Shree Santkrupa Institute of Engineering and Technology

Department of Electrical Engineering

Academic Year: 2019-20

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 | втнм306 | 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 | ВТЕЕМ309 | 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 |

Semester: V

| Sr. No. | Course Code | Course Name | Lecture | Tutorial | Practical | Credit |
|---------|-------------|--|---------|----------|-----------|--------|
| 1 | BTEEC501 | ELECTRICAL MACHINE-II | 3 | 1 | 0 | 4 |
| 2 | BTEEC502 | POWER SYSTEM-II | 3 | 1 | 0 | 4 |
| 3 | BTEEC503 | MICROPROCESSOR & MICROCONTROLLER | 3 | 0 | 0 | 3 |
| 4 | BTHM504 | VALUE EDUCATION HUMAN RIGHTS & LEGISLATIVE PROCEDURE | 2 | 0 | 0 | Audit |
| 5 | BTEEE505C | TESTING & MAINTENANCE OF ELECTRICAL EQUIPMENTS | 3 | 0 | 0 | 3 |
| 6 | BTEEE506B | POWER PLANT ENGG | 3 | 0 | 0 | 3 |
| 7 | BTEEL507 | ELECTRICAL MACHINE-II LAB | 0 | 0 | 4 | 2 |
| 8 | BTEEL508 | POWER SYSTEM-II LAB | 0 | 0 | 2 | 1 |
| 9 | BTEEL509 | MICROPROCESSOR & MICROCONTROLLER LAB | 0 | 0 | 2 | 1 |
| 10 | BTEEL510 | IND.TRAINING | 0 | 0 | 0 | 1 |

Semester: VI

| Sr. No. | Course Code | Course Name | Lecture | Tutorial | Practical | Credit |
|---------|-------------|---|---------|----------|-----------|--------|
| 1 | BTEEC601 | CONTROL SYSTEM | 3 | 1 | 0 | 4 |
| 2 | BTEEC602 | PRINCIPLES OF ELECTRICAL MACHINE DESIGN | 3 | 0 | 0 | 3 |
| 3 | BTEEC603 | POWER ELECTRONICS | 3 | 1 | 0 | 4 |
| 4 | BTEEE604A | IND AUTOMATION & CONTROL | 3 | 0 | 0 | 3 |
| 5 | BTEEE605A | SWITCHGEAR & PROTECTION | 3 | 0 | 0 | 3 |
| 6 | BTEEOE606B | PROJECT MANAGEMENT | 3 | 0 | 0 | 3 |
| 7 | BTEEL607 | CONTROL SYSTEM LAB | 0 | 0 | 2 | 1 |
| 8 | BTEEL608 | PRINCIPLES OF ELECTRICAL MACHINE DESIGN LAB | 0 | 0 | 2 | 1 |
| 9 | BTEEL609 | POWER ELECTRONICS LAB | 0 | 0 | 4 | 2 |

Course Outcomes

| Semester : I | П | |
|--------------|---|--|
| Course Nam | ie | Engineering Mathematics – III |
| Course Cod | e | BTBSC301 |
| | Course Outcome Statement | By the end of the course, students will be able to: |
| CO 1 | Explain the applic | ation of the Laplace Transform to find solutions of system of linear equations arising in many engineering problem |
| CO 2 | Demonstarte and a | apply the concept Laplace Transform |
| CO 3 | Interpret Computa | ttion of Fourier Transform and their applications to engineering problems |
| CO 4 | Identify Partial Di | ifferential Equations and Their Applications. |
| CO 5 | Evaluate Function | s of Complex Variables. |
| Semester : I | П | |
| Course Nam | ne | Engineering Economics |
| Course Cod | e | BTHM306 |
| | 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 | 1 1 | f time value of money |
| CO 3 | Comapre demand | |
| CO 4 | | of Production and factors of production |
| CO 5 | | market,Supply and law of supply |
| CO 6 | | my, nature and characteristics |
| Semester : I | | |
| Course Nan | ie | Network Analysis & Synthesis |
| Course Cod | e | BTEEC302 |
| Unitcome | Course Outcome Statement Discuss and explai | By the end of the course, the student will be able to: |
| | Compare A C and | D.C circuits as complex engineering problems using first principle of mathematics |
| CO 3 | • | formulate a solution plan and methodology for electrical circuit analysis using 'Network Theorems' |
| | | first& second order circuits, two port networks to step and sinusoidal input " |
| CO 4 | , 1 | The second offer offering, the post networks to step and sinusordal input |
| Semester : I | | |
| Course Nan | ne | Network Analysis & Synthesis Lab |

| Course Cod | e | BTEEL307 |
|-------------------------|-----------------------------|---|
| Course | | |
| Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Develop relationsh | ip between measured data and Network Theorem to analyze the D.C. circuits |
| CO 2 | Differentiate meas | ured data for trends and correlations to find step response of RC and RL circuit |
| CO 3 | Demonstrate prom | ciency in using inclinors. Theorems to find required parameters of the circuit |
| | | natysis techniques to determine parameters of 1 wo Port Networks and their inter connections |
| Semester : I | II | |
| Course Nam | | Measurement & Instrumentation |
| Course Cod | e | BTEEC304 |
| Course | C | |
| Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Illustrate various ty | pes and applications of electronic instrument. |
| CO 2 | Compare various e | errors present in measuring instruments |
| CO 3 | Identify the condit | ion of balance bridge to find unknown values. |
| CO 4 | Explain the working | ng principle, selection criteria and applications of various transducers used in measurement systems. |
| Semester : I | II | |
| Course Nan | | Measurement & Instrumentation Lab |
| Course Cod | e | BTEEL308 |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Explain working a | 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 | | d power factor in 3-phase load by Two-wattmeter method. Measure low resistance by Crompton potentiometer, Kelvin's double bridge, and measure earth |
| CO 3 | Illustrate a single-p | hase energy meter by phantom loading at different power factors. |
| CO 4 | Determine the wor | king principle, selection criteria and applications of various transducers used in measurement systems. |
| CO 5 | Examine various ty | ypes of electronic instrument suitable for specific measurement. |
| Semester : I | II | |
| Course Nan | ne | SIGNALS & SYSTEMS |
| Course Cod | e | BTEEEE305C |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Classify of signals | s and system |
| CO 2 | | ypes of time signal |
| CO 3 | | solve the signals in frequency domain using Fourier series and Fourier transforms. |
| CO 4 | | system properties like stability and causality using Laplace and Z transforms |
| CO 5 | | out relationship for linear shift invariant system and understand the convolution operator for continuous and discrete time system. |
| Semester : I | | |
| Course Nam | | ELECTRICAL WORKSHOPS/MINI PROJECT |
| Course Cod | e | BTEEM309 |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Practice acquired l | nowledge within the chosen area of technology for project development. |
| CO 2 | Identify, discuss ar | ad justify the technical aspects of the chosen project with a comprehensive and systematic approach. |
| CO 3 | Reproduce, impro- | we and refine technical aspects for engineering projects. |
| CO 4 | | ual or in a team in development of technical projects. |
| CO 5 | | report effectively project related activities and findings. |
| Semester : I | | пероп опесатогу ръзрес тошесе вситиесе вим пимище. |
| Semester : I | | |

