Shree Santkrupa Institute of Engineering and Technology

Department of Electrical Engineering

Academic Year: 2018-19

Semester: III

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTBSC301	ENGG MATHS 3-M3	3	1	0	4
2	BTEEC302	NETWORK ANALYSIS & SYNTHESIS	3	1	0	3
3	BTEEC303	FLUID MEACHANICS & THERMAL ENGG	2	1	0	3
4	BTEEC304	MEASUREMENT & INSTRUMENTATION	2	1	0	3
5	BTEEEE305C	SIGNALS & SYSTEMS	3	0	0	3
6	BTHM3401	BASIC HUMAN RIGHTS	2	0	0	Audit
7	BTHM306	ENGG ECONOMICS	2	0	0	2
8	BTEEL307	NETWORK ANALYSIS & SYNTHESIS LAB	0	0	2	1
9	BTEEL308	MEASUREMENT & INSTRUMENTATION LAB	0	0	4	2
10	BTEEM309	ELECTRICAL WORKSHOP/MINI PROJECT	0	0	2	1
11	BTEEF310	FIELD TRAINING	0	0	0	1

Semester: IV

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTEEC401	ELECTRICAL MACHINE-I	3	1	0	4
2	BTEEC402	POWER SYSTEM-I	2	1	0	3
3	BTEEC403	ELECTRICAL INSTALLATION & ESTIMATION	2	1	0	3
4	BTEEC404	NUMERICAL METHODS & PROGRAMMING	2	1	0	3
5	BTEEE406A	SOLID STATE DEVICES	2	0	0	2
6	BTID405	PRODUCT DESIGN (ONLINE COURSE)	2	0	0	2
7	BTEEOE407B	NON-CONVENTIONAL ENERGY SOURCES	2	0	0	2
8	BTEEL408	ELECTRICAL MACHINE-I LAB	0	0	2	1
9	BTEEL410	NUMERICAL METHODS & PROGRAMMING LAB	0	0	2	1
10	BTEEL409	POWER SYSTEM-I LAB	0	0	2	1

11	BTEEEL411	SOLID STATE DEVICES LAB	0	0	2	1

Course Outcomes

Semester : III		
Course Name		**Engineering Mathematics – III**
Course Code		**BTBSC301**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to:**
CO 1	Explain the application of the Laplace Transform to find solutions of system of linear equations arising in many engineering problem	
CO 2	Demonstarte and apply the concept Laplace Transform	
CO 3	Interpret Computation of Fourier Transform and their applications to engineering problems	
CO 4	Identify Partial Differential Equations and Their Applications.	
CO 5	Evaluate Functions of Complex Variables.	
Semester : III		
Course Name		**Engineering Economics**
Course Code		**BTHM306**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Define Micro and Macro Economics,Economic Development	
CO 2	Expalin concept of time value of money	
CO 3	Comapre demand in detail	
CO 4	Illustrate Meaning of Production and factors of production	
CO 5	Relate Meaning of market,Supply and law of supply	
CO 6	Find Indian Economy, nature and characteristics	
Semester : III		
Course Name		**Network Analysis & Synthesis**
Course Code		**BTEEC302**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Estimate and analyze D.C. circuits	
CO 2	Illustrate A.C and D.C circuits as complex engineering problems using first principle of mathematics	
CO 3	Demonstrate and formulate a solution plan and methodology for electrical circuit analysis using ‘Network Theorems	

