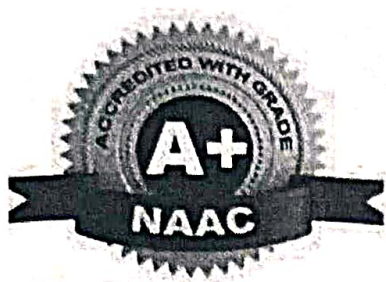




TULSIRAMJI GAIKWAD-PATIL
College of Engineering & Technology

Mohgaon, Wardha Road, Nagpur - 441 108

An Autonomous Institute



DEPARTMENT OF ELECTRICAL ENGINEERING

B.Tech. Electrical Engineering

Teaching Scheme

Considering

**National Education
Policy 2020**

From

Academic Year 2026-27

Vision of Institute

To emerge as a learning Center of Excellence in the National Ethos in domains of Science, Technology and Management.

Mission of Institute

1. To strive for rearing standard and stature of the students by practicing high standards of professional ethics, transparency and accountability.
2. To provide facilities and services to meet the challenges of Industry and Society.
3. To facilitate socially responsive research, Innovation and entrepreneurship.
4. To ascertain holistic development of the students and staff members by inculcating knowledge and profession as work practices.

Vision of the Department

To emerge as a learning hub and center of excellence in the domain of Electrical Engineering.

Mission of the Department

1. To disseminate knowledge replete with quality education in the field of Electrical Engineering in meticulous and methodical manner.
2. To provide platform to address societal issues as well as challenges faced by industries.
3. To develop research culture and inculcate innovative and entrepreneurial skills.
4. To ensure overall development of students and staff by instilling knowledge and professional ethics as a part of lifelong learning.

Program Education Objectives (PEO)

1. Demonstrate and analyse the fundamental knowledge with respect to the various domains of Electrical Engineering.
2. Investigate and apply modern tools to develop innovativeness in different applications of Electrical Engineering domain.
3. Integrate new emerging trends and concepts in Electrical Engineering profession for sustainable development.
4. Develop professionals having managerial and administrative Qualities for Electrical Engineering related industries.
5. Promote lifelong learning, to prepare for the next challenges in the field of Electrical Engineering.

Program Outcomes(PO)

PO1: Engineering Knowledge Apply knowledge of mathematics, natural science, engineering fundamentals, and specialized engineering knowledge to solve complex engineering problems.

PO2: Problem Analysis Identify, formulate, review research literature, and analyse complex engineering problems using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design / Development of Solutions Design solutions for complex engineering problems and design system components or processes that meet specified needs with due consideration for public health, safety, cultural, societal, and environmental factors.

PO4: Conduct Investigations of Complex Problems Use research-based knowledge and methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

PO5: Modern Tool Usage Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, with an understanding of limitations.

PO6: The Engineer and Society Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal, and cultural issues relevant to professional engineering practice.

PO7: Environment and Sustainability Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of sustainable development.

PO8: Ethics Apply ethical principles and commit to professional ethics, responsibilities, and norms of engineering practice.

PO9: Individual and Team Work Function effectively as an individual, and as a member or leader in diverse teams and multidisciplinary settings.

PO10: Communication Communicate effectively on complex engineering activities with the engineering community and society through reports, presentations, documentation, and clear instructions.

PO11: Project Management and Finance Demonstrate knowledge and understanding of engineering management principles and apply them to manage projects, resources, and finances in multidisciplinary environments.

Program Specific Outcomes (PSO)

PSO1: Formulate the solutions to Electrical and Electronics Engineering problems using the basic concepts.

PSO2: Develop the process to interpret networks parameters in power system operation and control with their protection and driving mechanisms.

