab (Audit)	1	0:0:2=1
4	ESC204	Programming for Problem Solving	2	2:0:4=4
5	ESC205	Manufacturing Practice Workshop	2	0:0:4=2
6	ESC301	Basic Electronics Engineering	3	3:1:2=5
7	ESC302	Engineering Mechanics	3	3:1:0=4
8	ESC303	Material Science	3	3:1:0=4
			Total Credits:	**27**

PROFESSIONAL CORE COURSES [PCC] (Total 16)

Sl.	Code No.	Subject	Semester	Credits
1	PCC-EEE401	Network Analysis	4	3:1:1=5
2	PCC-EEE402	Electrical Machines - I	4	3:1:1=5
3	PCC-EEE403	Electrical Measurements and Instrumentation	4	3:0:1=4
4	PCC-EEE404	Electromagnetic Field Theory	4	3:0:0=3
5	PCC-EEE405	Signals and Systems	4	3:1:0=4
6	PCC-EEE406	Communications Systems	4	3:0:0=3
7	PCC-EEE501	Digital Electronics	5	3:0:1=4
8	PCC-EEE502	Electrical Machines - II	5	3:1:1=5

9	PCC-EEE503	Analog Electronics	5	3:0:1=4
10	PCC-EEE505	Elements of Power System	5	3:0:0=3
11	PCC-EEE506	Digital Signal Processing	5	3:0:0=3
12	PCC-EEE601	Control Systems	6	3:0:1=4
13	PCC-EEE602	Power System Analysis	6	3:1:0=4
14	PCC-EEE603	Power Electronics	6	3:0:1=4
15	PCC-EEE604	Power Plant Engineering	6	3:0:0=3
16	PCC-EEE605	Products Innovation and Entrepreneurship	6	3:0:0=3
Total Credits:				

PROFESSIONAL ELECTIVE [PEC] (At least 3 to be taken, at least one from each group)

Sl.	Code No.	Subject	Semester	Credits
TECHNOLOGY GROUP				
1	PEC-EEEL 401	Internet of Things	5 / 6	3:0:0=3
2	PEC-EEEL 402	Mechatronics	7 / 8	3:0:0=3
3	PEC-EEEL 403	Renewable Energy Sources	7 / 8	3:0:0=3
4	PEC-EEEL 404	Communications Systems	7 / 8	3:0:0=3
5	PEC-EEEL 405	VLSI Design	7 / 8	3:0:0=3
6	PEC-EEEL 406	Biosensors	7 / 8	3:0:0=3
INDUSTRY SECTOR GROUP				
1	PEC-EEEL 411	Electric Vehicles	7 / 8	3:0:0=3
2	PEC-EEEL 412	Embedded Systems	7 / 8	3:0:0=3
3	PEC-EEEL 413	Electric Safety	7 / 8	3:0:0=3
4	PEC-EEEL 414	Biomedical Engineering	7 / 8	3:0:0=3
5	PEC-EEEL 415	Building Cyber Physical Systems	7 / 8	3:0:0–3
6	PEC-EEEL 416	Introduction to Robotics and Automation	7 / 8	3:0:0=3
			Total Credits:	**12**

ENGINEERING PROJECT (3 Stages)

Sl.	Code No.	Subject	Semester	Credits
1	PROJ-EEE11	Engineering Project-1 (Literature Review)	6	0:0:4=2
2	PROJ-EEE401	Engineering Project-2 (Design & Analysis)	7	0:0:10=5
3	SEM-EEE402	Seminar	7	0:0:2=1
4	PROJ-EEE403	Engineering Project-3 (Prototype & Testing)	8	0:0:16–8
			Total Credits:	**16**

TOTAL = 160 credits | BSC = 18%, ESC = 17%, PCC = 36%, PEL+HSM+OEL = 9%, PROJ = 10% || LABS = 10%

NEW AND ELECTRONICS/IT-ORIENTED CORE COURSES

Sl.	Code No.	Subject	Semester	Credits
1	ESC103	Design Thinking & Idea Lab (New)	1	0:0:2=1
2	ESC103	Programming for Problem Solving	2	3:0:4=5
3	ESC301	Basic Electronics Engineering	3	3:1:2=5
4	PEC-EEEL 405	VLSI Design	6	3:0:0=3
5	PEC-EEEL 414	Biomedical Engineering	7	3:0:0=3
			Total Credits:	**25**

INDUCTION PROGRAM

The Essence and Details of Induction program can also be understood from the 'Detailed Guide on Student Induction program', as available on AICTE Portal, (Link:https://www.aicteindia.org/sites/default/files/Detailed%20Guide%20on%20Student%20Induction%20program.pdf).

