**St. JOSEPH'S COLLEGE OF ENGINEERING**

**OMR, CHENNAI-119**

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

| Sl. No. | NBA Code | Subject Code | NAME OF THE SUBJECT | SEMESTER |
|---|---|---|---|---|
| 1 | C101 | HS8151 | Communicative English | SEM I |
| 2 | C102 | MA8151 | Engineering Mathematics - I | |
| 3 | C103 | PH8151 | Engineering Physics | |
| 4 | C104 | CY8151 | Engineering Chemistry | |
| 5 | C105 | GE8151 | Problem Solving and Python Programming | |
| 6 | C106 | GE8152 | Engineering Graphics | |
| 7 | C107 | GE8161 | Problem Solving and Python Programming Laboratory | |
| 8 | C108 | BS8161 | Physics and Chemistry Laboratory | |
| 9 | C109 | HS8251 | Technical English | SEM II |
| 10 | C110 | MA8251 | Engineering Mathematics - II | |
| 11 | C111 | PH8253 | Physics For Electronics Engineering | |
| 12 | C112 | BE8252 | Basic Civil and Mechanical Engineering | |
| 13 | C113 | EE8251 | Circuit Theory | |
| 14 | C114 | GE8291 | Environmental Science and Engineering | |
| 15 | C115 | GE8261 | Engineering Practices Laboratory | |
| 16 | C116 | EE8261 | Electric Circuits Lab | |
| 17 | C201 | MA8353 | Transforms and Partial Differential Equations | SEM III |
| 18 | C202 | EE8351 | Digital Logic Circuits | |
| 19 | C203 | EE8391 | Electromagnetic Theory | |
| 20 | C204 | EE8301 | Electrical Machines – I | |
| 21 | C205 | EC8353 | Electron Devices and Circuits | |
| 22 | C206 | ME8792 | Power Plant Engineering | |
| 23 | C207 | EC8311 | Electronics Laboratory | |
| 24 | C208 | EE8311 | Electrical Machines Laboratory - I | |
| 25 | C209 | MA8491 | Numerical Methods | SEM IV |
| 26 | C210 | EE8401 | Electrical Machines – II | |
| 27 | C211 | EE8402 | Transmission and Distribution | |
| 28 | C212 | EE8403 | Measurements and Instrumentation | |

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|---|---|---|---|---|
| 29 | C213 | EE8451 | Linear Integrated Circuits and Applications | |
| 30 | C214 | IC8451 | Control Systems | |
| 31 | C215 | EE8411 | Electrical Machines Lab II | |
| 32 | C216 | EE8461 | Linear and Digital Integrated Circuits Laboratory | |
| 33 | C217 | EE8412 | Technical Seminar | |
| 34 | C301 | EE8501 | Power System Analysis | **SEM V** |
| 35 | C302 | EE8551 | Microprocessors and Microcontrollers | |
| 36 | C303 | EE8552 | Power Electronics | |
| 37 | C304 | EE8591 | Digital Signal Processing | |
| 38 | C305 | CS8392 | Object Oriented Programming | |
| 39 | C306 | | Open Elective I | |
| 40 | C307 | EE8511 | Control and Instrumentation Laboratory | |
| 41 | C308 | HS8581 | Professional Communication | |
| 42 | C309 | CS8383 | Object Oriented Programming Laboratory | |
| 43 | C310 | EE8601 | Solid State Drives | **SEM VI** |
| 44 | C311 | EE8602 | Protection and Switchgear | |
| 45 | C312 | EE8691 | Embedded Systems | |
| 46 | C313 | EE8002 | Professional Elective I (Design of Electrical Apparatus) | |
| 47 | C314 | EE8005 | Professional Elective II (Special Electrical Machines) | |
| 48 | C315 | EE8661 | Power Electronics and Drives Laboratory | |
| 49 | C316 | EE8681 | Microprocessors and Microcontrollers Laboratory | |
| 50 | C317 | EE8611 | Mini Project | |
| 51 | C401 | EE8701 | High Voltage Engineering | **SEM VII** |
| 52 | C402 | EE8702 | Power System Operation and Control | |
| 53 | C403 | EE8703 | Renewable Energy Systems | |
| 54 | C404 | | Open Elective II | |
| 55 | C405 | GE8074 | Professional Elective III (Human Rights) | |
| 56 | C406 | EE8010 | Professional Elective IV (Power Systems Transients) | |
| 57 | C407 | EE8711 | Power System Simulation Laboratory | |
| 58 | C408 | EE8712 | Renewable Energy Systems Laboratory | |
| 59 | C409 | EE8015 | Professional Elective V (Electric Energy Generation, Utilization and Conservation) | **SEM VIII** |
| 60 | C410 | EE8018 | Professional Elective VI (Microcontroller Based System Design) | |
| 61 | C411 | EE8811 | Project Work | |

**COURSE CODE: C101 AU CODE/SUBJECT: HS8151/ Communicative English**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**101.1** | Speak clearly, confidently, comprehensibly, and communicate with one or many listeners using appropriate communicative strategies. |
| C**101.2** | Write cohesively and coherently and flawlessly avoiding grammatical errors, using a wide vocabulary range, organizing their ideas logically on a topic. |
| C**101.3** | Read different genres of texts adopting various reading strategies. |
| C**101.4** | Listen/view and comprehend different spoken discourses/excerpts in different accents |
| C**101.5** | Identify topics and formulate questions for productive inquiry |

**COURSE CODE: C102 AU CODE/SUBJECT: MA8151/ Engineering Mathematics - I**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**102.1** | Students will be able to understand the concept of function and limit of a function and apply the same to deal with continuity and derivative of a given function. Apply differentiation to solve maxima and minima problems, which are related to real world problems. |
| C**102.2** | Students will have the idea of extension of a function of one variable to several variables. Multivariable functions of real variables arise inevitable in engineering. |
| C**102.3** | Students will be able to understand the concept of integration through Riemann sums and fundamental theorem of calculus. Also acquire skills to evaluate the integrals using the techniques of substitution, partial fraction and integration by parts along with the knowledge of improper integrals. |
| C**102.4** | The students will be exposed to double and triple integration so that they can handle integrals of higher order which are applied in engineering field. |
| C**102.5** | The students were imbibed with techniques in solving ordinary differential equations that arises in most of the engineering problems |

**COURSE CODE: C103 AU CODE/SUBJECT: PH8151/ Engineering Physics**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**103.1** | Able to understand the concept of stress, strain, factors affecting elasticity, bending of beam, twisting couple, torsional pendulum, depression of a cantilever, young's modulus and I-shape girders. |
| C**103.2** | Able to understand the different type of oscillations and their equations, plane progressive waves. Able to understand the concept, properties of lasers, working of different types of semiconductor lasers. Apply the properties of lasers in industry for welding, heat treatment, for diagnosis and therapy in medicine. Able to understand the principle and propagation of light (Lasers) in optical fibres, the various types of optical fibres and the loss mechanisms in optical fibres. Apply the characteristics of laser and fibre in fibre optic communication system and sensors. |
| C**103.3** | To understand the concept of transfer of heat energy, thermal expansion, and thermal conduction. Able to understand the thermal conductivity, forbe's and lee's disc method, heat conduction through compound media, and thermal insulation. Apply the concept of thermal insulation in heat exchangers, refrigerators, ovens, and solar waterheaters. |
| C**103.4** | Able to understand the concept of wave nature and apply in electron microscope like STEM. |
| C**103.5** | Able to understand the different structures of crystalline solids like SC, BCC ,FCC, HCP, Diamond and the various types of defects in crystalline solids and growth of crystals. |

**COURSE CODE: C104 AU CODE/SUBJECT: CY8151/ Engineering Chemistry**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**104.1** | Able to understand impurities in industrial water, boiler troubles, internal and external treatment methods of purifying water. |
| C**104.2** | Able to understand concepts of absorption, adsorption and adsorption isotherms, application of adsorption for pollution abatement, catalysis and enzyme kinetics. |
| C**104.3** | Able to recognize significance of alloying, functions of alloying elements and types of alloys, uses of alloys. They should be acquainted with phase rule and reduced phase and its applications in alloying |
| C**104.4** | Able to identify various types of fuels, properties, uses and analysis of fuels. They should be able to understand combustion of fuels, method of preparation of bio-diesel, synthetic petrol. |
| C**104.5** | Able to understand conventional, non-conventional energy sources. They should be aware of nuclear fission and fusion, power generation by nuclear reactor, wind, solar energy and preparation, uses of various batteries. |

**COURSE CODE: C105 AU CODE/SUBJECT: GE8151/ Problem Solving and Python Programming**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**105.1** | Develop algorithmic solutions to simple computational problems . |
| C**105.2** | Demonstrate programs using simple Python statements and expressions. |
| C**105.3** | Explain control flow and functions concept in Python for solving problems. |
| C**105.4** | Use Python data structures- lists, tuples & dictionaries for representing compound data. |
| C**105.5** | Explain files, exception, modules and packages in Python for solving problems. |

**COURSE CODE: C106 AU CODE/SUBJECT: GE8152/ Engineering Graphics**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**106.1** | Familiarize with the fundamentals and standards of engineering graphics. |
| C**106.2** | Perform freehand sketching of basic geometrical constructions and multiple views of objects. |
| C**106.3** | Project orthographic projections of lines and plane surfaces. |
| C**106.4** | Draw projections, solids and development of surfaces. |
| C**106.5** | Visualize and to project isometric and perspective sections of simple solids. |

