Courses- BTECH (EEE)

1st & 2nd semester

EEBE0038	Basic Electrical Engineering
EEBL6027	Basic Electrical Engineering Laboratory

3rd semester

EECA0041	Electrical Circuit Analysis
EEAE0042	Analog Electronics
EEMC0044	Electrical Machines-I
EEAE6028	Analog Electronics Lab
EEMC6029	Electrical Machines-I Lab
EEDE6030	Digital Electronics Lab
EEDE0045	Digital Electronics
EEEF0043	Electromagnetic Fields

4th semester

EEMS0046	Electrical Machines-II
EEPE0047	Power Electronics
EEMS6031	Electrical Machines-II Lab
EEPE6032	Power Electronics Laboratory

5th semester

EEEW0077	Electromagnetic Waves
EEMM0074	Microprocessors and Microcontrollers
EECS6044	Control Systems Laboratory
EEPS0072	Power Systems-I
EECS0073	Control Systems
EESS0075	Signals and Systems
EEED0078	Electronic Devices
EEED0076	Electrical Machine Design
EEMM6042	Microprocessors and Microcontrollers Laboratory
EERS6043	Power Systems-I Laboratory
EEMI6045	Mini Project-I

6th semester

EEPS0079	Power Systems-II
EEMI0080	Measurements and Instrumentation
EEED0081	Electronic Design
EEED0082	Electrical Drives
EEHV0083	High Voltage Engineering

EEDS0084 Digital Control Systems
EEDP0085 Digital Signal Processing
EEES0086 Embedded Systems
EEPS6046 Power Systems-II Laboratory
EEMI6047 Measurements and Instrumentation Lab
EEED6048 Electronic Design Laboratory
EEMI6049 Mini Project-II

7th semester

7.1 Analog and Digital Communication
7.2 Power System Protection
7.3 Renewable Energy Systems
7.4 Optimization Techniques
7.5 Electrical Materials
7.6 Wind and Solar Energy Systems
7.7 Industrial Internship Seminar
7.8 Major Project Phase-I

8th semester

8.1 Power Quality and FACTS
8.2 Power System Dynamics and Control
8.3 Electrical Energy Conservation and Auditing
8.4 Industrial Electrical Systems
8.5 Power Plant Engineering
8.6 Major Project Phase-II

Program Outcomes – UG Programmes

PO1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. **Problem analysis**: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions 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 the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the 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 modeling to complex engineering activities with an understanding of the limitations.

PO6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

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

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

PO10. **Communication**: 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 and design documentation, make effective presentations, and give and receive clear instructions.

PO11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM-SPECIFIC OUTCOMES (PSO) OF B.TECH. IN ELECTRICAL AND ELECTRONICS ENGINEERING

PSO1: Ability to apply and communicate the knowledge gained during the course of the program from all engineering as well as mathematics, basic sciences, social sciences courses and to identify, formulate and solve real-life problems faced in industries and/or research work.

PSO2: Ability to solve ethically and professionally various electrical and electronics engineering problems to meet desired needs within realistic constraints.

PSO3: Ability to demonstrate a systematic and procedural knowledge in electrical and electronics engineering for research and development, teaching and service in relevant industry.

PSO4: Ability to work professionally in the areas of power systems, control systems, manufacturing, software etc. and recognize the need to engage in life-long learning.

Mapping of Courses to PO/PSO

Course code	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
EEBE0038	M	M											M		L	
EEBL6027	M	M											M		L	
BTIA8			M			H		L	H	M		H		H		
EECA0041	H	H	M										H	L	L	
EECA0042	H	M		M	M								H	M	M	
EEEF0043	H	M	L										H		M	
EEMC0044	M	H	L	L									H	M	H	M
EEAE6028	L	L		L	H								M	L	L	H
EEMC6029	M	H	L	L									H	M	H	M
EEDE6030	H	L	M		H								H	L	L	L
EEDE0045	H	L	M										H	L	L	L
EEMS0046	M	H	L	L									H	M	H	M
EEPE0047	L	M	L	M	M								M	L	M	
EEMS6031	M	H	L	L									H	M	H	M
EEPE6032	L	M	L	M	H								M	L	M	
EEPS0072	M	H	L	M	M	M							L	L	H	H
EECS0073	M	M	M	H	L								M	H	M	H
EESS0075	L	H		M	M		L						H	L	M	L
EEED0078	L	M	L	H	M								M	L	M	L
EEED0076	M	H		M	H								M	L	M	H
EEMM6042	H	L	H	L	H								M	L	M	L
EERS6043	M	H	L	M	M	M							L	L	H	H
EEMI6045	H	M	L	H	M				M	M	M	M	M	M	L	H
BTIP12			M			H		L	H	M		H		H		
EEEW0077	M	H				L							M	L	L	
EEMM0074	H	L	H	L	H								M	L	M	L
EECS6044				L	H								L	L	L	H
EEPS0079	M	H	L	M	M	M							L	L	H	H
EEMI0080	M	L	H	L	H								H	L	M	L
EEED0081	H	M		L	H								M	M	L	M
EEED0082	M	H		L	H								M	L	M	H
EEHV0083			M			H	L	M					M		M	H
EEDS0084	L	M	M	H	M								M	H	M	H
EEDP0085	L	H		M	H		L						H	L	M	L
EEES0086	H	L	H	L	H								M	L	M	L
EEPS6046	M	H	L	M	M	M							L	L	H	H
EEMI6047	M	L	H	L	H								H	L	M	L
EEED6048	H	M		L	H								M	M	L	M
EEMI6049	H	M	L	H	M				M	M	M	M	M	M	L	H
7.1	L		M	L	H	L							L	L	M	M
7.2	L	M	H	L	L								M	L	L	H
7.3	L	L	M	L	M	L	H						M			H
7.4	M	M	L	L	H								H			M
7.5			M	L		M	H						L		M	L
7.6	L	L	M	L	M	L	H						M			H
7.7	L		M	M	H	M	M	M	H	M	L	H	H	M	M	H
7.8	H	M	L	H	H				M	M	M	M	M	M	L	H
8.1	M	H	L	M	M	M							L	L	H	H
8.2	M	H	L	M	M	M							L	L	H	H
8.3	M	L	H		L	M	H	M				M	H	L	L	H
8.4	M	L	H	L	H								H	L	M	L

8.5	H	H	M	L			M						L	L	M	H
8.6	H	M	L	H	H				M	M	M	M	M	M	L	H