| Course Course BTHM 340 By the end of the course, the student will be able to: Statement State | | | |
|--|-------------------|-----------------------------|---|
| Course | | | BASIC HUMAN RIGHTS |
| Statement Stat | | e | BTHM 3401 |
| CO 2 Analyse the philosophical and cultural basis and historical perspectives of human | Outcome | | By the end of the course, the student will be able to: |
| Col 3 | | | · · · · · · · · · · · · · · · · · · · |
| Col | CO 2 | Recall responsibili | ties of others caste, religion, region and culture. |
| Semester : III | CO 3 | Remember the imp | portance of groups and communities in the society. |
| Senester: III | CO 4 | Analyse the philos | ophical and cultural basis and historical perspectives of human |
| Course Name FLUID MEACHANICS & THERMAL ENGG | CO 5 | Aware of their res | ponsibilities towards the nation. |
| Course C | Semester : I | II | |
| Course Outcome Statement | Course Nam | ne e | FLUID MEACHANICS & THERMAL ENGG |
| Source Outcome Statement | Course Cod | e | BTEEC303 |
| Explain the stability of floating bodies, several types of flow and the construction and working of Centrifugal and reciprocating pumps. Determine the acceleration of the CO 3 | Outcome | Course Outcome Statement | By the end of the course, the student will be able to: |
| Explain First & second Law of Thermodynamics, the Concept of Entropy & Enthalpy. Detremine indicated power and thermal efficiency of internal combustion engine | CO 1 | Dfine fluid and var | rious properties of the fluid. Determine hydrostatic forces on the plane and curved surfaces. |
| 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 Outcome Statement By the end of the course, the student will be able to: Stock Course Course Course Course Course Course Course Course Course Course Course | | | |
| Co S 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 Steering | CO 3 | Explain First & see | cond Law of Thermodynamics, the Concept of Entropy & Enthalpy. Detremine indicated power and thermal efficiency of internal combustion engines. |
| Semester: IV Course Name ELECTRICAL MACHINE-I Course Ode BTEC401 Course Outcome No Statement By the end of the course, the student will be able to: No Describe construction, working and application of single phase transformer & three phase transformer CO 2 Demonstrate energy conservation principles CO 3 Implement construction, working and application of DC generator CO 4 Organize behavior of DC motor CO 5 Use a special machine for a particular application Semester: IV Course Name Electrical Installation & Estimation Course Code BTEC403 Course Outcome Name Statement 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 CO 4 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 SOLID STATE DEVICES Course Outcome Course Outcome Source Outcome Semester = IV Course Outcome Source Outcome Course Outcome Source Outcome Semester = IV Course Outcome Source Outcome Course Out | CO 4 | Interpret the opera | ting principles of air compressors, Identify the common types of compressors and their applications. |
| Course Code BTEC401 Course Outcome No Cot By the end of the course, the student will be able to: Co 1 Describe construction, working and application of single phase transformer & three phase transformer CO 2 Demonstrate energy conservation principles CO 3 Implement construction, working and application of DC generator CO 4 Organize behavior of DC motor CO 5 Use a special machine for a particular application Semester: IV Course Name Electrical Installation & Estimation Course Code BTEEC403 Course Outcome No Statement CO 1 Evaluate estimates and costing of electrical installations of power system CO 2 Develop the estimation of underground and overhead service mains CO 4 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 SOLID STATE DEVICES Course Outcome By the end of the course, the student will be able to: Semester: IV Course Outcome Same SOLID STATE DEVICES Course Outcome Outcome Course Outcome By the end of the course, the student will be able to: Semester: IV Course Outcome Sume Solid State of the course, the student will be able to: Semester: IV Course Outcome By the end of the course, the student will be able to: Semester: IV Course Outcome By the end of the course, the student will be able to: Semester: IV Course Outcome By the end of the course, the student will be able to: Semester: IV Course Outcome By the end of the course, the student will be able to: Semester: By the end of the course, the student will be able to: Semester: By the end of the course, the student will be able to: Semester: By the end of the course, the student will be able to: Semester: IV Course Outcome By the end of the course, the student will be able to: | CO 5 | Illustrate the funda | mental principles and applications of refrigeration and air conditioning systems and the basic air conditioning processes on psychometric charts. |
| Course Code | Semester : I | V | |
| Course Outcome No Statement By the end of the course, the student will be able to: No Describe construction, working and application of single phase transformer & three phase transformer Demonstrate energy conservation principles Demonstrate energy conservation principles Organize behavior of DC motor Use a special machine for a particular application Semester: IV Course Name Electrical Installation & Estimation Course Code BTEEC403 Course Outcome No Statement Develop the 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 (CO 4 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 Code BTEEC406 Course Name SOLID STATE DEVICES Course Course Course Outcome By the end of the course, the student will be able to: Semester: By the end of the course, the student will be able to: Semester: IV Course Code BTEEC406A Course Outcome By the end of the course, the student will be able to: By the end of the course, the student will be able to: Semester: IV Course Outcome By the end of the course, the student will be able to: By the end of the course, the student will be able to: By the end of the course, the student will be able to: By the end of the course, the student will be able to: By the end of the course, the student will be able to: By the end of the course, the student will be able to: By the end of the course, the student will be able to: | Course Nam | 1e | ELECTRICAL MACHINE-I |
| Outcome No Statement Statement By the end of the course, the student will be able to: Statement Describe construction, working and application of single phase transformer & three phase transformer CO 2 Demonstrate energy conservation principles CO 3 Implement construction, working and application of DC generator CO 4 Organize behavior of DC motor Use a special machine for a particular application Semester: IV Course Name Electrical Installation & Estimation Course Course Outcome Statement Statement Statement Statement Outcome No Statement Sta | Course Cod | e | BTEEC401 |