PSO3: Apply project-based learning to conduct experiments with Electrical Machines, Power Electronics to develop energy efficient system



TULSIRAMJI GAIKWAD-PATIL COLLEGE OF ENGINEERING & TECHNOLOGY

Wardha Road, Nagpur - 441108
Accredited with NAAC A+ Grade & NBA Accredited (EE, ME, CE & ECE)
Approved by AICTE, New Delhi, Govt. of Maharashtra
(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)



Department of Basic Sciences and Humanities

Scheme of Instruction for First Year of B. Tech. (UG) Programme Group-B Semester - I (EE/ECE)

SN	Sem	Type	BoS / Dep t	Sub. Code	Subject	TP	Contact Hours				Cred Its	% Weightage			TOTAL	ESE Duratio n Hours
							L	P	SL	Hrs		CT/ I A	CA	ESE		
FIRST SEMESTER (GROUP-B)																
1	1	BSC	S&H	BSH41101	Linear Algebra and Calculus	T	4	0	2	6	4	30	10	60	100	3
2	1	BSC	S&H	BSH41109	Energy and Battery Technology	T	3	0	2	5	3	30	10	60	100	3
3	1	BSC	S&H	BSH41110	Energy and Battery Technology -Lab	P	0	2	-	2	1	25	-	25	50	-
4	1	ESC	ECE	BEC41101	Digital Circuits and Design	T	3	0	2	5	3	30	10	60	100	3
5	1	IKS	S&H	BSH41204	Indian Ancient Knowledge	T	2	0	2	4	2	14	05	30	50	1
6	1	ESC	ME	BME41101	IDEA-Lab & Engineering Workshop	P	0	4	-	4	2	50	-	-	50	-
7	1	ESC	CE	BCE41102	Environment Sustainability -Lab	P	0	2	-	2	1	25	-	25	50	-
8	1	VSEC	CSE	BCS41104	Fundamentals of Computer-Lab	P	0	2	-	2	1	25	-	25	50	-
9	1	VSEC	S&H	BSH41205	Social Internship	P	0	2	-	2	1	25	-	-	25	-
10	1	PCC	ECE	BEC41102	Digital Circuits and Design -Lab	P	0	4	-	4	2	25	-	25	50	-
11	1	CC	S&H	BSH41X01	Liberal Learning Module-I	P	0	4	-	4	2	50	-	-	50	-
TOTAL FIRST SEM							12	20	08	40	21	330	35	310	675	10
SECOND SEMESTER (GROUP-B)																
1	2	BSC	S&H	BSH41201	Differential Equation and Statistics	T	4	0	2	6	4	30	10	60	100	3
2	2	BSC	S&H	BSH41207	Semiconductor Physics & Optics	T	3	0	2	5	3	30	10	60	100	3
3	2	BSC	S&H	BSH41208	Semiconductor Physics & Optics -Lab	P	0	2	-	2	1	25	-	25	50	-
4	2	ESC	EE	BEE41201	Principle of Electrical Engineering	T	3	0	2	5	3	30	10	60	100	3
5	2	ESC	EE	BEE41202	Principle of Electrical Engineering -Lab	P	0	2	-	2	1	25	-	25	50	-
6	2	ESC	ME	BME41202	Engineering & Computer Graphics	T	2	0	2	4	2	15	5	30	50	1
7	2	ESC	IT	BIT41205	'C' Language Lab	P	0	2	2	4	1	25	-	25	50	-
8	2	VSEC	CE	BCE41203	Computer Aided Drawing -Lab	P	0	2	-	2	1	25	-	25	50	-
9	2	VSEC	S&H	BSH41202	Professional Etiquette-Lab	P	0	2	-	2	1	25	-	-	25	-
10	2	AEC	S&H	BSH41204	Digital Wellness & Basic Communication Lab	P	0	4	-	4	2	50	-	-	50	-
11	2	CC	S&H	BSH41Y01	Liberal Learning Module-II	P	0	4	-	4	2	50	-	-	50	-
TOTAL SECOND SEM							12	18	10	40	21	330	35	310	675	10
Course Category		BSC/ESC (Basic Science Course/ Engineering Science Course)		PCC (Programme Core courses)	Multidisciplinary courses	VSEC (Skill Course)	Social Science & Management				Experiential Learning Courses		CC (Co-Curricular Courses)			
							AEC (Ability Enhancement Course)		IKS (Indian Knowledge System)							
Credits SEM-I		08 / 06		-	-	02	02		-		-		02			
Credits SEM-II		08 / 07		02	-	02	-		02				02			
Cumulative Sum		16 / 13		02	-	04	02		02		-		04			

ROGRESSIVE TOTAL CREDITS: 22+21=43

				July, 2025	4.00	Applicable for AY 2025-26 Onwards
Chairperson	Dean Academics	Vice Principal	Principal	Date of Release	Version	