CO 4	Modify appropriate mathematical tools such as Laplace Transform, Z- transform etc.	
Semester : III		
Course Name		**Network Analysis & Synthesis Lab**
Course Code		**BTEEL307**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Collabrate relationship between measured data and Network Theorem to analyze the D.C. circuits	
CO 2	Illustrate measured data for trends and correlations to find step response of RC and RL circuit	
CO 3	Demonstrate proficiency in using Network Theorems to find required parameters of the circuit	
CO 4	Modify Network analysis techniques to determine parameters of Two Port Networks and their inter connections	
Semester : III		
Course Name		**Measurement & Instrumentation**
Course Code		**BTEEC304**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Illustrate various types and applications of electronic instrument.	
CO 2	Compare various errors present in measuring instruments	
CO 3	Identify the condition of balance bridge to find unknown values.	
CO 4	Explain the working principle, selection criteria and applications of various transducers used in measurement systems.	
Semester : III		
Course Name		**Measurement & Instrumentation**
Course Code		**BTEEL308**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Explain working and applications of C.R.O., Digital Storage C.R.O., C.R.O. Probes, Meggar, Tong-tester, P.F. Meter and Phase Shifter.	
CO 2	Measure power and power factor in 3-phase load by Two-wattmeter method.Measure low resistance by Crompton potentiometer, Kelvin's double bridge, and measure earth resistance using fall of potential method.	
CO 3	Illustrate a single-phase energy meter by phantom loading at different power factors.	
CO 4	Determine the working principle, selection criteria and applications of various transducers used in measurement systems.	
CO 5	Examine various types of electronic instrument suitable for specific measurement.	
Semester : III		
Course Name		**SIGNALS & SYSTEMS**

Course Code		**BTEEEE 305C**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Classify of signals and system	
CO 2	Analyze different types of time signal	
CO 3	Summerize and resolve the signals in frequency domain using Fourier series and Fourier transforms.	
CO 4	Analyze signal and system properties like stability and causality using Laplace and Z transforms	
CO 5	Develop input output relationship for linear shift invariant system and understand the convolution operator for continuous and discrete time system.	
Semester : III		
Course Name		**ELECTRICAL WORKSHOP/MINI PROJECT**
Course Code		**BTEEM309**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to**
CO 1	Practice acquired knowledge within the chosen area of technology for project development.	
CO 2	Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach.	
CO 3	Reproduce, improve and refine technical aspects for engineering projects.	
CO 4	Work as an individual or in a team in development of technical projects.	
CO 5	Communicate and report effectively project related activities and findings.	
Semester : III		
Course Name		**Basic Hunam Reights**
Course Code		**BTHM3401**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Expain the history of human rights.	
CO 2	Recall responsibilities of others caste, religion, region and culture.	
CO 3	Remember the importance of groups and communities in the society.	
CO 4	Analyse the philosophical and cultural basis and historical perspectives of human	
CO 5	Aware of their responsibilities towards the nation.	
Semester : III		
Course Name		**FLUID MEACHANICS & THERMAL ENGG**
Course Code		**BTEEC303**

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Dfine fluid and various properties of the fluid. Determine hydrostatic forces on the plane and curved surfaces.	
CO 2	Explain the stability of floating bodies, several types of flow and the construction and working of Centrifugal and reciprocating pumps. Determine the acceleration of fluid particles.	
CO 3	Explain First & second Law of Thermodynamics, the Concept of Entropy & Enthalpy. Determine indicated power and thermal efficiency of internal combustion engines.	
CO 4	Interpret the operating principles of air compressors, Identify the common types of compressors and their applications.	
CO 5	Illustrate the fundamental principles and applications of refrigeration and air conditioning systems and the basic air conditioning processes on psychometric charts.	
Semester : IV		
Course Name		**Electrical Machine-I**
Course Code		**BTEEC401**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
1	Estimate construction, working and application of single phase transformer & three phase transformer	
2	Implement energy conservation principles	
3	Describe construction, working and application of DC generator	
4	Illustrate behavior of DC motor	
5	Discover a special machine for a particular application	
Semester : IV		
Course Name		**Electrical Installation & Estimation**
Course Code		**BTEEC403**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Evaluate estimates and costing of electrical installations of power system	
CO 2	Develop the estimation of underground and overhead service mains	
CO 3	Analysis of design and estimation of motor installation	
CO4	Implement procedures of contracting and purchase	
CO 5	Examine the erection, repairing and jointing of power lines	
CO 6	Analyze the substation symbols, electrical connections, single line diagram & equipments of substation	
Semester : IV		
Course Name		**Power System-1**
Course Code		**BTEEC402**