| CO 1 Describe construction, working and application of single phase transformer & three phase transformer CO 2 Demonstrate energy conservation principles CO 3 Implement construction, working and application of DC generator CO 4 Organize behavior of DC motor CO 5 Use a special machine for a particular application Semester: IV Course Name Electrical Installation & Estimation Course Code BTEEC403 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 Implement procedures of contracting and purchase CO 6 Analyze the substation symbols, electrical connections, single line diagram & equipments of substation Semester: IV Course Name SOLID STATE DEVICES Course Outcome Outc | Outcome | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 3 Implement construction, working and application of DC generator CO 4 Organize behavior of DC motor CO 5 Use a special machine for a particular application Semester: IV Course Name Electrical Installation & Estimation Course Code BTEEC403 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 CO 4 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 SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Ry the end of the course, the student will be able to: When the course of the course, the student will be able to: Semester: When the course, the student will be able to: Semester: When the course, the student will be able to: Course Outcome Ry the end of the course, the student will be able to: | CO 1 | Describe construct | ion, working and application of single phase transformer & three phase transformer |
| CO 4 Organize behavior of DC motor CO 5 Use a special machine for a particular application Semester: IV Course Name Electrical Installation & Estimation Course Code BTEEC403 Course Outcome No Statement 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 CO 4 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 SOLID STATE DEVICES Course Code BTEEE406A Sy the end of the course, the student will be able to: By the end of the course, the student will be able to: By the end of the course, the student will be able to: By the end of the course, the student will be able to: By the end of the course, the student will be able to: | CO 2 | Demonstrate energ | y conservation principles |
| Semester : IV | CO 3 | Implement constru | ction, working and application of DC generator |
| Semester: IV Course Name Electrical Installation & Estimation Course Code BTEC403 Course Outcome No 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 CO 4 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 SOLID STATE DEVICES Course Ode BTEEE406A Course Outcome Outco | CO 4 | Organize behavior | of DC motor |
| Course Code Course Outcome No Course Outcome Statement CO 2 Develop the estimation of underground and overhead service mains CO 3 Analysis of design and estimation of motor installation CO 4 Implement procedures of contracting and purchase CO 5 Examine the crection, repairing and jointing of power lines CO 6 Analyze the substation symbols, electrical connections, single line diagram & equipments of substation Semester: IV Course Name SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Outcome Outcome Outcome Outcome Course Outcome Outcom | CO 5 | Use a special mach | nine for a particular application |
| 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 CO 4 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 SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Outcome Outcome By the end of the course, the student will be able to: | Semester : I | V | |
| Course Outcome No 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 CO 4 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 SOLID STATE DEVICES Course Code BTEEE406A Course Outcome O | Course Nam | 1e | Electrical Installation & Estimation |
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| CO 2 Develop the estimation of underground and overhead service mains CO 3 Analysis of design and estimation of motor installation CO 4 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 SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Outcome Outcome Outcome By the end of the course, the student will be able to: | Outcome | | By the end of the course, the student will be able to: |
| CO 3 Analysis of design and estimation of motor installation CO 4 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 SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Outcome Outcome Outcome 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 3 Analysis of design and estimation of motor installation CO 4 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 SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Outcome Outcome Outcome By the end of the course, the student will be able to: | CO 2 | Develop the estima | ation of underground and overhead service mains |
| CO 4 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 SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Outcome Outcome Outcome By the end of the course, the student will be able to: | | | · · · · · · · · · · · · · · · · · · · |
| CO 6 Analyze the substation symbols, electrical connections, single line diagram & equipments of substation Semester: IV Course Name SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Ontcome Outcome By the end of the course, the student will be able to: | | | |
| CO 6 Analyze the substation symbols, electrical connections, single line diagram & equipments of substation Semester: IV Course Name SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Ontcome Outcome By the end of the course, the student will be able to: | CO 5 | Examine the erecti | on, repairing and jointing of power lines |
| Semester : IV Course Name SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Outcome By the end of the course, the student will be able to: | CO 6 | | |
| Course Name SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Course Outcome By the end of the course, the student will be able to: | - | , | 7 7 0 11 |
| Course Name SOLID STATE DEVICES Course Code BTEEE406A Course Outcome Course Outcome By the end of the course, the student will be able to: | Semester : I | V | |
| Course Code Course Outcome Outcome By the end of the course, the student will be able to: | | - | SOLID STATE DEVICES |
| Course Outcome By the end of the course, the student will be able to: | | | |
| No Statement | Course Outcome | Course Outcome | By the end of the course, the student will be able to: |
| CO 1 Estimate Semiconductor Devices and their applications | CO 1 | Estimate Semicono | ductor Devices and their applications |
| CO 2 Identify various Signal and Power Amplifiers | CO 2 | Identify various Si | gnal and Power Amplifiers |
| CO 3 Analyze the working of Operational Amplifiers | CO 3 | Analyze the worki | ng of Operational Amplifiers |