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Department of Basic Sciences and Humanities

Scheme of Instruction for First Year of B. Tech. (UG) Programme
Group-B (EE/ECE)

Liberal Learning Modules for SEM-I

SN	Sem	Type	BoS / Dept	Sub. Code	Subject	T/P	Contact Hours			Credit	Weightage		
							L	P	Prs		INT (I-Certificate)	ESE (MCQ)	External Practical
1	1	CC	S&H	BSH42Y01	Art & Craft	P	2	2	4	2	25	-	25
2	1	CC	S&H	BSH42Y02	Poster & Video Design	P	2	2	4	2	25	-	25
3	1	CC	S&H	BSH42Y03	IPD (Integrated of Personality Development)	P	2	2	4	2	25	25	-
4	1	CC	S&H	BSH42Y04	Sports (Outdoor & Indoor)	P	2	2	4	2	25	-	25
5	1	CC	S&H	BSH41X05	Yoga Practices & NSS	P	2	2	4	2	25	-	25
6	1	CC	S&H	BSH41X06	Interactive English (Level-1)	P	2	2	4	2	25	25	-
7	1	CC	S&H	BSH41X07	Gateway to Competitive Exams (Level-1)	P	2	2	4	2	25	25	-
8	1	CC	S&H	BSH41X08	Foreign Language - French (Level-1)	P	2	2	4	2	25	25	-
9	1	CC	S&H	BSH41X09	Foreign Language - German (Level-1)	P	2	2	4	2	25	25	-
10	1	CC	S&H	BSH41X10	Foreign Language - Japanese (Level-1)	P	2	2	4	2	25	25	-

Liberal Learning Modules for SEM-II

SN	Sem	Type	BoS / Dept	Sub. Code	Subject	T/P	Contact Hours			Credit	Weightage		
							L	P	Prs		INT (I-Certificate)	ESE (MCQ)	External Practical
1	2	CC	S&H	BSH41X01	Art of Theater	P	2	2	4	2	25	-	25
2	2	CC	S&H	BSH41X02	Fundamental of Music	P	2	2	4	2	25	-	25
3	2	CC	S&H	BSH41X02	CPD (Communication for Personality Development)	P	2	2	4	2	25	-	25
4	2	CC	S&H	BSH41X03	EBCD (Every Body Can Dance)	P	2	2	4	2	25	-	25
5	2	CC	S&H	BSH42Y05	Indian Cuisine	P	2	2	4	2	25	-	25
6	2	CC	S&H	BSH42Y06	Interactive English (Level-2)	P	2	2	4	2	25	25	-
7	2	CC	S&H	BSH42Y07	Gateway to Competitive Exams (Level-2)	P	2	2	4	2	25	25	-
8	2	CC	S&H	BSH42Y08	Foreign Language - French (Level-2)	P	2	2	4	2	25	25	-
9	2	CC	S&H	BSH42Y09	Foreign Language - German (Level-2)	P	2	2	4	2	25	25	-
10	2	CC	S&H	BSH42Y010	Foreign Language - Japanese (Level-2)	P	2	2	4	2	25	25	-

				July, 2025	4.00	Applicable for AY 2025-26 Onwards
Chairperson	Dean Academics	Vice Principal	Principal	Date of Release	Version	

Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur
(An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur)

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering (NBA Accredited)

Scheme of Instructions: Second Year B.Tech. in Electrical Engineering (As Per New NEP 2020)
Semester- III