Induction program (mandatory)	Three-week duration
Induction program for students to be offered right at the start of the first year.	• Physical activity • Creative Arts • Universal Human Values • Literary • Proficiency Modules • Lectures by Eminent People • Visits to local Areas • Familiarization to Dept./Branch& Innovations

Mandatory Visits/ Workshop/Expert Lectures:

a. It is mandatory to arrange one industrial visit every semester for the students of each branch.

b. It is mandatory to conduct a One-week workshop during the winter break after fifth semester on professional/ industry/ entrepreneurial orientation.

c. It is mandatory to organize at least one expert lecture per semester for each branch by inviting resource persons from domain specific industry.

Evaluation Scheme (Suggestive only):

a. For Theory Courses:

(The weightage of Internal assessment is 40% and for End Semester Exam is 60%)

a. For Practical Courses:

(The weightage of Internal assessment is 60% and for End Semester Exam is 40%)

b. For Summer Internship / Projects / Seminar etc.

Evaluation is based on work done, quality of report, performance in viva-voce, presentation etc.

Note: The internal assessment is based on the student's performance in mid semester tests (two best out of three), quizzes, assignments, class performance, attendance, viva-voce in practical, lab record etc.

Mapping of Marks to Grades

Each course (Theory/Practical) is to be assigned 100 marks, irrespective of the number of credits, and the mapping of marks to grades may be done as per the following table:

Range of Marks	Assigned Grade
91-100	A^+
81-90	A
71-80	B^+
61-70	B
51-60	C^+
46-50	C
40-45	D
< 40	F (Fail due to less marks)

Semester wise Structure

SEMESTER-I

S. No.	Code No.	Category	Name of the Subjects	Periods			Credits	Marks		
				L	T	P		IA	TE	TM
1	BTBSC101	BSC	Engineering Mathematics- I	3	1	0	4	40	60	100
2	BTBSC102	BSC	Engineering Physics	3	1	-	4	40	60	100
3	BTESC103	ESC	Basics of Electrical Engineering	3	0	-	3	40	60	100
4	BTESC104	ESC	Engineering Drawing & Computer Graphics	1	0	-	1	40	60	100
5	BTMC105	MC	Indian Knowledge System	3	0	-	3	40	60	100
Practical										
6	BTBSC102P	BSC	Engineering Physics Lab	-	-	2	1	30	20	50
7	BTESC103P	ESC	Basics of Electrical Engineering Lab	-	-	2	1	30	20	50
8	BTESC104P	ESC	Engineering Drawing & Computer Graphics Lab	-	-	4	2	30	20	50
9	BTESC107P	ESC	Design Thinking & IDEA Lab	-	-	2	1	30	20	50
10	BTAU106	AU	Sports/NSS/NCC/YOGA/Painting/Music/Classical dance		-	2	0	-	-	-
Total				**13**	**2**	**12**	**20**	**320**	**380**	**700**

SEMESTER-II

S. No.	Code No.	Category	Name of the Subjects	Periods			Credits	Marks		
				L	T	P		IA	TE	TM
1	BTBSC201	BSC	Engineering Mathematics -II	3	1	-	4	40	60	100
2	BTBSC202	BSC	Engineering Chemistry	3	0	-	3	40	60	100
3	BTHSMC203	HSMC	English for Technical writing	2	0	0	2	40	60	100
4	BTESC204	ESC	Programming for Problem Solving	2	0	-	2	40	60	100
5	BTHSMC205	HSMC	Universal Human Values	2	1	0	3	40	60	100
Practical										
6	BTBSC202P	BSC	Engineering Chemistry Lab	-	-	2	1	30	20	50
7	BTHSMC203P	HSMC	English for Technical writing	0	0	2	1	30	20	50
8	BTESC204P	ESC	Programming for Problem Solving Lab	-	-	4	2	30	20	50
9	BTESC206P	ESC	Manufacturing Practices Workshop			4	2	30	20	50
Total				**12**	**2**	**12**	**20**	**320**	**380**	**700**