| CO 4 | Explain different 4 | active Filters and Oscillators |
|--|--|---|
| CO 5 | - | onverters and IC applications |
| Semester : I | | inverters and to appreciations |
| Course Nam | | NUMERICAL METHODS & PROGRAMMING |
| Course Cod | | BTEEC404 |
| | | DIECC404 |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Solve Ordinary Di | fferential Equations (ODE) by using MATLAB Programming |
| CO 2 | Demonstrate Appr | oximations and Errors |
| CO 3 | Evaluate problems | on Numerical Differentiation and Integration: |
| CO 4 | Identify Numerica | methods to solve Linear and Nonlinear Equations |
| CO 5 | Analize the concep | t of Regression and Interpolation |
| Semester : I | IV | |
| Course Nam | ne | Power System-1 |
| Course Cod | le | BTEEC402 |
| Course | g 6 . | |
| 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 | | edge of generation of electricity based on conventional and nonconventional energy sources |
| CO 3 | | of microgrid and distributed generation |
| CO 4 | | anical and electrical design aspects of transmission system |
| CO 5 | | ent types of distribution systems and its design |
| Semester : I | | |
| Course Nam | | Power System Lab |
| Course Cod | le | BTEEL409 |
| Course Outcome | Course Outcome Statement | By the end of the course, the student will be able to: |
| 1110 | | |
| CO 1 | | nations of different type of power plant and efectivear equipment. |
| CO 1 | Define the conside | |
| | Explain the variou | s components of distribution system |
| CO 1 CO 2 | Explain the various ty | s components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. |
| CO 1 CO 2 CO 3 | Explain the variou Analyze various ty Utilize the knowle | s components of distribution system |
| CO 1 CO 2 CO 3 CO 4 | Explain the variou Analyze various ty Utilize the knowled Apply techniques to | s components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators |
| CO 1 CO 2 CO 3 CO 4 | Explain the variou Analyze various ty Utilize the knowle Apply techniques to | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators of evaluate capacitance and dielectric loss of an insulating material. |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester : I | Explain the variou Analyze various ty Utilize the knowle Apply techniques to V | s components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester: I Course Name | Explain the variou Analyze various ty Utilize the knowle Apply techniques to V | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators of evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester: T Course Nam Course Cod Course Outcome | Explain the various ty Utilize the knowle Apply techniques to W Course Outcome Statement | pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators o evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BTEEL408 |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester : I Course Nam Course Cod Course Outcome No | Explain the variou Analyze various ty Utilize the knowle Apply techniques to t | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators o evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BTEEL408 By the end of the course, the student will be able to: |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester : I Course Nam Course Cod Course Outcome No CO 1 | Explain the various ty Utilize the knowled Apply techniques to V me Course Outcome Statement Describe the consultation of the | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators o evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BTEEL408 By the end of the course, the student will be able to: truction, working and application of Three phase transformer |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester : I Course Nam Course Cod Course Outcome No CO 1 CO 2 | Explain the variou Analyze various ty Utilize the knowle Apply techniques to IV me Le Course Outcome Statement Describe the cons Illustrate construct Implement operation | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators of evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BTEEL408 By the end of the course, the student will be able to: Truction, working and application of Three phase transformer too, working and application of DC Machine |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester : F Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 | Explain the variou Analyze various ty Utilize the knowle Apply techniques to V me Le Course Outcome Statement Describe the cons Illustrate construct Implement operatic Categorize behavior | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators of evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BTEEL408 By the end of the course, the student will be able to: truction, working and application of Three phase transformer ion, working and application of DC Machine onal behaviour of DC Motor by taking different test |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester : F Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 | Explain the variou Analyze various ty Utilize the knowle Apply techniques to V me Le Course Outcome Statement Describe the cons Illustrate construct Implement operatic Categorize behavious | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators of evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BTEEL408 By the end of the course, the student will be able to: truction, working and application of Three phase transformer ion, working and application of DC Machine onal behaviour of DC Motor by taking different test |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester : I Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 Semester : I | Explain the various ty Analyze various ty Utilize the knowled Apply techniques to the techniques to | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators of evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BTEEL408 By the end of the course, the student will be able to: Truction, working and application of Three phase transformer sion, working and application of DC Machine parallehaviour of DC Motor by taking different test or of Single Phase Machine performing test |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester: I Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 Semester: I Course Nam | Explain the various ty Analyze various ty Utilize the knowled Apply techniques to the techniques to | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators of evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BTEEL408 By the end of the course, the student will be able to: Intraction, working and application of Three phase transformer son, working and application of DC Machine onal behaviour of DC Motor by taking different test or of Single Phase Machine performing test Solid State Devices Lab |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester: I Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 Semester: I Course Nam Course Cod Course Outcome | Explain the variou Analyze various ty Utilize the knowle Apply techniques to V me Course Outcome Statement Describe the cons Illustrate construct Implement operatio Categorize behavious V me Le Course Outcome Statement | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dge of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators of evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BY the end of the course, the student will be able to: Truction, working and application of Three phase transformer Ton, working and application of DC Machine Total Single Phase Machine performing test Solid State Devices Lab BTEEL411 |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester : Γ Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 Semester : Γ Course Nam Course Cod Course Course Course Course Course Course No | Explain the variou Analyze various ty Utilize the knowle Apply techniques to Course Outcome Statement Describe the cons Illustrate construct Implement operatic Categorize behavious Course Outcome Statement Explain characteris | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dige of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators of evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BTEEL408 By the end of the course, the student will be able to: Truction, working and application of Three phase transformer tion, working and application of DC Machine onal behaviour of DC Motor by taking different test or of Single Phase Machine performing test Solid State Devices Lab BTEEL411 By the end of the course, the student will be able to: |
| CO 1 CO 2 CO 3 CO 4 CO 5 Semester : I Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 Semester : I Course Nam Course Cod Course Outcome No Course Course Outcome No Course Outcome No Course Outcome No Course Outcome No CO 1 | Explain the variou Analyze various ty Utilize the knowle Apply techniques to Course Outcome Statement Describe the cons Illustrate construct Implement operation Categorize behavious Course Outcome Statement Explain characteris Analyze the worki | se components of distribution system pes of transmission line parameter to design transmission line and understand the sending end and receiving end circle diagram. dige of substation, various electrical equipment, high voltage testing of electrical equipment, and flashover voltage testing of insulators of evaluate capacitance and dielectric loss of an insulating material. ELECTRICAL MACHINE-I Lab BTEEL408 By the end of the course, the student will be able to: Truction, working and application of Three phase transformer from, working and application of DC Machine onal behaviour of DC Motor by taking different test or of Single Phase Machine performing test Solid State Devices Lab BTEEL411 By the end of the course, the student will be able to: stics of zener diode |