SN	Sem	Type	BoS/D ept	Sub Code	Subject	T/P	Contact Hours			Credits	% Weightage			ESE Duration	Total Marks
							L	P	Hrs		CT/IA	CA	ESE		
1	III	PCC	EE	BEE42301	Network Theory & Analysis	T	3	-	3	3	30	10	60	3 Hrs	100
2	III	PCC	EE	BEE42302	Fundamentals of Electrical Measurements	T	3	-	3	3	30	10	60	3 Hrs	100
3	III	OEC	EE	BEE423XX	Open Elective-I	T	4	-	4	4	30	10	60	3 Hrs	100
4	III	EEMC	BBA	BBA42308	Engineering Economics and Management	T	2	-	2	2	14	6	30	2 Hrs	50
5	III	VEC	CE	BCE42309	Sustainable Development and goal	T	2	-	2	2	14	6	30	2 Hrs	50
6	III	MDM	SH	BSH42305	Transformation and its Series	T	2	-	2	2	14	6	30	2 Hrs	50
7	III	PCC	EE	BEE42303	Network Theory & Analysis Lab	P	-	2	2	1	-	25	25	2 Hrs	50
8	III	PCC	EE	BEE42304	Fundamentals of Electrical Measurements Lab	P	-	2	2	1	-	25	25	2 Hrs	50
9	III	CEP	EE	BEE42306	Community Project	P	-	4	4	2	-	50	-	2 Hrs	50
10	III	AEC	SH	BSH423XX	Liberal Learning Module-III	P	-	2		2	1	50	-	-	50
Total							16	10	24	22	133	195	320	21 Hrs	650

Course Category	BSC/ESC (Basic Science Course/Engineering Science Course.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective Course)	Multi-disciplinary courses	VSEC (Skill Course)	VEC (Value Education Courses)	Humanities Social Science & Management		Experiential Learning Courses	CC (Liberal Learning Courses)
								AEC (Ability Enhancement Course)	IKS (Indian Knowledge System)		
Credits	-	8	-	4	2	-	2		1	2	-
Cumulative Sum	16/13	10	-	4	2	4	2		5	2	4

PROGRESSIVE TOTAL CREDITS :43+22=65

				June, 2026	1.00	Applicable for AY 2026-27
Director Academics	Vice-Principal / Director Academics	Director (Administration)	Principal Dr. Premnand Naktode	Date of Release	Version	
Department Of Electrical Engineering Tulsiramji Gaikwad-Patil College Nagpur	Tulsiramji Gaikwad-Patil College Of Engineering Nagpur		Principal TGPGET, Nagpur			

Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur

(An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur)

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering (NBA Accredited)

Scheme of Instructions: Second Year B.Tech. in Electrical Engineering

(As Per New NEP 2020) Semester- IV

SN	Sem	Type	BoS/ Dept	Sub Code	Subject	T/P	Contact Hours			Credits	% Weightage			ESE Duration	Total Marks
							L	P	Hrs		CT/IA	CA	ESE		
1	IV	PCC	EE	BEE42401	Electromagnetic Theory	T	3	-	3	3	30	10	60	3 Hrs	100
2	IV	PCC	EE	BEE42402	Electrical Machine-I	T	3	-	3	3	30	10	60	3 Hrs	100
3	IV	PCC	EE	BEE42403	Fundamentals of Power Systems	T	3	-	3	3	30	10	60	3 Hrs	100
4	IV	OEC	EE	B\$\$\$4	Open Elective-II	T	2	-	2	2	15	5	30	2 Hrs	50
5	IV	VEC	EE	BEE42404	Cultural Heritage & Values	P	-	4	4	2	-	25	25	2 Hrs	50
6	IV	VSEC	EE	BEE42406	1. PLC Programming 2. MATLAB	P	-	4	4	2	-	25	25	2 Hrs	50
7	IV	PCC	EE	BEE42407	Electrical Machine-I Lab	P	-	2	2	1	-	25	25	2 Hrs	50
8	IV	EE MC	BBA	BBA424XX	Basics of E-Commerce	T	2	-	4	2	15	5	30	2 Hrs	50
9	IV	MDM	CSE	BCS424XX	Python Programming Lab	P	-	4	4	2	-	25	25	2 Hrs	50
10	IV	AEC	CE	BSH423XX	Liberal Learning Module-IV	T	2	-	2	1	15	5	30	2 Hrs	50
Total							15	14	31	21	135	145	370	23 Hrs	650

Course Category	BSC/ESC (Basic Science Course/Engineering Science Course.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective Course)	Multi-disciplinary courses	VSEC (Skill Course)	VEC (Value Education Courses)	Humanities Social Science & Management		Experiential Learning Courses	CC (Liberal Learning Courses)
								AEC (Ability Enhancement Course)	IKS (Indian Knowledge System)		
Credits	-	10	-	2	2	2	2	1		-	-
Cumulative Sum	16/13	20	-	6	4	6	4	6		2	4