SEMESTER-III

S. No.	Code No.	Category	Name of the Subjects	Periods			Credits	Marks		
				L	T	P		IA	TE	TM
1	BTBSC302	BSC	Mathematics-3 (PDE, Prob/Stat)	3	1	0	4	40	60	100
2	BTBSC303	BSC	Biology for Engineers	2	1	0	3	40	60	100
3	BTBSC304	BSC	Environment Science (Audit)	2	0	0	0	40	60	100
4	BTESC301	ESC	Basic Electronics Engineering	3	1	0	4	40	60	100
5	BTEEE301	PCC	Network Analysis	3	1	0	4	40	60	100
6	BTESC303	ESC	Material Science	3	1	0	4	40	60	100
Practical										
7	BTESC 301P	ESC	Basic Electronics Engineering Lab	-	-	2	1	30	20	50
8	BTEEE401 P	PCC	Network Analysis Lab	-	-	2	1	30	20	50
Total				**16**	**5**	**4**	**25**	**300**	**400**	**700**

SEMESTER-IV

S. No.	Code No.	Category	Name of the Subjects	Periods			Credits	Marks		
				L	T	P		IA	TE	TM
1	BTEEE402	PCC	Electrical Machines - I	3	1	0	4	40	60	100
2	BTEEE403	PCC	Electrical Measurements and Instrumentation	3	1	0	4	40	60	100
3	BTEEE404	PCC	Electromagnetic Field Theory	3	1	0	4	40	60	100
4	BTEEE405	PCC	Signals and Systems	3	1	0	4	40	60	100
5	BTEEE503	PCC	Analog Electronics	3	1	0	4	40	60	100
Practical										
6	BTEEE402P	PCC	Electrical Machines – I Lab	-	-	2	2	30	20	50
7	BTEEE403P	PCC	Electrical Measurements and Instrumentation Lab	-	-	2	2	30	20	50
8	BTEEE503P	PCC	Analog Electronics Lab	0	0	2	2	30	20	50
9	BTEEE407P	EEC	Summer Internship - I	-	-	-	-	-	-	-
Total				**15**	**5**	**6**	**26**	**260**	**340**	**600**

SEMESTER-V

S. No.	Code No	Category	Name of the subjects	Periods			Credits	Marks		
				L	T	P		IA	TE	TM
1	BTEEE501	PCC	Digital Electronics	3	1	0	4	40	60	100
2	BTEEE502	PCC	Electrical Machines - II	3	1	0	4	40	60	100
3	BTEEE406	PCC	Communications Systems	3	1	0	4	40	60	100
4	BTEEE504	PCC	Elements of Power System	3	0	0	3	40	60	100
5	BTEEE505	PCC	Digital Signal Processing	3	0	0	3	40	60	100
6	BTHSMC506	HSMC	HSS/ Management Elective - I	3	0	0	3	40	60	100
7	BTHSMC506	HSMC	Indian Constitution	3	0	0	3	40	60	100
			Practical							
8	BTEEE501P	PCC	Digital Electronics Lab	0	0	2	2	30	20	50
9	BTEEE502P	PCC	Electrical Machines – II Lab	0	0	2	2	30	20	50
TOTAL				**21**	**3**	**4**	**28**	**330**	**420**	**750**

SEMESTER-VI

S. NO	Code No	Category	Name of the subjects	Periods			Credits	Marks		
				L	T	P		IA	TE	TM
1	BTEEE601	PCC	Control Systems	3	0	0	3	40	60	100
2	BTEEE602	PCC	Power System Analysis	3	1	0	4	40	60	100
3	BTEEE603	PCC	Power Electronics	3	0	0	3	40	60	100
4	BTEEE604	PCC	Power Plant Engineering	3	0	0	3	40	60	100
5	BTEEE605	PCC	Product innovation & Entrepreneurship	3	0	0	3	40	60	100
6	BTHSMC606	HSMC	HSS/ Management Elective - II	3	0	0	3	40	60	100
			Practical							
7	BTEEE601P	PCC	Control Systems Lab	0	0	2	2	30	20	50
8	BTEEE602P	PCC	Power System Simulation Lab	0	0	2	2	30	20	50
9	BTEEE603P	PCC	Power Electronics Lab	0	0	2	2	30	20	50
10	BTEEE607P	EEC	Summer Internship - II	-	-	-	-	-	-	-
11	BTEEE608P	EEC	Engg. Project – 1 (Literature Review)	0	0	4	4	30	20	50
TOTAL				**18**	**1**	**10**	**29**	**360**	**440**	**800**

SEMESTER-VII

S. NO	Code No	Category	Name of the subjects	Periods			Credits	Marks		
				L	T	P		IA	TE	TM
1	BTEEE701	PEC	Professional Elective – 1	3	0	0	3	40	60	100
2	BTEEE702	PEC	Professional Elective – 2	3	0	0	3	40	60	100
3	BTEEE703	OEC	Open Elective – 1	3	0	0	3	40	60	100
4	BTEEE704	OEC	Open Elective - 2	3	0	0	3	40	60	100
			Practical							
5	BTEEE705P	EEC	Engg. Project – 2 (Design & Analysis)	0	0	4	2	60	40	100
6	BTEEE706P	SEM	Seminar	0	0	2	1	30	20	50
TOTAL				**12**	**0**	**6**	**15**	**250**	**300**	**550**