| CO 4 | Identify the working | og of different IC's |
|--|---|---|
| CO 5 | <u> </u> | ing of integrator and differentiator. |
| Semester : I | | ing of integrator and differentiator. |
| Course Nam | | NUMERICAL METHODS & PROGRAMMING LAB |
| Course Cod | | BTEEL410 |
| Course | | DIEEEAN |
| Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Apply numerical n | nethods to solve problems from various scientific and engineering disciplines, including linear and nonlinear equations, interpolation, numerical |
| 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 |
| CO 3 | Analyze the accura | bey 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, |
| CO 5 | Communicate tech | nical ideas and results effectively, both orally and in writing, using appropriate mathematical notation, terminology, and visualization tools, and work |
| Semester : Γ | IV | |
| Course Nam | ne | Non Conventional Energy Sources |
| Course Cod | le | BTEEOE 407B |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Demonstrate the g | eneration 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 |
| | Explore the conce | ns involved in wind energy conversion system by studying its components, types and performance. |
| CO 3 | | |
| CO 4 | Illustrate ocean en | rgy and explain the operational methods of their utilization. |
| CO 5 | | edge on Geothermal energy. |
| Semester : I | IV | |
| C N | | |
| Course Nam | | Product Design |
| Course Cod | | Product Design BTID405 |
| | | |
| Course Cod Course Outcome | Course Outcome Statement | BTID405 |
| Course Cod Course Outcome No | Course Outcome Statement Explore the fundation | BTID405 By the end of the course, the student will be able to |
| Course Cod Course Outcome No | Course Outcome Statement Explore the fundal Identify joint distri | BY the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. |
| Course Cod Course Outcome No CO 1 | Course Outcome Statement Explore the fundalidentify joint distraint Analyze the effect | By the end of the course, the student will be able to mental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 | Course Outcome Statement Explore the fund. Identify joint distr Analyze the effect | By the end of the course, the student will be able to mental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 | Course Outcome Statement Explore the fundal Identify joint distraction Analyze the effect Apply industrial de Evaluate products | By the end of the course, the student will be able to mental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 | Course Outcome Statement Explore the funds Identify joint district Analyze the effect Apply industrial di- | By the end of the course, the student will be able to mental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V | Course Outcome Statement Explore the funds Identify joint distri Analyze the effect Apply industrial di Evaluate products V | By the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. for its function, ergonomics and aesthetics |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Name | Course Outcome Statement Explore the funds Identify joint distri Analyze the effect Apply industrial di Evaluate products V | By the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. for its function, ergonomics and aesthetics ELECTRICAL MACHINE-II |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Course Outcome | Course Outcome Statement Explore the fund. Identify joint distr Analyze the effect Apply industrial di Evaluate products V Course Outcome Statement | By the end of the course, the student will be able to mental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. for its function, ergonomics and aesthetics ELECTRICAL MACHINE-II BTEEC501 |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No | Course Outcome Statement Explore the fund. Identify joint distr Analyze the effect Apply industrial di Evaluate products V Course Outcome Statement | By the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. for its function, ergonomics and aesthetics ELECTRICAL MACHINE-II BTEECS01 By the end of the course, the student will be able to: cept for AC machine |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 | Course Outcome Statement Explore the funds Identify joint district Analyze the effect Apply industrial di Evaluate products V me Ic Course Outcome Statement Describe basic cor Summarize Synchi | By the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. for its function, ergonomics and aesthetics ELECTRICAL MACHINE-II BTEECS01 By the end of the course, the student will be able to: cept for AC machine |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 1 | Course Outcome Statement Explore the funds Identify joint district Analyze the effect Apply industrial di Evaluate products V me Ic Course Outcome Statement Describe basic cor Summarize Synchs Illustrate construct | By the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. for its function, ergonomics and aesthetics ELECTRICAL MACHINE-II BTEEC501 By the end of the course, the student will be able to: cept for AC machine ronous machine |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 | Course Outcome Statement Explore the funds Identify joint distrance of the funds Analyze the effect Apply industrial date of the funds Evaluate products Vone Course Outcome Statement Describe basic cor Summarize Synchalllustrate construct Analyze different | By the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. for its function, ergonomics and aesthetics ELECTRICAL MACHINE-II BTEEC501 By the end of the course, the student will be able to: copt for AC machine conous machine conous machine conous machine conous machine |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 | Course Outcome Statement Explore the fund: Identify joint distrant Analyze the effect Apply industrial di Evaluate products V me Course Outcome Statement Describe basic cor Summarize Synche Illustrate construct Analyze different Implement a specia | By the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. for its function, ergonomics and aesthetics ELECTRICAL MACHINE-II BTEEC501 By the end of the course, the student will be able to: cept for AC machine conous machine ion & working of 3 phase Induction machine frictional kilowatt motors |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 | Course Outcome Statement Explore the fund: Identify joint district Analyze the effect Apply industrial different in the course Outcome Statement Describe basic cor Summarize Synche Illustrate construct Analyze different in Implement a specie. | By the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. for its function, ergonomics and aesthetics ELECTRICAL MACHINE-II BTEEC501 By the end of the course, the student will be able to: cept for AC machine conous machine ion & working of 3 phase Induction machine frictional kilowatt motors |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V | Course Outcome Statement Explore the fund. Identify joint distrance of the fund. Analyze the effect Apply industrial de Evaluate products Vone Course Outcome Statement Describe basic cor Summarize Synche Illustrate construct Analyze different in Implement a special | By the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products esign methodology while designing new products. for its function, ergonomics and aesthetics ELECTRICAL MACHINE-II BTEEC501 By the end of the course, the student will be able to: cept for AC machine ronous machine for a Working of 3 phase Induction machine frictional kilowatt motors al machine for a particular application application |
| Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course CO 1 CO 2 CO 3 CO 4 CO 5 | Course Outcome Statement Explore the fund. Identify joint distrance of the fund. Analyze the effect Apply industrial de Evaluate products Vone Course Outcome Statement Describe basic cor Summarize Synche Illustrate construct Analyze different in Implement a special | BY the end of the course, the student will be able to amental concepts of probability theory, statistics and commonly used probability distributions. butions and calculate the different moments in addition to establishing goodness of fit of display size, shape, color and function in industrial products seign methodology while designing new products. for its function, ergonomics and aesthetics ELECTRICAL MACHINE-II BTEEC501 By the end of the course, the student will be able to: seept for AC machine ronous machine for a working of 3 phase Induction machine frictional kilowatt motors all machine for a particular application application Testing & Maintenance of Electrical Equipment BTEEC505C By the end of the course, the student will be able to: |