**COURSE CODE: C107 AU CODE/SUBJECT: GE8161/ Problem Solving and Python Programming Laboratory**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**107.1** | Develop solutions to simple computational problems using Python programs. |
| C**107.2** | Solve problems using conditionals and loops in Python. |
| C**107.3** | Develop Python programs by defining functions and calling them. |
| C**107.4** | Use Python lists, tuples & dictionaries for representing compound data. |
| C**107.5** | Develop Python programs using files. |

**COURSE CODE: C108 AU CODE/SUBJECT: BS8161/ Physics and Chemistry Laboratory**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**108.1** | Able to understand the working principle of laser components and working of different laser system.Able to understand the phenomenon of light, applications of fibreoptics . Able to understand the amount of dissolved oxygen present in the water . |
| C**108.2** | Able to understand the concept about the basic properties of matter like stress, strain and types of modulii . Able to understand the concept about the amount of chloride present in the given sample of water. |
| C**108.3** | Able to understand the concept of optics like reflection, refraction , diffraction by using spectrometer grating. Able to understand the concept about the measure the conductance of strong acid and strong base, mixture of acids by using conductivity meter. |
| C**108.4** | Able to understand the thermal properties ofsolids, specific heat and some models for specific heat calculation. Able to understand the concept of determining the strength of given substance by precipitation titration using conductivity meter. |
| C**108.5** | Able to understand the concept about the basic properties of matter like stress, strain and types of modulii Able to understand the thin film interference and diffraction types. Able to understand the concept of determining the pH, emf values by using pH and potentiometer. |

**SEMESTER II**

**COURSE CODE: C109 AU CODE/SUBJECT: HS8251/ Technical English**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**109.1** | Develop strategies and skills to enhance their ability to read and comprehend engineering and technology texts. |
| C**109.2** | Foster their ability to write convincing job applications and effective reports. |
| C**109.3** | Develop their speaking skills to make technical presentations , participate in group discussions. |
| C**109.4** | Strengthen their listening skill which will help them comprehend lectures and talks in their areas of specialisation. |
| C**109.5** | Identify topics and formulate questions for productive inquiry |

**COURSE CODE: C110 AU CODE/SUBJECT: MA8251/ Engineering Mathematics - II**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**110.1** | The students will have a clear idea of matrix algebra pertaining Eigen values and Eigen vectors in addition dealing with quadratic forms. |
| C**110.2** | The student were acquainted with the concepts of vector calculus-like Gradient, Divergence, Curl, Directional derivative, Irrational vector and Solenoidal vector. The course gives an understanding of Vector integration, needed for problems in all engineering disciplines. |
| C**110.3** | To develop an understanding of the standard techniques of complex variable and mapping so as to enable the student to apply them with confidence, in application areas such as heat conduction, elasticity, fluid dynamics and flow of electric current . |
| C**110.4** | The student will be exposed to the concept of Cauchy's integral theorem, Taylor and Laurent expansions, Singular points, Application of residue theorem to evaluate complex integrals. |
| C**110.5** | To make the students to appreciate the purpose of using transforms to create new domain in which it is easier to handle the problem that is being investigated. |

**COURSE CODE: C111 AU CODE/SUBJECT: PH8253/ Physics For Electronics Engineering Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**111.1** | Gain knowledge on classical and quantum electron theories. |
| C**111.2** | Understand the concentration of charge carriers in intrinsic and extrinsic semiconductors and importance of Hall effect. |
| C**111.3** | Acquire knowledge about the types of magnetic materials and its applications. Furthermore types of polarization, frequency and temperature variation of polarization and dielectric loss are taught to students. |
| C**111.4** | Understand the basics of optoelectronic devices, its properties and applications. |
| C**111.5** | Gain knowledge about the fundamentals of nanotechnology and its impact on nanoelectronics. |

**COURSE CODE: C112 AU CODE/SUBJECT: BE8252/ Basic Civil and Mechanical Engineering Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**112.1** | State the scope of civil Engineering and Overview of Civil Engineering and Explain the scope of Mechanical Engineering and Overview of Mechanical Engineering. |
| C**112.2** | State the functions of IC engine and differentiate the working principle of 2stroke, 4 stroke petrol and diesel engine, Types of power plant and classify the various types of boilers and conclude the use of boiler in power plant. |
| C**112.3** | Apply the principles of vapour absorption and compression systems and Explain the Operation and type of air conditioner. |
| C**112.4** | Apply the principles of surveying and use various measurements for surveying and Explain about various engineering materials and leveling instruments. |
| C**112.5** | Classify the types of bridges, foundation, floorings, roofs, plasters and R.C.C structural members and state the purpose of dam. |

**COURSE CODE: C113 AU CODE/SUBJECT: EE8251/Circuit Theory**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C113.1 | To understand DC and AC response of electric circuits using basic electric laws |
| C113.2 | Able to analyze and understand various network theorems and its application on electric circuits. |
| C113.3 | Able to analyze and to obtain the transient response of electric circuits. |
| C113.4 | Able to understand and analyze the three phase circuits and to obtain the phasor diagrams. |
| C113.5 | Able to understand the concepts of resonance condition and its response on coupled circuits. |

**COURSE CODE: C114 AU CODE/SUBJECT: GE8291/ Environmental Science and Engineering**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| C**114.1** | To obtain knowledge about environment, ecosystems and biodiversity. |
| C**114.2** | To take measures to control environmental pollution. |
| C**114.3** | To gain knowledge about natural resources and energy sources. |
| C**114.4** | To find and implement scientific, technological, economic and political solutions to environmental problems. |
| C**114.5** | To understand the impact of environment on human population. |

**COURSE CODE: C115 AU CODE/SUBJECT: GE8261/ Engineering Practices Laboratory**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C115.1** | Ability to comprehend the concept of wiring with the help of various electrical elements. |
| **C115.2** | Ability to understand the working principle of Fluorescent Lamp by appropriate connection of elements. |
| **C115.3** | Ability to analyse the concept of functioning of a bulb whose control is at two different places. |
| **C115.4** | Ability to know the measurement of basic electrical quantities and the devices required for their measurements. |
| **C115.5** | Ability to comprehend the purpose of earthing of electrical equipment. |

**COURSE CODE: C116 AU CODE/SUBJECT: EE8261 – Electric Circuits Laboratory**
**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C115.1** | Able to understand and experimentally verify the electric circuit laws and to simulate the network using matlab. |
| **C115.2** | Able to identify network theorems and their application to network reduction techniques and to simulate the network using matlab. |
| **C115.3** | Analyze the RC and RLC transient circuits experimentally and verify using matlab and the study of CRO. |
| **C115.4** | Analyze the response characteristics of resonant circuits |
| **C115.5** | Analyze the three phase electric networks and study the instruments used for commercial measurement of electrical power. |

**SEMESTER III**

**COURSE CODE: C201 AU CODE/SUBJECT: MA8353/Transforms and Partial Differential Equations**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C201.1** | Able to form the partial differential equations, find the solutions of first order partial differential equations and higher order linear partial differential equations with constant coefficients |
| **C201.2** | Able to expand the periodic function as a general form and complex form of Fourier series. They can also find the Fourier series through harmonic analysis for discrete values of the function are given. |
| **C201.3** | Able to classify the partial differential equations. They can find the solutions to one dimensional wave equation, one dimensional and two dimensional heat conduction problems |
| **C201.4** | Able to find the Fourier transform and inverse Fourier transform of the function. They can understand the concepts of convolution theorem and Parseval's identity on fourier transform. They can also evaluate the certain type of integrals using Fourier transform technique. |
| **C201.5** | Able to find the Z-transform of sequence and inverse Z-transform of function. They can form the difference equations and solving them using Z-transforms technique. |

**COURSE CODE: C202 AU CODE/SUBJECT: EE8351/Digital Logic Circuits**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C202.1** | To understand about the various number systems and its application in digital design |
| **C202.2** | To compare the performance characteristics of various logic families |
| **C202.3** | To understand, analyze and design combinational and sequential circuits. |
| **C202.4** | To identify and prevent various hazards and timing problems in a digital design and propose a cost effective solution. |
| **C202.5** | To introduce digital simulation for development of application oriented logic circuits. |

**COURSE CODE:C203 AU CODE/SUBJECT:EE8391/Electromagnetic Theory**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C203.1** | Understand the basics of vector algebra, vector calculus and orthogonal co-ordinate systems to analyze and understand the electromagnetic field concepts |
| **C203.2** | To understand and compute electrostatics field, potential and energy for designing and finding solution for various electrical and electronics engineering problems. |
| **C203.3** | To understand and compute magnetostatic field, potential and energy for designing and finding solution for various electrical and electronics engineering problems. |
| **C203.4** | Understanding the various laws and concepts governing the combined electromagnetic field and their applications in finding solutions to combinatorial engineering problems. |
| **C203.5** | Understanding the fundamentals Concepts of electromagnetic wave propagation in various medium and its application in designing wave guides and transmission lines. |

**COURSE CODE: C204 AU CODE/SUBJECT:EE8301/Electrical Machines -I**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C204.1** | Able to analyze the magnetic circuits & Calculate the induced EMF and understand the properties of magnetic materials. |
| **C204.2** | Able to understand the working of Transformer and analyze the operation of transformer in different loading condition. |
| **C204.3** | Able to understand & analyze the concept of field energy and co-energy in single and multiple excited systems |
| **C204.4** | Understand the construction of D.C machines and operation of DC Generator |
| **C204.5** | Understand the operation of DC motor, Starting and speed control of DC motor, analyze the characteristics of dc motor & the braking system |