PROGRESSIVE TOTAL CREDITS :65+21=86

Department of Electrical Engineering Tulsiramji Gaikwad - Patil College of Engineering and Technology	Vice-Principal / Director Academics	Director (Administration)	Dr. Premnand Naktode Principal TCPCET, Nagpur	June, 2026	1.00	Applicable for AY 2026-27
				Date of Release	Version	

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering (NBA Accredited)

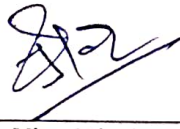
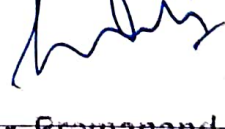
Scheme of Instructions: Third Year B.Tech. in Electrical Engineering (As Per New NEP 2020)

Semester- V

SN	Sem	Type	BoS/ Dept	Sub Code	Subject	T/P	Contact Hours			Credits	% Weightage			ESE Duration	Total Marks
							L	P	Hrs		CT/IA	CA	ESE		
1	V	PCC	EE	BEE43501	Electrical Machines – II	T	3	-	3	3	30	10	60	3 Hrs	100
2	V	PCC	EE	BEE43502	Advanced Control Systems	T	3	-	3	3	30	10	60	3 Hrs	100
3	V	PCC	EE	BEE43503	Power Electronics & Motor Drives	T	3	-	3	3	30	10	60	3 Hrs	100
4	V	OEC	EE	BEE435XX	Open Elective-III	T	2	-	2	2	15	5	30	2 Hrs	50
5	V	PEC	EE	BEE43505-07	Program Elective-I	T	4	-	4	4	30	10	60	3 Hrs	100
6	V	PCC	PCC	BEE43508	Electrical Machines – II Lab	P	-	2	2	1	-	25	25	2 Hrs	50
7	V	PCC	PCC	BEE43509	Power Electronics & Motor Drives Lab	P	-	2	2	1	-	25	25	2 Hrs	50
8	V	MDM	ECE	BECXXXX	Fundamentals of Digital Electronics and Microcontrollers	T	3	-	3	3	30	10	60	3 Hrs	100
9	V	MDM	ECE	BECXXXX	Fundamentals of Digital Electronics and Microcontrollers Lab	P	-	2	2	1	-	25	25	2 Hrs	50
Total							18	6	24	21	165	130	405	23 Hrs	700

Course Category	BSC/ESC (Basic Science Course/Engineering Science Course.)	PCC (Program Core courses)	PEC (Programme Elective courses)	OEC (Open Elective Course)	Multi-disciplinary courses	VSEC (Skill Course)	VEC (Value Education Courses)	Humanities Social Science & Management		Experiential Learning Courses	CC (Liberal Learning Courses)
								AEC (Ability Enhancement Course)	IKS (Indian Knowledge System)		
Credits	-	11	4	2	4	-	-	-	-	-	-
Cumulative Sum	16/13	31	4	8	8	6	4	6		2	4

PROGRESSIVETOTALCREDITS:86+21=107

				June, 2026	1.00	Applicable for AY 2026-27
HOD Chairperson Department of Electrical Engineering	Vice-Principal / Director of Academics	Director (Administration)	Dr. Premnand Nakte Principal	Date of Release	Version	

Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur

(An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur)

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering (NBA Accredited)

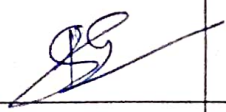
Scheme of Instructions: Third Year B.Tech. in Electrical Engineering (As Per New NEP 2020)