| CO 2 | Drangra the stans o | f various maintenance methods / techniques |
|---|--|---|
| CO 2 | | e shooting methods to improve life of electrical equipment |
| CO 4 | | g procedure for different equipment using proper tools and methods. |
| | <u> </u> | g procedure for different damig proper tools and memous. |
| Semester : V | | Down Dlast Fasin coring |
| Course Cod | | Power Plant Engineering BTEEE506B |
| Course | | DIEDESOOD |
| Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Recall the basics o | f Power Plants. |
| CO 2 | Compare the power | r generation by renewable and non-renewableenergy resources" |
| CO 3 | Classify the differe | ent types of cycles and natural resources used in powerplants and their applications." |
| CO 4 | Illustrate the princi | ple of construction and operation of different conventional power plants. |
| CO 5 | Determine basic co | omponents of power system, energy sources |
| Semester : V | | 1 1 7 7 69 |
| Course Nan | | MICROPROCESSOR AND MICROCONTROLLER |
| Course Cod | - | BTEEC503 |
| Course | | BILLOW |
| Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Explain the archite | cture of Microprocessor 8085 and its operation. |
| CO 2 | | nt ways of interfacing memory and I/O with 8085 microprocessor |
| CO 3 | Design microproc | essor I/O ports in order to interface the processor tovarious devices . |
| CO 4 | Explain the archite | cture, operation and instruction set of microcontroller(8051) |
| CO 5 | Identify the differe | nt ways of interfacing and programming with microcontroller. |
| Semester : V | V | |
| Course Nan | ne | MICROPROCESSOR AND MICROCONTROLLER LAB |
| Course Cod | le | BTEEL509 |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Explain the archite | cture of Microprocessor 8085 and its operation. |
| CO 2 | Design and implen | nent Assembly language programs on 8085 microprocessor. |
| CO 3 | Design interfacing | circuits with 8085 |
| CO 4 | Design and implen | nent programs on 8085 microprocessor |
| CO 5 | Design programs | on Arithmetic Operations. |
| Semester : V | Ÿ | |
| Course Nan | | El. (C. IW. L' H (I AD) |
| | ne | Electrical Machine- II (LAB) |
| Course Cod | | BTEEL507 |
| Course Outcome | | |
| Course | Course Outcome Statement | BTEEL507 By the end of the course, the student will be able to: |
| Course Outcome No | Course Outcome Statement Demonstrate const | BY the end of the course, the student will be able to: ruction, working and application of Sunchronous by performing various test |
| Course Outcome No | Course Outcome Statement Demonstrate const | BTEEL507 By the end of the course, the student will be able to: |
| Course Outcome No CO 1 CO 2 | Course Outcome Statement Demonstrate const Determine operatio | BY the end of the course, the student will be able to: ruction, working and application of Sunchronous by performing various test on of induction motor by performing blocked rotor test |
| Course Outcome No CO 1 CO 2 CO 3 | Course Outcome Statement Demonstrate const Determine operatio Illustrate Starting & | BY the end of the course, the student will be able to: ruction, working and application of Sunchronous by performing various test on of induction motor by performing blocked rotor test |
| Course Outcome No CO 1 CO 2 CO 3 Semester: V | Course Outcome Statement Demonstrate const Determine operation Illustrate Starting & | BY the end of the course, the student will be able to: ruction, working and application of Sunchronous by performing various test on of induction motor by performing blocked rotor test de Speed controling methods of Induction motors |
| Course Outcome No CO 1 CO 2 CO 3 Semester: V Course Nam | Course Outcome Statement Demonstrate const Determine operation Illustrate Starting & | BY the end of the course, the student will be able to: ruction, working and application of Sunchronous by performing various test on of induction motor by performing blocked rotor test & Speed controling methods of Induction motors VALUE EDUCATION HUMAN RIGHTS & LEGISLATIVE PROCEDURE |
| Course Outcome No CO 1 CO 2 CO 3 Semester: V Course Nan Course Cod Course Outcome | Course Outcome Statement Demonstrate const Determine operatic Illustrate Starting & V me le Course Outcome Statement | BTEEL507 By the end of the course, the student will be able to: ruction, working and application of Sunchronous by performing various test on of induction motor by performing blocked rotor test à Speed controling methods of Induction motors VALUE EDUCATION HUMAN RIGHTS & LEGISLATIVE PROCEDURE BTHM504 |
| Course Outcome No CO 1 CO 2 CO 3 Semester : N Course Nan Course Cod Course Outcome No | Course Outcome Statement Demonstrate const Determine operatic Illustrate Starting & V me le Course Outcome Statement | BY the end of the course, the student will be able to: ruction, working and application of Sunchronous by performing various test on of induction motor by performing blocked rotor test & Speed controling methods of Induction motors VALUE EDUCATION HUMAN RIGHTS & LEGISLATIVE PROCEDURE BTHM504 By the end of the course, the student will be able to: of education and self-development |
| Course Outcome No CO 1 CO 2 CO 3 Semester: V Course Nan Course Cod Course Outcome No CO 1 | Course Outcome Statement Demonstrate const Determine operatic Illustrate Starting & V me le Course Outcome Statement Understand value c Develop good value | BY the end of the course, the student will be able to: ruction, working and application of Sunchronous by performing various test on of induction motor by performing blocked rotor test & Speed controling methods of Induction motors VALUE EDUCATION HUMAN RIGHTS & LEGISLATIVE PROCEDURE BTHM504 By the end of the course, the student will be able to: of education and self-development |