**COURSE CODE: C205 AU CODE/SUBJECT: C205/Electron Devices and Circuits**

| Course | Course Outcomes |
|---|---|
| **C205.1** | An ability to understand the essence of the diode functions, grasp the techniques for the analysis of diode circuits through modeling the diode characteristics, use diodes for various applications, including in design of rectifier circuits. |
| **C205.2** | An ability to develop a high degree of familiarity with the BJT, JFET,MOSFET,THYRISTOR,IGBT: its physical structure and operation, terminal characteristics, circuit models. |
| **C205.3** | An ability to analyze the BJT terminal characteristics, utilize the circuit models to perform the rapid first-order analysis of BJT circuits and to design single-stage BJT amplifiers, analyze and design the basic discrete MOSFET circuits. |
| **C205.4** | An ability to analyze the modes of differential amplifiers,multistage amplifiers, and develop familiarity with the neutralisation methods and types of power amplifiers. |
| **C205.5** | An ability to define and analyze the four basic amplifiers models (voltage, current, transconductance and transresistance). Solve the amplifier's transfer functions and gain. |

**COURSE CODE: C206 AU CODE/SUBJECT: ME8792/ Power Plant Engineering**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C206.1** | To know the layout of modern coal power plant and its major components, Binary Cycles and Cogeneration systems. |
| **C206.2** | To understand the concept of Otto, Diesel, Dual & Brayton Cycle - Analysis & Optimisation and Components of Diesel and Gas Turbine power plants. |
| **C206.3** | To know Basics of Nuclear Engineering, Layout and subsystems of Nuclear Power Plants, Working of Nuclear Reactors : Boiling Water Reactor (BWR), Pressurized Water Reactor (PWR), CANada DeuteriumUranium reactor (CANDU), Breeder, Gas Cooled and Liquid Metal Cooled Reactors. Safety measures for Nuclear Power plants. |
| **C206.4** | To study the concept Hydro Electric Power Plants – Classification, Typical Layout and associated components including Turbines. Principle, Construction and working of Wind, Tidal, Solar Photo Voltaic (SPV), Solar Thermal, Geo Thermal, Biogas and Fuel Cell power systems. |
| **C206.5** | To understand the concept of Power tariff types, Load distribution parameters, load curve, Comparison of site selection criteria, relative merits & demerits, Capital & Operating Cost of different power plants. Pollution control technologies including Waste Disposal Options for Coal and Nuclear Power Plants. |

**COURSE CODE: C207 AU CODE/SUBJECT: EC8311/ Electronics Laboratory**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C207.1** | Able to understand the characteristics of semiconductor diode and their simple applications. |
| **C207.2** | Able to understand the characteristics of Transistor under different configuration |
| **C207.3** | Able to understand the operation of various power electronic converters |
| **C207.4** | Able to understand and design different types of Oscillators, Amplifier,filter |
| **C207.5** | Able to understand the operation of Astable and Monostable multivibrators and CRO |

**COURSE CODE: C208 AU CODE/SUBJECT: EE8311/Electrical Machines-I Laboratory**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C208.1** | To be able to obtain and analyze the magnetizing and load characteristics of a DC generator for different field excitations. |
| **C208.2** | To be able to obtain and analyze the characteristics of various types of DC motor by direct loading methods and understand about the starters |
| **C208.3** | To be able to obtain and analyze the characteristics of a DC machine by indirect loading methods. |
| **C208.4** | To be able to obtain and analyze the characteristics of a transformer by direct loading methods and understand about the transformer connections |
| **C208.5** | To be able to obtain and analyze the characteristics of a transformer by indirect methods. |

**SEMESTER IV**

**COURSE CODE: C209 AU CODE/SUBJECT: MA8491/ Numerical Methods**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C209.1** | The roots of nonlinear (algebraic or transcendental) equations, solutions of large system of linear equations and eigen value problem of a matrix can be obtained numerically where analytical methods fail to give solution. |
| **C209.2** | When huge amounts of experimental data are involved, the methods discussed on interpolation will be useful in constructing approximate polynomial to represent the data and to find the intermediate values. |
| **C209.3** | The numerical differentiation and integration find application when the function in the analytical form is too complicated or the huge amounts of data are given such as series of measurements, observations or some other empirical information. |
| **C209.4** | Since many physical laws are couched in terms of rate of change of one/two or more independent variables, most of the engineering problems are characterized in the form of either nonlinear ordinary differential equations or partial differential equations. |
| **C209.5** | The methods introduced in the solution of ordinary differential equations and partial differential equations will be useful in attempting any engineering problem. |

**COURSE CODE: C210 AU CODE/SUBJECT: EE8401- Electrical Machines II**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C210.1** | Ability to understand the construction and working principle of Synchronous Generator and MMF curves and armature windings.. |
| **C210.2** | Ability to predetermine the performance characteristics of Synchronous Machines and acquire knowledge on Synchronous motor |
| **C210.3** | Ability to understand the construction and working principle of Three phase Induction Motor |
| **C210.4** | Ability to understand the Starting and speed control of Three phase Induction Motor |
| **C210.5** | Ability to understand the construction and working principle of Special Machines |

**COURSE CODE: C211 AU CODE/SUBJECT: EE8402/ TRANSMISSION AND DISTRIBUTION**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C211.1** | Understand the structure of electric power system and expressions for the computation of transmission line parameters. |
| **C211.2** | Develop the equivalent circuits for the transmission lines based on distance and to determine voltage regulation and efficiency. |
| **C211.3** | Analyze the mechanical design of transmission lines and the voltage distribution in insulator strings to improve the efficiency. |
| **C211.4** | Explain the types, construction of cables and methods to improve the efficiency. |
| **C211.5** | Explore about distribution systems, types of substations, methods of grounding, EHVAC, HVDC and FACTS. |

**COURSE CODE: C212 AU CODE/SUBJECT: EE8403/MEASUREMENTS AND INSTRUMENTATION**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C212.1** | To impart knowledge on the basic functional elements of instrumentation |
| **C212.2** | To impart knowledge on the Fundamentals of electrical and electronic instruments |
| **C212.3** | To impart knowledge on the Comparison between various measurement techniques |
| **C212.4** | To impart knowledge on the Various storage and display devices |
| **C212.5** | To impart knowledge on the Various transducers and the data acquisition systems |

**COURSE CODE:C213 AU CODE/SUBJECT:EE8451-Linear Integrated circuits and Applications**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C213.1** | Explain and Illustrate the fabrication of electronic devices and ICs. |
| **C213.2** | Discuss the op-amp's basic construction, characteristics, various configuration and countless applications of op-amp. |
| **C213.3** | Analyze and design basic op-amp circuits, particularly various linear and non-linear circuits, active filters, signal generators, and data converters. |
| **C213.4** | Design a timer, PLL, analog multiplier and VCO circuit as per specifications. |
| **C213.5** | Choose and design a Switched mode and Linear power supply. |

**COURSE CODE: C214 AU CODE/SUBJECT: IC8451/ Control Systems**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C214.1** | An ability to understand the basic control systems, classification and mathematical modeling of the physical systems, and reduction of block diagram and signal flow graph representations. To develop the capabilities to convert the physical system into equations and to reduce the complex systems into simpler system. |
| **C214.2** | An ability to understand the time domain parameters such as input signal, error, characteristics, root locus design to analyze the stability and traditional controllers such as P/PI/PID design. This helps to attain the basic knowledge regarding the time domain related controller design and its analysis. |
| **C214.3** | An ability to analyze the system in frequency domain using the analytical approach as well as the graphical approaches, such as Bode plot, Polar plot, M and N Circles. This also helps to understand the correlation between the time and frequency domain and the design of compensators. |
| **C214.4** | An ability to analyze the stability of the system using the procedures, such as Routh array, Nyquest criterion, and the Lead, Lag, Lead-Lag compensators using Bode plot. This helps to attain the knowledge related to the compensator design and its stability analysis in time as well as frequency design. |
| **C214.5** | An ability to define and analyze the concept of state variables, State models for linear and time invariant Systems, Solution of state and output equation in controllable canonical form , Concepts of controllability and observability, Effect of state feedback. Which helps understand the conversion of the SISO system into MIMO and vice-versa. |

**COURSE CODE: C215 AU CODE/SUBJECT: EE8411- Electrical Machines Laboratory II**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C215.1** | To understand the concepts of three phase alternator and to pre determine the regulation of three phase alternator by EMF,MMF,ZPF and ASA methods. |
| **C215.2** | To measure the negative and zero sequence impedance of the given three phase alternator. |
| **C215.3** | To observe the effect of change in field current with armature current and power factor and to plot the V and inverted V curves of a synchronous motor. |
| **C215.4** | To conduct the direct load test on a given single phase and three phase induction motors and to plot the performance characteristics. |
| **C215.5** | To draw the equivalent circuit diagrams of the given single phase an dthree phase induction motors by conducting no load and blocked rotor tests. |