Semester- VI

SN	Sem	Type	BoS/ Dept	Sub Code	Subject	T/P	Contact Hours			Credits	% Weightage			ESE Duration	Total Marks
							L	P	Hrs		CT/IA	CA	ESE		
1	VI	PCC	EE	BEE43601	Power System Modelling and Analysis	T	3	-	3	3	30	10	60	3 Hrs	100
2	VI	PCC	EE	BEE43602	Advanced Protection Systems	T	3	-	3	3	30	10	60	3 Hrs	100
3	VI	VSEC	EE	BEE43603	Internet of Things Lab	P	-	4	4	2	-	50	50	2 Hrs	100
4	VI	PEC	EE	BEE43604- 06	Program Elective-II	T	4	-	4	4	30	10	60	3 Hrs	100
5	VI	PEC	EE	BEE43607- 09	Program Elective-III	T	4	-	4	4	30	10	60	3 Hrs	100
6	VI	PCC	EE	BEE43610	Advanced Protection Systems Lab	P	-	2	2	1	-	25	25	2 Hrs	50
7	VI	PCC	EE	BEE43611	Project (Mini Project)	P	-	2	2	1	-	25	25	2	50
8	VI	MDM	ECE	BEC436XX	Internet of Things	T	2	-	2	2	15	5	30	2 Hrs	50
Total							16	8	24	20	135	120	345	20 Hrs	650

Course Category	BSC/BSC (Basic Science Course/Engineering Science Course.)	PCC (Program Core courses)	PEC (Programme Elective courses)	OEC (Open Elective Course)	Multi-disciplinary courses	VSEC (Skill Course)	VEC (Value Education Courses)	Humanities Social Science & Management		Experiential Learning Courses	CC (Liberal Learning Courses)
								AEC (Ability Enhancement Course)	IKS (Indian Knowledge System)		
Credits	-	8	8	-	2	2	-	-	-	-	-
Cumulative Sum	16/13	39	12	8	10	8	4	6		2	4

PROGRESSIVE TOTAL CREDITS :107+20=127

				June, 2026	1.00	Applicable for AY 2026-27
Chairperson	Vice-Principal / Director Academics	Director (Administration)	Principal	Date of Release	Version	

Department Of Electrical Engineering

Tulsiramji Gaikwad-Patil College

Of Engineering & Technology

Tulsiramji Gaikwad-Patil

College Of Engineering

Principal

TGPGET, Nagpur

Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur

(An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur)

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering (NBA Accredited)

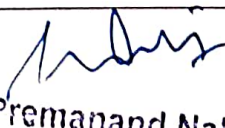
Scheme of Instructions: fourth Year B.Tech. in Electrical Engineering (As Per New NEP 2020)

Semester-VII

SN	Semi	Type	BoS/Dept	Sub Code	Subject	T/P	Contact Hours			Credits	% Weightage			ESE Duration	Total Marks
							L	P	Hrs		CT/IA	CA	ESE		
1	VII	PCC	EE	BEE44701	EHVAC & HVDC Transmission	T	4	-	4	4	30	10	60	3 Hrs	100
2	VII	RM	EE	BEE44702	Research Methodology	T	4	-	4	4	30	10	60	3 Hrs	100
3	VII	Project	EE	BEE44703	Project (Major Project)	P	-	8	8	4	-	50	50	2 Hrs	100
4	VII	PEC	EE	BEE44703-05	Program Elective-IV	T	4	-	4	4	30	10	60	3 Hrs	100
5	VII	PEC	EE	BEE44706-08	Program Elective-V	T	4	-	4	4	30	10	60	3 Hrs	100
6	VII	PCC	EE	BEE44709	High Voltage Engineering Lab	P	-	2	2	1	-	25	25	2 Hrs	50
7	VII	MDM	ECE	BEC447XX	Signals & System	T	4	-	4	4	30	10	60	3 Hrs	100
Total							18	10	30	24	150	125	375	19 Hrs	650

Course Category	BSC/ESC (Basic Science Course/Engineering Science Course.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective Course)	Multi-disciplinary courses	VSEC (Skill Course)	VEC (Value Education Courses)	Humanities Social Science & Management		Experiential Learning Courses	CC (Liberal Learning Courses)
								AEC (Ability Enhancement Course)	IKS (Indian Knowledge System)		
Credits	-	5	8	-	4	-	-	-	-	4	
Cumulative Sum	16/13	45	20	8	14	8	4	6		6	4

PROGRESSIVE TOTAL CREDITS:127+24=151

 HOD Department Of Electrical Engineering Tulsiramji Gaikwad - Patil College Of Engineering And Technology	 Vice-Principal Director Academics Tulsiramji Gaikwad - Patil College Of Engineering And Technology	 Director (Administration) Tulsiramji Gaikwad - Patil College Of Engineering And Technology	 Dr. Premanand Naktode Principal TGPCEET, Nagpur	June, 2026	1.00	Applicable for AY 2026-27
				Date of Release	Version	

Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur

(An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur)

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electrical Engineering (NBA Accredited)

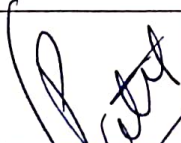
Scheme of Instructions: fourth Year B.Tech. in Electrical Engineering (As Per New NEP 2020)

Semester- VIII

SN	Sem	Type	BoS/ Dept	Sub Code	Subject	T/P	Contact Hours			Credits	% Weight age			ESE Duration	Total Marks
							L	P	Hrs		CT/IA	CA	ESE		
1	VIII	PCC	EE	BEE44701	(Equivalent MOOC Course Approved by Department) (MOOCs- 4 Week Course)	T	3	-	3	3	30	10	60	3 Hrs	100
2	VIII	Internship/ Industry Project	EE	BEE44702	Internship	P	-	24	24	12	-	100	100	2 Hrs	200
Total							3	24	27	15	30	110	160	05 Hrs	300

Course Category	BSC/ESC (Basic Science Course/Engine ering Science Course.)	PCC (Program me Core courses)	PEC (Programme Elective courses)	OEC (Open Elective Course)	Multi- disciplinary courses	VSEC (Skill Course)	VEC (Value Education Courses)	Humanities Social Science & Management		Experiential Learning Courses	CC (Liberal Learning Courses)
								AEC (Ability Enhancement Course)	IKS (Indian Knowledge System)		
Credits	-	3	8	-	4	-	-	-	-	12	-
Cumulative Sum	16/13	48	20	8	14	8	4	6		18	4

PROGRESSIVE TOTAL CREDITS: 151+15=166

				June, 2026	1.00	Applicable for AY 2026-27
Chairperson	Vice-Principal / Director Academics	Director (Administration)	Principal	Date of Release	Version	

HOD

Director Academics

Dr. Premanand Naktode

Principal

TGPCET, Nagpur

Department Of Electrical Engineering
Tulsiramji Gaikwad - Patil College
Of Engineering And Technology
Nagpur

Tulsiramji Gaikwad-Patil
College Of Engineering
And Technology, Nagpur

Program: Electrical Engineering

List of Program Electives offered By Electrical Engineering Department (NBA Accredited)

Program Elective-I	Program Elective-II	Program Elective-III	Program Elective-IV
Semester V	Semester VI	Semester VI	Semester VIII
BEE43505-Solar Power Engineering	BEE43604-Wind Energy Systems and Applications	BEE43607-Ginning Process	BEE44804- Advanced Ginning Process
BEE43506-Utilization of Electrical Energy	BEE43605-Power Plant Engineering and Technology	BEE43608-Modern Electrical Distribution Systems	BEE44805-Power System Operation & Control
BEE43507-High Voltage Technology	BEE43606-Flexible AC Transmission System	BEE43609-Electric Vehicle Technology	BEE44806-Power System Deregulation

Program: Electrical Engineering

List of Open Electives offered By Electrical Engineering Department (NBA Accredited)

Open Elective-I	Open Elective-II	Open Elective-III
Semester-III	Semester-IV	Semester-V
BEE32303: Principles of Renewable Energy Sources	BEE32404:Electrical Power Generation	BEE33504:Energy Audit

Course Category	BSC(Basic Science Course)	ESC (Engineering Science Course.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	Multidisciplinary courses	VSEC(Skill Course)	Humanities Social Science & Management	Experiential Learning Courses	CC(Liberal Learning Courses)	Semester Wise Credits
Semester-I	08	04	02	--	--	02	02	--	02	22
Semester-II	08	08	--	--	--	02	02	--	02	21
Semester-III	--	--	08	--	06	01	04	02	--	22
Semester-IV	--	--	10	--	04	02	06	--	--	21
Semester-V	--	--	11	04	06	--	--	--	--	21
Semester-VI	--	--	08	08	02	02	--	--	--	20
Semester-VII	--	--	04	02	02	--	--	12	--	24
Semester-VIII	--	--	04	06	02	--	--	08	--	15
Cumulative Sum	16	13	47	20	22	08	14	22	04	166