| | Expain the history | of human rights |
|---|---|---|
| CO 4 | | · · |
| CO 5 | | ortance of groups and communities in the society. |
| Semester : V | | DOLLAR STORMAN |
| Course Nam | | POWER SYSTEM-II |
| Course Cod | le | BTEEC502 |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Know the fundame | ental concepts of power system. |
| CO 2 | To study different | parameters of power system operation and control |
| CO 3 | Analyze load flow | and Diff. methods of reactive power control. |
| CO 4 | Evaluate diff. meth | nods of fault analysis |
| CO 5 | Know the fundame | ental concepts of power system. |
| Semester : V | V | |
| Course Nam | ne | POWER SYSTEM-II LAB |
| Course Cod | le | BTEEL508 |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Know the fundame | ental concepts of power system. |
| CO 2 | Analyze different t | ypes of short-circuit faults which occur in power systems |
| CO 3 | To study load flow | and Diff. methods of reactive power control. |
| CO 4 | Evaluate diff. meth | nods of fault analysis and stability study using MATLAB |
| CO 5 | To solve optimal p | ower flow problem. |
| Semester : V | VI | |
| Course Nam | ne | PRINCIPLES OF ELECTRICAL MACHINE DESIGN |
| Course Cod | le | BTEEC602 |
| - | | |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| | Statement | By the end of the course, the student will be able to: es of electric machine design. |
| Outcome No | Memorize principl | |
| Outcome No CO 1 | Memorize principl Estimate design di | es of electric machine design. |
| Outcome No CO 1 CO 2 | Memorize principl Estimate design di Evaluate design of | es of electric machine design. fferent electric apparatus |
| Outcome No CO 1 CO 2 CO 3 | Memorize principl Estimate design di Evaluate design of Implement concep | es of electric machine design. fferent electric apparatus AC & DC windings |
| Outcome No CO 1 CO 2 CO 3 CO 4 | Memorize principl Estimate design di Evaluate design of Implement concep Analyuze the know | es of electric machine design. fferent electric apparatus AC & DC windings ts of heating, cooling & Ventilation |
| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 | Memorize principl Estimate design di Evaluate design of Implement concep Analyuze the know | es of electric machine design. fferent electric apparatus AC & DC windings ts of heating, cooling & Ventilation |
| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester : V | Memorize principl Estimate design di Evaluate design of Implement concep Analyuze the know VI ne | es of electric machine design. fferent electric apparatus AC & DC windings ts of heating, cooling & Ventilation Aledge of design of Transformer, by using CAD. |
| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V | Memorize principl Estimate design di Evaluate design of Implement concep Analyuze the know VI ne | ses of electric machine design. efferent electric apparatus AC & DC windings ts of heating, cooling & Ventilation eledge of design of Transformer, by using CAD. Switchgear and Protection |
| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome | Memorize principl Estimate design di Evaluate design of Implement concep Analyuze the know VI ne le Course Outcome Statement | es of electric machine design. fferent electric apparatus AC & DC windings ts of heating, cooling & Ventilation vledge of design of Transformer, by using CAD. Switchgear and Protection BTEEE605A |
| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No | Memorize principl Estimate design di Evaluate design of Implement concep Analyuze the know VI ne le Course Outcome Statement Explain principle | se of electric machine design. fferent electric apparatus AC & DC windings ts of heating, cooling & Ventilation vledge of design of Transformer, by using CAD. Switchgear and Protection BTEEE605A By the end of the course, the student will be able to: s of protective relaying, Different types of switchgear |
| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 | Memorize principl Estimate design di Evaluate design of Implement concep Analyuze the know VI ne le Course Outcome Statement Explain principle Explain principle | se of electric machine design. fferent electric apparatus AC & DC windings ts of heating, cooling & Ventilation reledge of design of Transformer, by using CAD. Switchgear and Protection BTEEE605A By the end of the course, the student will be able to: s of protective relaying, Different types of switchgear of construction, operation and selection of different type of circuit breaker used in power system |
| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester : V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 | Memorize principle Estimate design di Evaluate design of Implement concep Analyuze the know VI ne le Course Outcome Statement Explain principle Explain principle Interprt Digital An | se of electric machine design. Efferent electric apparatus AC & DC windings Its of heating, cooling & Ventilation Aledge of design of Transformer, by using CAD. Switchgear and Protection BTEEE605A By the end of the course, the student will be able to: so of protective relaying, Different types of switchgear of construction, operation and selection of different type of circuit breaker used in power system d Numerical Protection |
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| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 CO 6 | Memorize principle Estimate design di Evaluate design of Implement concep Analyuze the know VI ne le Course Outcome Statement Explain principle Explain principle Interprt Digital An Construct Bus bar Experiment of Pre Function Insulation | se of electric machine design. fferent electric apparatus AC & DC windings Its of heating, cooling & Ventilation Aledge of design of Transformer, by using CAD. Switchgear and Protection BTEEE605A By the end of the course, the student will be able to: so of protective relaying, Different types of switchgear of construction, operation and selection of different type of circuit breaker used in power system d Numerical Protection & relay |
| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 CO 6 Semester: V | Memorize principle Estimate design di Evaluate design of Implement concep Analyuze the know VI ne le Course Outcome Statement Explain principle Explain principle Interprt Digital An Construct Bus bar Experiment of Pre Function Insulatio | se of electric machine design. AC & DC windings Its of heating, cooling & Ventilation Aledge of design of Transformer, by using CAD. Switchgear and Protection BTEEE605A By the end of the course, the student will be able to: s of protective relaying, Different types of switchgear of construction, operation and selection of different type of circuit breaker used in power system d Numerical Protection & relay Stection of Alternators and Transformers in co-ordination and over current protection |
| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Semester: V Course Semester: V CO 1 CO 2 CO 3 CO 4 CO 5 CO 6 Semester: V Course Nam | Memorize principle Estimate design di Evaluate design di Implement concep Analyuze the know VI Inte Course Outcome Statement Explain principle Explain principle Interprt Digital An Construct Bus bar Experiment of Pre Function Insulatio VI Inte | se of electric machine design. fferent electric apparatus AC & DC windings ts of heating, cooling & Ventilation eledge of design of Transformer, by using CAD. Switchgear and Protection BTEEE605A By the end of the course, the student will be able to: s of protective relaying, Different types of switchgear of construction, operation and selection of different type of circuit breaker used in power system d Numerical Protection & relay tection of Alternators and Transformers in co-ordination and over current protection Project Management |
| Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 Semester: V Course Nam Course Cod Course Outcome No CO 1 CO 2 CO 3 CO 4 CO 5 CO 6 Semester: V | Memorize principle Estimate design di Evaluate design di Implement concep Analyuze the know VI Inte Course Outcome Statement Explain principle Explain principle Interprt Digital An Construct Bus bar Experiment of Pre Function Insulatio VI Inte | se of electric machine design. fferent electric apparatus AC & DC windings ts of heating, cooling & Ventilation eledge of design of Transformer, by using CAD. Switchgear and Protection BTEEE605A By the end of the course, the student will be able to: s of protective relaying, Different types of switchgear of construction, operation and selection of different type of circuit breaker used in power system d Numerical Protection & relay stection of Alternators and Transformers in co-ordination and over current protection |