**COURSE CODE: C216 AU CODE/SUBJECT: EE8461/ Linear and Digital Integrated Circuits Laboratory**

**Enlistment of Course Outcomes:**

On successful completion of this course, the student will be able to

| Course Outcomes | STATEMENT |
|---|---|
| **C216.1** | Design and implement combinational circuits (Adder, Substractor, Code convertors, Mux, Demux) |
| **C216.2** | Design and implement Asynchronous sequential circuits (Asynchronous counter) |
| **C216.3** | Design and implement Synchronous sequential circuits (Synchronous counter) |
| **C216.4** | Design and implement the linear circuits using OP-AMP ( IC 741). |
| **C216.5** | Design and implement the f linear electronic circuits using Timer (IC 555) . |

**COURSE CODE: C217 AU CODE/SUBJECT: EE8412/Technical Seminar**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C217.1** | To develop the communication skills by presenting seminar on engineering topic. |
| **C217.2** | To develop the soft skills by involving in activities like group discussion and team presentation. |
| **C217.3** | To develop the problem solving skills by grouping according to IQ. |
| **C217.4** | To act as a team player and to manage the team under any risky conditions. |
| **C217.5** | To improve the confidence by facing challenges from the crowd as well as from the individuals. |

**SEMESTER V**

**COURSE CODE: C301 AU CODE/SUBJECT: EE8501 / POWER SYSTEM ANALYSIS**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C301.1** | Able to design per phase and per unit model of power system components and to compute the network matrices for the power system studies |
| **C301.2** | To formulate power flow equation in polar and rectangular coordinates and to apply numerical iterative techniques to arrive the power flow solution. |
| **C301.3** | To categorize different types of faults in power systems and to analyze symmetrical faults using Thevenin's theorem and bus impedance matrix |
| **C301.4** | To model and analyze unsymmetrical faults in power systems using Thevenin's theorem and bus impedance matrix |
| **C301.5** | Able to understand and analyses the power system stability problems and to get the solution using numerical integration based methods |

**COURSE CODE: C302 AU CODE/SUBJECT: EE8551/ MICROPROCESSORS AND MICROCONTROLLERS**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C302.1** | Ability to explain the architecture of Microprocessor, Ability to need & use of Interrupt structure 8085 |
| **C302.2** | Ability to acquire knowledge in Addressing modes & instruction set of 8085 ,Ability to write the assembly language program. |
| **C302.3** | Ability to explain the architecture of Microcontroller. Ability to acquire knowledge in Addressing modes & instruction set of 8051 |
| **C302.4** | Ability to understand the importance of Interfacing |
| **C302.5** | Ability to develop the Microcontroller based applications. |

**COURSE CODE: C303 AU CODE/SUBJECT: EE8552/POWER ELECTRONICS**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C303.1** | Able to appreciate the importance of power electronics devices for high voltage applications by understanding the concepts of various power electronics switches. |
| **C303.2** | To learn the basic concepts of operation of single-phase and three-phase thyristor converters in steady state in continuous and discontinuous modes and be able to analyze basic converter topologies. |
| **C303.3** | Ability to Analyze, simulate and design DC - DC converters and understand their applications. |
| **C303.4** | Ability to Analyze, simulate and design DC - AC converters and understand different pulse width modulation techniques. |
| **C303.5** | Ability to understand the concepts of AC-AC converters, single phase and three phase cyclo converters and matrix converters |

**COURSE CODE: C304 AU CODE/SUBJECT: EE8591/Digital Signal Processing**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C304.1** | Classify the different types of signals and systems and explain the sampling process of continuous time signal. |
| **C304.2** | Apply z-transform and inverse Z transform and analyze discrete time systems. |
| **C304.3** | Apply Radix-2 Decimation in Time (DIT) and Decimation in Frequency (DIF) FFT Algorithm to Compute Discrete Fourier Transform. |
| **C304.4** | Explain different types of Infinite Impulse Response (IIR) filters and Finite Impulse Response (FIR) filters. |
| **C304.5** | Explain various architectures of Digital signal processors. |

**COURSE CODE: C305 AU CODE/SUBJECT: CS8392/Object Oriented Programming**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C305.1** | Outline OOP principles such as objects, classes, encapsulation, inheritance and polymorphism and associate those principles in java language. |
| **C305.2** | Design algorithms and develop programs using the concept of Inheritance and Interfaces. |
| **C305.3** | Examine the exception handling concepts and develop I/O streams for reading and writing files. |
| **C305.4** | Develop programs that run in the same instant using multithreading and multitasking concepts and utilize the power of generic programming in java for robust programming. |
| **C305.5** | Design and develop applications in java using forms, AWT, and swing. |

**COURSE CODE: C307 AU CODE/SUBJECT: EE8511/ Control and Instrumentation Laboratory**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C307.1** | To provide strong foundation in basic science and mathematics necessary to formulate, solve and analyze Control and Instrumentation problems |
| **C307.2** | To provide good knowledge of Instrumentation systems and their applications. |
| **C307.3** | To provide necessary foundation on computational platforms and software applications related to the respective field of engineering. |
| **C307.4** | Able to understand the modeling and stability of an Electrical, Electronics and other physical systems. |
| **C307.5** | To be aware of various types of measurements, requirement of calibrations, errors in measurement and to perform accurate measurements for any engineering system. |

**COURSE CODE: C308 AU CODE/SUBJECT: HS8581/ Professional Communication**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C308.1** | To develop the communication skills by presenting seminar on engineering topic. |
| **C308.2** | To improve the confidence by facing challenges from the crowd as well as from the individuals . |
| **C308.3** | To develop the soft skills by involving in activities like group discussion and team presentation .To act as a team player and to manage the team under any risky conditions. |
| **C308.4** | Attend job interviews and be successful in them. |
| **C308.5** | To develop adequate Soft Skills required for the workplace and to orient the students towards grooming as a professional |

**COURSE CODE: C309 AU CODE/SUBJECT: CS8383/Object Oriented Programming Laboratory**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C309.1** | Design C++ programs using functions, classes with objects, member functions and constructors. |
| **C309.2** | Develop operator and function overloading and run time polymorphism using C++. |
| **C309.3** | Develop file handling techniques in C++ for sequential and random access also use Java code for strings. |
| **C309.4** | Construct packages and interfaces in Java. |
| **C309.5** | Create threads in Java and handle predefined and user defined exceptions. |

**SEMESTER VI**

**COURSE CODE: C310 AU CODE/SUBJECT: EE8601/SOLID STATE DRIVES**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C310.1** | Understand the various types of drives, load torque characteristics and Apply the multi quadrant dynamics in hoist load system. |
| **C310.2** | Analyze the operation of steady state analysis of single phase and three phase fully controlled converter and Chopper fed separately excited dc motor drives and discuss the various control strategies of converter. |
| **C310.3** | Understand the operation and characteristics of various methods of speed control of converters fed induction motor drives. |
| **C310.4** | Understand the operation and performance of Synchronous motor and permanent magnet synchronous motor drives |
| **C310.5** | Design a current and speed controller for a closed loop solid state DC motor drives and develop the transfer function for DC motor, load and converter. |

**COURSE CODE: C311 AU CODE/SUBJECT: EE8602 / Protection and Switchgear**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C311.1** | To understand the basic concepts of protection such as need for protection, nature and causes of faults, quality of protection and schemes in protection. |
| **C311.2** | To understand and explain the basic operating principles of electromagnetic relays, universal torque equation of relays and their types. |
| **C311.3** | To understand the protection of various apparatus like CT, PT, transformer, motor, generator and busbar and also to analyse their (CT&PT) importance in protection. |
| **C311.4** | To realise the synthesis of various relays using static comparators and numerical relays |
| **C311.5** | To visualise the physic of arcing phenomenon, circuit breaking and to understand the basic construction and working of various circuit breakers. |

**COURSE CODE: C312 AU CODE/SUBJECT: EE8691/ Embedded Systems**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C312.1** | Analyze the basic build process of embedded systems, structural units in embedded Processor and selection of processor and memory devices depending upon the applications. |
| **C312.2** | Classify the types of I/O device ports and buses and different interfaces for data transfer. |
| **C312.3** | Model the Embedded Product Development Life Cycle (EDLC) by using Different techniques like state machine model, sequential program model and concurrent model and also their by identifying the issues in the embedded system Design. |
| **C312.4** | Analyze about the basic concept of Real Time Operating Systems and plan to scheduling of different task and compares the features of different types of Real Time Operating Systems |
| **C312.5** | Apply the knowledge of programming concepts of Embedded Systems for various applications like Washing Machine automotive and Smart Card System, ATM machine, Digital camera applications |

**COURSE CODE:C313 AU CODE/SUBJECT:EE8002/ Design of ElectricalApparatus**
**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C313.1** | Ability to understand basics of design considerations for rotating and static electrical machines along with its design of field system for its application. |
| **C313.2** | Ability to design sing and three phase transformer. |
| **C313.3** | Ability to design armature and field of DC machines. |
| **C313.4** | Ability to design stator and rotor of induction motor. |
| **C313.5** | Ability to design and analyze synchronous machines. |

**COURSE CODE: C314 AU CODE/SUBJECT:EE8008/SPECIAL ELECTRICAL MACHINES**
**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C314.1** | To Understand the construction, working of different types of stepper motor and to analyse the complete drive system for the motor operation |
| **C314.2** | Able to understand the concepts, working and applications of switched reluctance motor and their types and different converter control configuration. |
| **C314.3** | Able to understand the concepts, working and applications of switched reluctance motor and their types and different converter control configuration. |
| **C314.4** | Analyse and understand the design aspects, construction, principle of operation, applications, methods of speed control of permanent magnet synchronous motor. |
| **C314.5** | Able to understand the concepts, working and applications of Hysteresis motor, synchronous reluctance motor, Linear Induction motor and Repulsion motor |