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Define the general structure of power system	
CO 2	Develop the knowledge of generation of electricity based on conventional and nonconventional energy sources	
CO 3	Utilize the concept of microgrid and distributed generation	
CO 4	Examine the mechanical and electrical design aspects of transmission system	
CO 5	Evaluate the different types of distribution systems and its design	
Semester : IV		
Course Name		**NUMERICAL METHODS & PROGRAMMING**
Course Code		**BTEEC404**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Solve Ordinary Differential Equations (ODE) by using MATLAB Programming	
CO 2	Demonstrate Approximations and Errors	
CO 3	Evaluate problems on Numerical Differentiation and Integration:	
CO 4	Identify Numerical methods to solve Linear and Nonlinear Equations	
CO 5	Analize the concept of Regression and Interpolation	
Semester : IV		
Course Name		**Power System Lab**
Course Code		**BTEEL409**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Define the considerations of different type of power plant and electrical equipment.	
CO 2	Explain the various components of distribution system	
CO 3	Analyze various types of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram.	
CO 4	Utilize the knowledge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators	
CO 5	Apply techniques to evaluate capacitance and dielectric loss of an insulating material.	
Semester : IV		
Course Name		**Electrical Machine- I (LAB)**
Course Code		**BTEEL408**

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Describe the construction, working and application of Three phase transformer	
CO 2	Illustrate construction, working and application of DC Machine	
CO 3	Implement operational behaviour of DC Motor by taking different test	
CO 4	Categorize behavior of Single Phase Machine performing test	
Semester : IV		
Course Name		**SOLID STATE DEVICES**
Course Code		**BTEEE406A**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Estimate Semiconductor Devices and their applications	
CO 2	Identify various Signal and Power Amplifiers	
CO 3	Analyze the working of Operational Amplifiers	
CO 4	Explain different Active Filters and Oscillators	
CO 5	Design Various Converters and IC applications	
Semester : IV		
Course Name		**Solid State Devices Lab**
Course Code		**BTEEEL411**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Explain characteristics of zener diode	
CO 2	Analyze the working of Clippers and Clampers.	
CO 3	Analyze the characteristics of transistors and amplifires	
CO 4	Identify the working of different IC's	
CO 5	Analyze the working of integrator and differentiator.	
Semester : IV		
Course Name		**NUMERICAL METHODS & PROGRAMMING LAB**
Course Code		**BTEEL410**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Apply numerical methods to solve problems from various scientific and engineering disciplines, including linear and nonlinear equations, interpolation, numerical differentiation and integration, and optimization.	
CO 2	Make use of high-level programming language, such as Python or MATLAB, to implement and solve mathematical models, and to develop algorithms that solve complex problems arising in real-world applications.	

CO 3	Analyze the accuracy and convergence properties of numerical algorithms, and evaluate the performance of different numerical methods for a given problem.	
CO 4	Develop effective computational strategies and techniques for solving large-scale problems, and use modern software tools and libraries to perform data analysis, visualization, and scientific computing.	
CO 5	Communicate technical ideas and results effectively, both orally and in writing, using appropriate mathematical notation, terminology, and visualization tools, and work collaboratively in a team to solve complex problems.	
Semester : IV		
Course Name		**Non Conventional Energy Sources**
Course Code		**BTEEOE407B**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Demonstrate the generation of electricity from various Non-Conventional sources of energy, have a working knowledge on types of fuel cells.	
CO 2	Estimate the solar energy, Utilization of it, Principles involved in solar energy collection and conversion of it to electricity generation	
CO 3	Explore the concepts involved in wind energy conversion system by studying its components, types and performance.	
CO 4	Illustrate ocean energy and explain the operational methods of their utilization.	
CO 5	Acquire the knowledge on Geothermal energy.	
Semester : IV		
Course Name		**Product Design**
Course Code		**BTID405**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Explore the fundamental concepts of probability theory, statistics and commonly used probability distributions.	
CO 2	Identify joint distributions and calculate the different moments in addition to establishing goodness of fit	
CO 3	Analyze the effect of display size, shape, color and function in industrial products	
CO 4	Apply industrial design methodology while designing new products.	
CO 5	Evaluate products for its function, ergonomics and aesthetics	