SEMESTER-VIII

S.No.	Code No.	Category	Name of the Subjects	Periods			Credits	Marks		
				L	T	P		IA	TE	TM
1	BTEEE801	PEC	Professional Elective-3	3	0	0	3	40	60	100
2	BTEEE802	OEC	Open Elective-3	3	0	0	3	40	60	100
			Practical							
3	BTEEE803P	EEC	Engineering Project-3 (Prototype & Testing)	-	-	16	8	120	80	200
Total				**6**	**0**	**16**	**14**	**200**	**200**	**400**

PROFESSIONAL ELECTIVE COURSES

CATEGORY	TECHNOLOGY GROUP	INDUSTRY SECTOR GROUP	CREDITS
PEC	Internet of Things	Electric Vehicles	3
PEC	Mechatronics	Embedded Systems	3
PEC	Renewable Energy Sources	Electric Safety	3
PEC	Communications Systems	Biomedical Engineering	3
PEC	VLSI Design	Building Cyber Physical Systems	3
PEC	Biosensors	Introduction to Robotics and Automation	3

SEMESTER-VII

S. NO	Code No	Category	Name of the subjects	Periods			Credits	Marks		
				L	T	P		IA	TE	TM
1	BTEEE701	PEC	Professional Elective – 1	3	0	0	3	40	60	100
2	BTEEE702	PEC	Professional Elective – 2	3	0	0	3	40	60	100
3	BTEEE703	OEC	Open Elective – 1	3	0	0	3	40	60	100
4	BTEEE704	OEC	Open Elective - 2	3	0	0	3	40	60	100
			Practical							
5	BTEEE705P	EEC	Engg. Project – 2 (Design & Analysis)	0	0	4	2	60	40	100
6	BTEEE706P	SEM	Seminar	0	0	2	1	30	20	50
TOTAL				**12**	**0**	**6**	**15**	**250**	**300**	**550**

SEMESTER-VIII

S.No.	Code No.	Category	Name of the Subjects	Periods			Credits	Marks		
				L	T	P		IA	TE	TM
1	BTEEE801	PEC	Professional Elective-3	3	0	0	3	40	60	100
2	BTEEE802	OEC	Open Elective-3	3	0	0	3	40	60	100
			Practical							
3	BTEEE803P	EEC	Engineering Project-3 (Prototype & Testing)	-	-	16	8	120	80	200
Total				**6**	**0**	**16**	**14**	**200**	**200**	**400**

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CATEGORY	TECHNOLOGY GROUP	INDUSTRY SECTOR GROUP	CREDITS
PEC	Internet of Things	Electric Vehicles	3
PEC	Mechatronics	Embedded Systems	3
PEC	Renewable Energy Sources	Electric Safety	3
PEC	Communications Systems	Biomedical Engineering	3
PEC	VLSI Design	Building Cyber Physical Systems	3
PEC	Biosensors	Introduction to Robotics and Automation	3

OPEN ELECTIVE COURSES

S. No.	Category	Name of the Subject	Semester	Credits
1	OEC	Optimization Techniques	7/8	3
2	OEC	Microwave Engineering	7/8	3
3	OEC	Industrial Management	7/8	3
4	OEC	Power System Protection	7/8	3
6	OEC	Power Quality	7/8	3
7	OEC	Industrial Safety	7/8	3
8	OEC	Industrial drives	7/8	3
9	OEC	Sensors and Actuators	7/8	3
10	OEC	Renewable Energy Systems	7/8	3
11	OEC	Communication Engineering	7/8	3

HUMANITIES & SOCIAL SCIENCES COURSES [HS] & MANAGEMENT COURSES

Humanities & Social Sciences & Mgt. Electives (HSM): Any 2 courses from the list of those offered.

S. No	Category	Subject	Semester	Credits
1	HSMC	Communication Skills / English (Compulsory	2	3
2	HSMC	Universal Human Values-2 (Compulsory course)	2	3
3	HSMC	Industrial Psychology	5/6	3
4	HSMC	Operations Research	5/6	3
5	HSMC	Project Management	5/6	3
6	HSMC	Finance & Accounting	5/6	3
7	HSMC	Indian Constitution	5/6	3