**COURSE CODE: C315 AU CODE/SUBJECT: EE8661/Power Electronics and Drives Laboratory**
**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C315.1** | Able to understand and analyse different types of power semiconductor devices and their switching characteristics. |
| **C315.2** | Able to analyse and understand the operation and characteristics of controlled rectifiers |
| **C315.3** | Able to analyse and understand the operation, switching techniques and basics topologies of DC-DC switching regulators. |
| **C315.4** | Able to analyse and understand the different modulation techniques of pulse width modulated inverters and AC voltage controller and various configurations. |
| **C315.5** | Able to analyse and simulate the different types of power converter circuits |

**COURSE CODE: C316 AU CODE/SUBJECT: EE8681/ MICROPROCESSORS AND MICROCONTROLLERS LABORATORY**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C316.1** | Ability to understand and apply computing platform and software for engineering problems. |
| **C316.2** | Ability to programming logics for code conversion. |
| **C316.3** | Ability to acquire knowledge on A/D and D/A. |
| **C316.4** | Ability to understand basics of serial communication. Ability to understand basics of software simulators |
| **C316.5** | Ability to understand and impart knowledge in DC and AC motor interfacing. |

**COURSE CODE: C317 AU CODE/SUBJECT: EE8611 / MINI PROJECT WORK**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C317.1** | Ability to design a simple system to demonstrate the knowledge of engineering and updating with the cutting edge technology |
| **C317.2** | Ability to work as a team to provide simple solutions to meet the challenges in the society through his/ her engineering knowledge. |
| **C317.3** | Ability to prepare a effective report on the system through collaborative research work and disclose the same to his/her subordinate groups |
| **C317.4** | Ability to acquire knowledge in various streams and meet the demands in the field of engineering and technology. |
| **C317.5** | Ability to continually improve in the field of study and develop feasible solutions to meet the challenges in the dynamic society. |

**SEMESTER VII**

**COURSE CODE:C401 AU CODE/SUBJECT:** EE8701/High Voltage Engineering

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C401.1** | Able to understand the sources and effects of switching surges, lightning andtemporary over voltages, corona and its effects in power systems, various protectionmechanisms against overvoltage. Able to understand and analyze the reflection andrefraction of traveling waves in power systems. |
| **C401.2** | Able to understand the nature of various breakdown mechanisms in gas, liquid andsolid dielectrics. |
| **C401.3** | Able to understand and analyze the various methods of generating high voltage AC,DC and impulse voltages and currents. |
| **C401.4** | Able to understand and analyze the various methods of measuring high voltage AC,DC and impulse voltages and currents. |
| **C401.5** | Able to understand and analyze the various methods of testing insulators,circuitbreakers, bushings, Isolators and transformers, insulation coordination. |

**COURSE CODE:C402 AU CODE/SUBJECT: EE8702-Power System Operation and Control**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C402.1** | Analyze the various load characteristics, load forecasting methods and to understand the operation of power system and its control. |
| **C402.2** | Understand the modeling of power-frequency dynamics and design power-frequency controller |
| **C402.3** | Understand the interaction between reactive power and voltage and the various control methods. |
| **C402.4** | Understand and to find solution to Economic despatch and unit commitment problems in power systems. |
| **C402.5** | Understand the need of computer controls to energy management using SCADA and its application for real time operation and control |

**COURSE CODE: C403 AU CODE/SUBJECT: EE8703 - RENEWABLE ENERGY SYSTEMS**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C403.1** | Ability to create awareness about renewable Energy Sources and technologies |
| **C403.2** | Ability to get adequate inputs on a variety of issues in harnessing wind energy |
| **C403.3** | Ability to acquire knowledge about solar energy and thermal systems |
| **C403.4** | Ability to understand basics about biomass energy. |
| **C403.5** | Ability to recognize current and possible future role of renewable energy sources |

**COURSE CODE: C405 AU CODE/SUBJECT: GE8074/Human Rights**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C405.1** | Engineering students will acquire the basic knowledge of human rights. |
| **C405.2** | Engineering students will acquire the basic knowledge of human rights. |
| **C405.3** | Engineering students will acquire the basic knowledge of human rights. |
| **C405.4** | Engineering students will acquire the basic knowledge of human rights. |
| **C405.5** | Engineering students will acquire the basic knowledge of human rights. |

**COURSE CODE: C406 AU CODE/SUBJECT: EE8010 – Power System Transients**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C406.1** | Able to design and analyze the response of electrical circuit transients comprising R, L, C and to extend this knowledge to understand the transient behaviour of the real time power system. |
| **C406.2** | Able to analyze the resistance and load switching, the normal and abnormal switching circuits understand the consequences of switching transients in power system networks. |
| **C406.3** | To acquire a comprehensive knowledge about lightning discharges and its impact on power system components to design protection circuits. |
| **C406.4** | Ability to model the transmission line and to understand the wave propagation of voltage and current for different excitations. To analyze the transient behavior of a transmission line with the use of Bewley's lattice diagram |
| **C406.5** | Able to understand the transient response of a power system for the various types of faults on integrated power systems and also know the basic design and simulation of transient computations using EMTP. |



**COURSE CODE: C407 AU CODE/SUBJECT: 8711/Power System Simulation Lab**

**Enlistment of Course Outcomes:**

The students will be able

| Course Outcomes | STATEMENT |
|---|---|
| **C407.1** | To develop Matlab programs for the following basic problems a) Formation of bus admittance and impedance matrices 2) compute line parameters. |
| **C407.2** | To understand the concepts of power flow solution of small systems using Gauss-Seidel and Newton Raphson method. To develop Matlab program for DC OPF for solving state estimation problem. |
| **C407.3** | To develop Matlab programs to understand and analyse the symmetrical and unsymmetrical fault analysis. |
| **C407.4** | To develop Matlab programs to understand and analyse the economic dispatch and unit commitment problems. |
| **C407.5** | To develop simulink models to understand and analyse the LFC problem. To develop simple models using EMTP software. |

**COURSE CODE:** C408

**AU CODE/SUBJECT: EE8712 – RENEWABLE ENERGY SYSTEMS LABORATORY**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C408.1** | Ability to understand and analyze Solar Renewable energy systems |
| **C408.2** | Ability to understand and analyze Wind Renewable energy systems |
| **C408.3** | Ability to simulate the various Renewable energy sources. |
| **C408.4** | Ability to understand and analyze of hybrid power systems |
| **C408.5** | Ability to understand and analyze of Fuel Cell |

**SEMESTER VIII**

**COURSE CODE:** C409 **AU CODE/SUBJECT:** EE8015- Electric Energy Genration, Utilization and Conservation.

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C409.1** | To understand the main aspects of generation, utilization and conservation and Students can able to understand the energy saving concept by different ways of illumination. |
| **C409.2** | To construct an electric connection for any domestic appliance like refrigerator as well as to design a battery charging circuit for a specific household application. |
| **C409.3** | Students can Understand the knowledge on different methods of electric heating and electric welding and to identify an appropriate method of heating for any particular industrial application. |
| **C409.4** | To realize the appropriate type of electric supply system as well as to evaluate the performance of a traction unit and also to understand the main aspects of traction. |
| **C409.5** | To evaluate domestic wiring connection and debug any faults occurred. |

**COURSE CODE: C410 AU CODE/SUBJECT: EE8018 – Microcontroller Based System Design**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C410.1** | Able to understand the architecture of PIC 16X and 17x series with its memory considerations, file structures, addressing modes and instruction sets. |
| **C410.2** | To learn the concepts of interrupts and its types with its timer programming and to analyse the soft key with its switch mechanism and display of strings. |
| **C410.3** | To understand the concept of buses like Inter-integrated circuit bus, SPI and peripheral interfacing like ADC,DAC and data handling circuit. |
| **C410.4** | To analyse the ARM architecture with its model and development tools and to understand the concept of addressing modes with its instruction sets and memory considerations |
| **C410.5** | To learn the pipeline organization of ARM processors along with ARM application programs |

**COURSE CODE:C411 AU CODE/SUBJECT: EE8811 / PROJECT WORK**

**Enlistment of Course Outcomes:**

| Course Outcomes | STATEMENT |
|---|---|
| **C411.1** | Ability to research the solution for any practical problems arising in their field of study with the knowledge acquired through their course of study. |
| **C411.2** | Ability to plan, evaluate and design a solution to meet the dynamic change in needs of the society with insight knowledge of professional and ethical codes. |
| **C411.3** | Ability to meet the core competencies and demonstrate the knowledge of work with a cutting edge technology. |
| **C411.4** | Ability to meet the goals within a time limit in multidisciplinary fields by working individually or with a peer group and disclose the same with an effective report writing . |
| **C411.5** | Ability to update the skill through different domains and create an innovative solution to the future growth of the society. |