| CO 2 | Evaluate a project | • | |
|---|--|--|--|
| CO 3 | 1 1 0 | t implementation strategy. | |
| CO 4 | Analyze post proje | ct affects. | |
| Semester : \ | | | |
| Course Nan | | Power Electronics | |
| Course Cod | de | BTEEC603 | |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: | |
| CO 1 | Recall principle of | construction, operation and characteristics of basic semiconductor device | |
| CO 2 | Explain knowledge | e about various power semiconductor devices | |
| CO 3 | Apply and analyze | performance of DC to DC converters,DC to AC convert | |
| CO 4 | | nce of AC voltage controller. | |
| CO 5 | | of controlled and uncontrolled converters. | |
| Semester : V | | | |
| Course Nan | me | PRINCIPLES OF ELECTRICAL MACHINE DESIGN LAB | |
| Course Cod | | BTEEL608 | |
| Course | T | | |
| Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: | |
| CO 1 | Identify all electric | al Symbols & Electrical Installation | |
| CO 2 | Synthesis design o | f DC Machine | |
| CO 3 | Implement design | of AC Machine | |
| CO 4 | Illustrate Design of | f Transformer | |
| Semester : V | VΙ | | |
| Course Nan | me | Power Electronics Lab | |
| Course Cod | de | BTEEL609 | |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: | |
| CO 1 | Illustrate the chara | cteristics of various power electronics devices. | |
| CO 2 | | phase controlled converter | |
| CO 3 | Analyze three phas | - | |
| CO 4 | Simulation of Sing | le phase controlled converter | |
| CO 5 | Simulation of Sing | ele phase inverter | |
| Semester: \ | VI | | |
| Course Nan | me | Industrial Automation and Control | |
| Course Cod | de | BTEEE604A | |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: | |
| CO 1 | Analyze different | nethods of industrial measurement. | |
| CO 2 | Know the new trends in industrial process control. | | |
| | Now the new tren | | |
| CO 3 | | ous automation technologies in manufacturing and process industries. | |
| CO 3 CO 4 | Familiar with vario | • | |
| | Familiar with vario | ous automation technologies in manufacturing and process industries. | |
| CO 4 | Familiar with various Familiar with various Design and implementation | ous automation technologies in manufacturing and process industries. ous communication technologies in manufacturing and process industries. | |
| CO 4 CO 5 | Familiar with varion Familiar with varion Design and implem VI | ous automation technologies in manufacturing and process industries. ous communication technologies in manufacturing and process industries. | |
| CO 4 CO 5 Semester: | Familiar with varion Familiar with varion Design and implementations of the control of the contr | ous automation technologies in manufacturing and process industries. ous communication technologies in manufacturing and process industries. nent electro-pneumatic/hydraulic solutions for automated systems | |
| CO 4 CO 5 Semester: V Course Nan Course Cod Course Outcome No | Familiar with varie Familiar with varie Design and implen VI me le Course Outcome Statement | ous automation technologies in manufacturing and process industries. ous communication technologies in manufacturing and process industries. nent electro-pneumatic/hydraulic solutions for automated systems Control System BTEEC601 By the end of the course, the student will be able to: | |
| CO 4 CO 5 Semester: V Course Nan Course Cod Course Outcome | Familiar with varie Familiar with varie Design and implen VI me le Course Outcome Statement | ous automation technologies in manufacturing and process industries. ous communication technologies in manufacturing and process industries. nent electro-pneumatic/hydraulic solutions for automated systems Control System BTEEC601 By the end of the course, the student will be able to: nts of a control system & Solve the Transfer Function | |

| CO 3 | Analyse Frequency Domain Responce & Build the root locus, Bode Plot,polar plot | |
|-------------------------|---|--|
| CO 4 | Classify & design PID controller. | |
| CO 5 | Analyse state variable technique. Solve Variable Technicque | |
| Semester: VI | | |
| Course Name | | Control System Lab |
| Course Code | | BTEEL607 |
| Course Outcome No | Course Outcome Statement | By the end of the course, the student will be able to: |
| CO 1 | Creat & Solve the Programme of Transfer Function | |
| CO 2 | Creat & Solve the Programme of Transfer Function Test Signals | |
| CO 3 | Creat & Solve the Programme of Transfer Function Bode Plot &Nyquist Plot using MATLAB | |
| CO 4 | Design The PID Controllers | |
| CO 5 | Creat & Solve the Programme of Sate Space Model | |