**COURSE CODE: C101 AU CODE/SUBJECT: HS8151/ Communicative English**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **1** | **2** | **3** | **4** |
| **C101.1** | - | - | - | - | - | - | - | - | 2 | 3 | - | - | - | - | 1 | 3 |
| **C101.2** | - | 1 | - | 2 | - | - | - | - | - | 3 | - | - | - | 1 | 2 | 3 |
| **C101.3** | - | 2 | - | 3 | - | - | - | - | - | 2 | - | - | - | 1 | 2 | 3 |
| **C101.4** | - | - | - | - | - | - | - | - | 2 | 2 | - | - | - | 2 | 1 | 3 |
| **C101.5** | - | 2 | 1 | 1 | 2 | - | 2 | - | - | 3 | - | - | 3 | 3 | 3 | 3 |

**COURSE CODE: C102 AU CODE/SUBJECT: MA8151/ Engineering Mathematics - I**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C102.1 | 3 | 3 | 3 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 1 | 0 |
| C102.2 | 3 | 3 | 3 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 1 | 0 |
| C102.3 | 3 | 3 | 3 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 1 | 0 |
| C102.4 | 3 | 3 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 1 | 0 |
| C102.5 | 3 | 3 | 3 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 2 | 0 |

**COURSE CODE: C103 AU CODE/SUBJECT: PH8151/ Engineering Physics**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C103.1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | - | 3 | 2 | 1 | 2 | 1 | 2 | 2 | 1 |
| C103.2 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | - | 2 | 2 | 2 | 1 | 2 | 3 | 2 | 2 |
| C103.3 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | - | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 |
| C103.4 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | - | - | 1 | 1 | 3 | 2 | 2 | 1 | 2 |
| C103.5 | 3 | 3 | 3 | 3 | 2 | 1 | 2 | - | 3 | 1 | 1 | 3 | 3 | 2 | 2 | 3 |

**COURSE CODE: C104 AU CODE/SUBJECT: CY8151/ Engineering Chemistry**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C104.1 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 0 | 2 | 3 | 2 | 3 | 2 | 0 | 2 | 2 |
| C104.2 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 0 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 2 |
| C104.3 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 0 | 2 | 2 | 3 | 3 | 2 | 0 | 2 | 2 |
| C104.4 | 2 | 3 | 2 | 1 | 2 | 2 | 3 | 0 | 2 | 2 | 2 | 3 | 1 | 0 | 2 | 2 |
| C104.5 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |

**COURSE CODE: C105 AU CODE/SUBJECT: GE8151/ Problem Solving and Python Programming**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C105.1 | - | - | - | - | - | - | - | - | 2 | 3 | - | - | - | - | 1 | 3 |
| C105.2 | - | 1 | - | 2 | - | - | - | - | - | 3 | - | - | - | 1 | 2 | 3 |
| C105.3 | - | 2 | - | 3 | - | - | - | - | - | 2 | - | - | - | 1 | 2 | 3 |
| C105.4 | - | - | - | - | - | - | - | - | 2 | 2 | - | - | - | 2 | 1 | 3 |
| C105.5 | - | 2 | 1 | 1 | 2 | - | 2 | - | - | 3 | - | - | 3 | 3 | 3 | 3 |

**COURSE CODE: C106 AU CODE/SUBJECT: GE8152/ Engineering Graphics**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C106.1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | - | 3 | 2 | 1 | 2 | 1 | 2 | 2 | 1 |
| C106.2 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | - | 2 | 2 | 2 | 1 | 2 | 3 | 2 | 2 |
| C106.3 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | - | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 |
| C106.4 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | - | - | 1 | 1 | 3 | 2 | 2 | 1 | 2 |
| C106.5 | 3 | 3 | 3 | 3 | 2 | 1 | 2 | - | 3 | 1 | 1 | 3 | 3 | 2 | 2 | 3 |

**COURSE CODE: C107 AU CODE/SUBJECT: GE8161/ Problem Solving and Python Programming Laboratory**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C107.1 | - | - | - | - | - | - | - | - | 2 | 3 | - | - | - | - | 1 | 3 |
| C107.2 | - | 1 | - | 2 | - | - | - | - | - | 3 | - | - | - | 1 | 2 | 3 |
| C107.3 | - | 2 | - | 3 | - | - | - | - | - | 2 | - | - | - | 1 | 2 | 3 |
| C107.4 | - | - | - | - | - | - | - | - | 2 | 2 | - | - | - | 2 | 1 | 3 |
| C107.5 | - | 2 | 1 | 1 | 2 | - | 2 | - | - | 3 | - | - | 3 | 3 | 3 | 3 |

**COURSE CODE: C108 AU CODE/SUBJECT: BS8161/ Physics and Chemistry Laboratory Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C108.1 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 |
| C108.2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 |
| C108.3 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 |
| C108.4 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 0 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 |
| C108.5 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 1 |

**SEMESTER II**

**COURSE CODE: C109 AU CODE/SUBJECT: HS8251/ Technical English**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C109.1 | - | - | - | - | - | - | - | - | 2 | 3 | - | - | **2** | **-** | **2** | **3** |
| C109.2 | - | 1 | - | 2 | - | - | - | - | - | 3 | - | - | **-** | **-** | **1** | **3** |
| C109.3 | - | 2 | - | 3 | - | - | - | - | - | 2 | - | - | **-** | **-** | **2** | **3** |
| C109.4 | - | - | - | - | - | - | - | - | 2 | 2 | - | - | **-** | **-** | **2** | **3** |
| C109.5 | - | 2 | 1 | 1 | 2 | - | 2 | - | - | 3 | - | - | **1** | **-** | **3** | **3** |

**COURSE CODE: C110 AU CODE/SUBJECT: MA8251/ Engineering Mathematics - II**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C110.1 | 3 | 3 | 3 | 1 | 2 | 3 | 0 | 0 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 0 |
| C110.2 | 3 | 3 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 2 | 1 | 0 |
| C110.3 | 3 | 3 | 3 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 0 |
| C110.4 | 3 | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 1 | 0 |
| C110.5 | 3 | 3 | 3 | - | - | - | - | - | - | - | - | 2 | | | | |

**COURSE CODE: C111 AU CODE/SUBJECT: PH8253/ Physics For Electronics**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C111.1 | 3 | 3 | 3 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 |
| C111.2 | 3 | 3 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 3 | 3 | 2 |
| C111.3 | 3 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 2 | 1 |
| C111.4 | 3 | 3 | 3 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 3 | 3 | 2 | 1 | 3 |
| C111.5 | 3 | 3 | 3 | 2 | 3 | 1 | 0 | 0 | 2 | 0 | 2 | 3 | 1 | 1 | 1 | 1 |

**COURSE CODE: C112 AU CODE/SUBJECT: BE8252/ Basic Civil and Mechanical Engineering**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C112.1 | - | - | - | - | - | - | - | - | 2 | 3 | - | - | **2** | **-** | **2** | **3** |
| C112.2 | - | 1 | - | 2 | - | - | - | - | - | 3 | - | - | **-** | **-** | **1** | **3** |
| C112.3 | - | 2 | - | 3 | - | - | - | - | - | 2 | - | - | - | - | **2** | **3** |
| C112.4 | - | - | - | - | - | - | - | - | 2 | 2 | - | - | - | - | **2** | **3** |
| C112.5 | - | 2 | 1 | 1 | 2 | - | 2 | - | - | 3 | - | - | **1** | **-** | **3** | **3** |

**COURSE CODE: C113 AU CODE/SUBJECT: EE8251/Circuit Theory**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C113.1 | 3 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C113.2 | 3 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C113.3 | 3 | 3 | 3 | 3 | 1 | 2 | 3 | 1 | 2 | 1 | 2 | 3 | 3 | 3 | 2 | 1 |
| C113.4 | 3 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 1 |
| C113.5 | 3 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 1 |

**COURSE CODE: C114 AU CODE/SUBJECT: GE8291/ Environmental Science and Engineering**

**EMapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C114.1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 2 |
| C114.2 | 0 | 0 | 3 | 0 | 0 | 3 | 3 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 2 |
| C114.3 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 2 |
| C114.4 | 0 | 0 | 3 | 0 | 0 | 2 | 3 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 2 |
| C114.5 | 0 | 0 | 3 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 2 |

**COURSE CODE: C115 AU CODE/SUBJECT: GE8261/ Engineering Practices Laboratory**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C115.1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 2 | 3 | 2 | 1 |
| C115.2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 2 | 3 | 2 | 1 |
| C115.3 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 2 | 3 | 2 | 1 |
| C115.4 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | 2 | 1 |

**COURSE CODE: C116 AU CODE/SUBJECT: EE8261 – Electric Circuits Laboratory**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C115.1 | 2 | 2 | 0 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 1 | 3 | 2 | 2 | 1 |
| C115.2 | 3 | 2 | 0 | 1 | 1 | 1 | 1 | 3 | 1 | 2 | 0 | 2 | 3 | 2 | 2 | 1 |
| C115.3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |
| C115.4 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |
| C115.5 | 2 | 2 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |

**SEMESTER III**

**COURSE CODE: C201 AU CODE/SUBJECT: MA8353/Transforms and Partial Differential Equations**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C201.1 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 3 | 2 | 2 | 1 |
| C201.2 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 3 | 2 | 2 | 2 |
| C201.3 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 1 | 1 |
| C201.4 | 3 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 2 | 2 | 2 | 2 |
| C201.5 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 0 | 2 | 1 | 2 | 2 | 3 | 1 | 2 | 2 |

**COURSE CODE: C202 AU CODE/SUBJECT: EE8351/Digital Logic Circuits**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C202.1 | 3 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 2 |
| C202.2 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| C202.3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 2 |
| C202.4 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 |
| C202.5 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 |

**COURSE CODE:C203 AU CODE/SUBJECT:EE8391/Electromagnetic Theory**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C203.1 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 2 | 2 | 0 |
| C203.2 | 1 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 2 | 2 | 0 |
| C203.3 | 1 | 1 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 2 | 2 | 0 |
| C203.4 | 1 | 1 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |
| C203.5 | 1 | 2 | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |

**COURSE CODE: C204 AU CODE/SUBJECT:EE8301/Electrical Machines -I**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C204.1 | 3 | 3 | 3 | 2 | - | 1 | 1 | - | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C204.2 | 3 | 3 | 3 | 2 | - | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 1 |
| C204.3 | 3 | 3 | 3 | 2 | - | 1 | 1 | - | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C204.4 | 3 | 3 | 3 | 2 | - | 1 | 1 | - | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C204.5 | 3 | 3 | 3 | 2 | - | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 1 |

**COURSE CODE: C205 AU CODE/SUBJECT: C205/Electron Devices and Circuits**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C205.1 | 3 | 2 | 3 | 3 | 3 - | - | - | - | 3 | 2 | 3 | 3 | 3 | 2 | 1 | 1 |
| C205.2 | 3 | 1 | 3 | 2 | 3 | - | - | - | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 2 |
| C205.3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| C205.4 | 3 | 3 | 3 | 3 | 3 | - | 2 | - | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| C205.5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 1 |

**COURSE CODE: C206 AU CODE/SUBJECT: ME8792/ Power Plant Engineering**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C206.1 | 3 | 2 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 3 | 3 | 2 | 3 | 1 |
| C206.2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 3 | 2 | 2 | 1 |
| C206.3 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 1 | 3 | 3 | 2 | 3 | 1 |
| C206.4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 3 | 2 | 3 | 3 | 1 |
| C206.5 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 1 | 3 | 3 | 2 | 3 | 3 | 3 | 3 |

**COURSE CODE: C207 AU CODE/SUBJECT: EC8311/ Electronics Laboratory**

**Enlistment of Course Outcomes:**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C207.1 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 1 | 2 |
| C207.2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 1 | 2 |
| C207.3 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 1 | 2 |
| C207.4 | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 1 | 1 |
| C207.5 | 3 | 2 | 2 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 2 | 3 | 2 | 3 | 1 | 2 |

**COURSE CODE: C208 AU CODE/SUBJECT: EE8311/Electrical Machines-I Laboratory**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C208. 1 | 3 | 1 | 1 | 1 | - | - | - | 1 | 2 | 1 | - | 2 | 3 | 2 | - | 1 |
| C208. 2 | 3 | 1 | 1 | 1 | - | - | - | 1 | 2 | 1 | - | 2 | 3 | 2 | - | 1 |
| C208. 3 | 3 | 2 | 3 | 3 | - | - | - | 1 | 2 | 1 | - | 2 | 3 | 2 | - | 1 |
| C208. 4 | 3 | 1 | 1 | 2 | - | - | - | 1 | 2 | 1 | - | 2 | 3 | 2 | - | 1 |
| C208. 5 | 3 | 1 | 1 | 3 | - | - | - | 1 | 2 | 1 | - | 2 | 3 | 2 | - | 1 |

**SEMESTER IV**

**COURSE CODE: C209 AU CODE/SUBJECT: MA8491/ Numerical Methods**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C209.1 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 2 | 1 |
| C209.2 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 2 | 1 |
| C209.3 | 3 | 3 | 2 | 3 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 2 | 1 |
| C209.4 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 2 | 1 |
| C209.5 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 2 | 1 |

**COURSE CODE: C210 AU CODE/SUBJECT: EE8401- Electrical Machines II**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C210.1 | 2 | 2 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 3 | 2 | 2 | 1 |
| C210.2 | 3 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 2 | 3 | 2 | 2 | 1 |
| C210.3 | 2 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |
| C210.4 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |
| C210.5 | 2 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |

**COURSE CODE: C211 AU CODE/SUBJECT: EE8402/ TRANSMISSION AND DISTRIBUTION**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C211.1 | 3 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C211.2 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C211.3 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 2 |
| C211.4 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 2 |
| C211.5 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |

**COURSE CODE: C212 AU CODE/SUBJECT: EE8403/MEASUREMENTS AND INSTRUMENTATION**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C212.1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 3 | 2 | 1 | 1 |
| C212.2 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 | 1 |
| C212.3 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 3 | 2 | 1 | 1 |
| C212.4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 | 1 |
| C212.5 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 3 | 2 | 1 | 1 |

**COURSE CODE:C213 AU CODE/SUBJECT:EE8451-Linear Integrated circuits and Applications**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C213.1 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 2 |
| C213.2 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 3 | 3 | 2 |
| C213.3 | 3 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 2 | 3 | 2 |
| C213.4 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 1 |
| C213.5 | 3 | 2 | 3 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 |

**COURSE CODE: C214 AU CODE/SUBJECT: IC8451/ Control Systems**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C214.1 | 2 | 3 | 3 | 2 | 1 | 3 | 2 | 1 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 1 |
| C214.2 | 2 | 2 | 3 | 2 | 1 | 2 | 1 | 1 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 1 |
| C214.3 | 3 | 2 | 3 | 2 | 1 | 3 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 1 |
| C214.4 | 2 | 3 | 2 | 2 | 1 | 3 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 1 |
| C214.5 | 2 | 3 | 3 | 2 | 1 | 3 | 2 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 1 |

**COURSE CODE: C215 AU CODE/SUBJECT: EE8411- Electrical Machines Laboratory II**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C215.1 | 2 | 2 | 0 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 1 | 3 | 2 | 2 | 1 |
| C215.2 | 3 | 2 | 0 | 1 | 1 | 1 | 1 | 3 | 1 | 2 | 0 | 2 | 3 | 2 | 2 | 1 |
| C215.3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |
| C215.4 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |
| C215.5 | 2 | 2 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |

**COURSE CODE: C216 AU CODE/SUBJECT: EE8461/ Linear and Digital Integrated Circuits Laboratory**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C216.1 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 3 | 2 | 1 |
| C216.2 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 3 | 3 | 2 | 1 |
| C216.3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 0 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C216.4 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 2 | 1 |
| C216.5 | 3 | 2 | 3 | 3 | 3 | 1 | 3 | 1 | 1 | 0 | 2 | 2 | 3 | 3 | 2 | 1 |

**COURSE CODE: C217 AU CODE/SUBJECT: EE8412/Technical Seminar**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C217.1 | 3 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 3 | 3 | 2 | 2 |
| C217.2 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 2 |
| C217.3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 2 |
| C217.4 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 2 |
| C217.5 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 1 | 1 | 2 | 2 | 3 | 3 | 2 | 2 |

**SEMESTER V**

**COURSE CODE: C301 AU CODE/SUBJECT: EE8501 / POWER SYSTEM ANALYSIS**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C301.1 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 1 | 3 | 1 |
| C301.2 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 3 | 3 | 1 |
| C301.3 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 3 | 3 | 3 | 1 |
| C301.4 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 2 |
| C301.5 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 |

**COURSE CODE: C302 AU CODE/SUBJECT: EE8551/ MICROPROCESSORS AND MICROCONTROLLERS**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C302.1 | 3 | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 2 |
| C302.2 | 3 | 2 | 3 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 2 |
| C302.3 | 3 | 2 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 3 | 3 | 2 |
| C302.4 | 3 | 3 | 3 | 2 | 3 | 2 | 1 | 2 | 3 | 1 | 1 | 3 | 3 | 3 | 3 | 3 |
| C302.5 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 3 |

**COURSE CODE: C303 AU CODE/SUBJECT: EE8552/POWER ELECTRONICS**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C303.1 | 3 | 3 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 3 | 2 | 2 | 1 |
| C303.2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 3 | 3 | 1 | 3 | 3 | 3 | 1 |
| C303.3 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 3 | 3 | 1 | 3 | 3 | 3 | 1 |
| C303.4 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 3 | 3 | 1 | 3 | 3 | 3 | 1 |
| C303.5 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 3 | 3 | 1 | 3 | 3 | 3 | 1 |

**COURSE CODE: C304 AU CODE/SUBJECT: EE8591/Digital Signal Processing**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C304.1 | 3 | 2 | 2 | 0 | 3 | 2 | 2 | 1 | 2 | 0 | 1 | 2 | 3 | 3 | 2 | 1 |
| C304.2 | 3 | 2 | 2 | 1 | 3 | 2 | 2 | 0 | 1 | 0 | 1 | 2 | 3 | 3 | 2 | 1 |
| C304.3 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 0 | 0 | 1 | 3 | 3 | 3 | 2 | 1 |
| C304.4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 1 | 0 | 1 | 2 | 3 | 3 | 2 | 1 |
| C304.5 | 3 | 1 | 1 | 0 | 3 | 2 | 2 | 1 | 0 | 0 | 1 | 3 | 2 | 3 | 2 | 1 |

**COURSE CODE: C305 AU CODE/SUBJECT: CS8392/Object Oriented Programming**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C305.1 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |
| C305.2 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |
| C305.3 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |
| C305.4 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |
| C305.5 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |

**COURSE CODE: C307 AU CODE/SUBJECT: EE8511/ Control and Instrumentation Laboratory**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C307.1 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 3 | 2 | 1 |
| C307.2 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C307.3 | 3 | 3 | 3 | 3 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C307.4 | 3 | 2 | 3 | 3 | 3 | 1 | 2 | 1 | 1 | 0 | 1 | 1 | 3 | 3 | 2 | 1 |
| C307.5 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 2 | 1 |

**COURSE CODE: C308 AU CODE/SUBJECT: HS8581/ Professional Communication**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C308.1 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |
| C308.2 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |
| C308.3 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |
| C308.4 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |
| C308.5 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |

**COURSE CODE: C309 AU CODE/SUBJECT: CS8383/Object Oriented Programming Laboratory**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C309.1 | 3 | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 2 |
| C309.2 | 3 | 2 | 3 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 2 |
| C309.3 | 3 | 2 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 3 | 3 | 2 |
| C309.4 | 3 | 3 | 3 | 2 | 3 | 2 | 1 | 2 | 3 | 1 | 1 | 3 | 3 | 3 | 3 | 3 |
| C309.5 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 3 |

**SEMESTER VI**

**COURSE CODE: C310 AU CODE/SUBJECT: EE8601/SOLID STATE DRIVES**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C310.1 | 3 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 1 |
| C310.2 | 3 | 3 | 1 | 2 | 0 | 1 | 1 | 2 | 0 | 2 | 1 | 2 | 3 | 3 | 2 | 1 |
| C310.3 | 3 | 2 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 2 | 1 | 2 | 3 | 3 | 2 | 1 |
| C310.4 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 3 | 3 | 3 | 2 | 1 |
| C310.5 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | 3 | 2 | 2 | 1 |

**COURSE CODE: C311 AU CODE/SUBJECT: EE8602 / Protection and Switchgear**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C311.1 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 2 | 3 | 3 | 2 | 1 |
| C311.2 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | 3 | 2 | 2 | 1 |
| C311.3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 2 | 3 | 2 | 2 | 1 |
| C311.4 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 3 | 3 | 3 | 1 |
| C311.5 | 3 | 3 | 2 | 2 | 1 | 2 | 1 | 0 | 1 | 2 | 1 | 2 | 3 | 2 | 2 | 1 |

**COURSE CODE: C312 AU CODE/SUBJECT: EE8691/ Embedded Systems**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C312.1 | 3 | 2 | 3 | 3 | 3 | 0 | 0 | 0 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 1 |
| C312.2 | 3 | 1 | 3 | 2 | 3 | 0 | 0 | 0 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 1 |
| C312.3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 |
| C312.4 | 3 | 3 | 3 | 3 | 3 | 0 | 2 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 |
| C312.5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

**COURSE CODE:C313 AU CODE/SUBJECT:EE8002/ Design of ElectricalApparatus**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C313.1 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 1 | 2 | 3 |
| C313.2 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 1 | 2 | 3 |
| C313.3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 1 | 2 | 3 |
| C313.4 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 3 | 3 | 3 | 1 | 3 | 3 | 1 | 3 | 3 |
| C313.5 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 1 | 2 | 3 |

**COURSE CODE: C314 AU CODE/SUBJECT:EE8008/SPECIAL ELECTRICAL MACHINES**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C314.1 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 3 | 2 | 1 | 3 | 3 | 3 | 1 |
| C314.2 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 3 | 2 | 1 | 3 | 3 | 3 | 1 |
| C314.3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 3 | 2 | 1 | 3 | 3 | 3 | 1 |
| C314.4 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 3 | 2 | 1 | 3 | 3 | 3 | 1 |
| C314.5 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 3 | 2 | 1 | 3 | 3 | 3 | 1 |

**COURSE CODE: C315 AU CODE/SUBJECT: EE8661/Power Electronics and Drives Laboratory**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C315.1 | 3 | 3 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 1 |
| C315.2 | 3 | 3 | 2 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 0 | 1 |
| C315.3 | 3 | 3 | 3 | 3 | 2 | 0 | 2 | 0 | 0 | 1 | 1 | 1 | 3 | 3 | 0 | 1 |
| C315.4 | 3 | 2 | 3 | 3 | 3 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 0 | 1 |
| C315.5 | 3 | 2 | 3 | 3 | 3 | 0 | 3 | 0 | 0 | 0 | 2 | 2 | 3 | 3 | 0 | 1 |

**COURSE CODE: C316 AU CODE/SUBJECT: EE8681/ MICROPROCESSORS AND MICROCONTROLLERS LABORATORY**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C316.1 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 2 | 3 | 3 | 3 | 1 |
| C316.2 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 3 | 3 | 2 | 1 |
| C316.3 | 3 | 3 | 3 | 3 | 2 | 0 | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 3 | 3 | 1 |
| C316.4 | 3 | 2 | 3 | 3 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C316.5 | 3 | 2 | 3 | 3 | 3 | 1 | 3 | 1 | 1 | 0 | 2 | 2 | 3 | 3 | 2 | 1 |

**COURSE CODE: C317 AU CODE/SUBJECT: EE8611 / MINI PROJECT WORK**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C317.1 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 |
| C317.2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 |
| C317.3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 3 | 3 |
| C317.4 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 |
| C317.5 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 |

## SEMESTER VII

**COURSE CODE:C401 AU CODE/SUBJECT:** EE8701/High Voltage Engineering

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C401.1 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 1 |
| C401.2 | 3 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 2 | 2 | 1 |
| C401.3 | 3 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 1 |
| C401.4 | 3 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 3 | 3 | 2 | 2 | 1 |
| C401.5 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 1 |

**COURSE CODE:C402 AU CODE/SUBJECT: EE8702-Power System Operation and Control**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C402.1 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 3 | 1 |
| C402.2 | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 3 | 1 |
| C402.3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 3 | 2 | 2 | 2 |
| C402.4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 2 | 2 | 3 | 3 | 3 | 2 | 1 |
| C402.5 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

**COURSE CODE: C403 AU CODE/SUBJECT: EE8703 - RENEWABLE ENERGY SYSTEMS**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C403.1 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 1 |
| C403.2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 2 | 1 |
| C403.3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 2 | 1 |
| C403.4 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 2 | 1 |
| C403.5 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 2 | 3 |

**COURSE CODE: C405 AU CODE/SUBJECT: GE8074/Human Rights**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C405.1 | - | - | 3 | 3 | 3 | 3 | 3 | 3 | - | - | - | 3 | - | - | - | 3 |
| C405.2 | - | - | 3 | 3 | 3 | 3 | 3 | 3 | - | - | - | 3 | - | - | - | 3 |
| C405.3 | - | - | 3 | 3 | 3 | 3 | 3 | 3 | - | - | - | 3 | - | - | - | 3 |
| C405.4 | - | - | 3 | 3 | 3 | 3 | 3 | 3 | - | - | - | 3 | - | - | - | 3 |
| C405.5 | - | - | 3 | 3 | 3 | 3 | 3 | 3 | - | - | - | 3 | - | - | - | 3 |

**COURSE CODE: C406 AU CODE/SUBJECT: EE8010 – Power System Transients**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C406.1 | 2 | 3 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 2 | 1 | 1 |
| C406.2 | 3 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 1 |
| C406.3 | 3 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 1 |
| C406.4 | 3 | 3 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 1 |
| C406.5 | 2 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 3 | 3 | 1 |

**COURSE CODE: C407 AU CODE/SUBJECT: 8711/Power System Simulation Lab**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C407.1 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C407.2 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C407.3 | 3 | 3 | 3 | 3 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C407.4 | 3 | 2 | 3 | 3 | 3 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| C407.5 | 3 | 2 | 3 | 3 | 3 | 1 | 3 | 2 | 2 | 1 | 2 | 2 | 3 | 3 | 2 | 1 |

**COURSE CODE:** C408

**AU CODE/SUBJECT: EE8712 – RENEWABLE ENERGY SYSTEMS LABORATORY**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C408.1 | 3 | 1 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 3 | 3 | 3 | 2 | 1 | 1 | 1 |
| C408.2 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| C408.3 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| C408.4 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 1 | 2 |
| C408.5 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 |

**SEMESTER VIII**

**COURSE CODE:** C409 **AU CODE/SUBJECT:** EE8015- Electric Energy Genration, Utilization and Conservation.

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C409.1 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 2 | 3 | 2 | 2 | 1 |
| C409.2 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 2 | 3 | 2 | 2 | 1 |
| C409.3 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 3 | 2 | 2 | 1 |
| C409.4 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 3 | 3 | 1 |
| C409.5 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 3 | 3 | 2 | 1 |

**COURSE CODE: C410 AU CODE/SUBJECT: EE8018 – Microcontroller Based System Design**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C410.1 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 3 | 3 | 1 | 1 | 3 | 3 | 2 | 2 | 2 |
| C410.2 | 3 | 3 | 3 | 2 | 3 | 2 | 1 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 |
| C410.3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 1 | 3 | 3 | 3 | 2 | 2 |
| C410.4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 1 | 1 | 3 | 3 | 3 | 2 | 2 |
| C410.5 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 1 | 1 | 3 | 3 | 3 | 2 | 2 |

**COURSE CODE:C411 AU CODE/SUBJECT: EE8811 / PROJECT WORK**

**Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:**

| Course Outcomes | Program Outcomes | | | | | | | | | | | | Program Specific Outcomes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
| C411.1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 |
| C411.2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 |
| C411.3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C411.4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 |
| C411.5 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 2 |