



New Prince Shri Bhavani
College of Engineering and Technology



Tambaram-Velachery Main Road, Santhosapuram, Chennai-600 073

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Department of Electrical and Electronics Engineering

REGULATION

2021

I YEAR



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Department of Electrical and Electronics Engineering

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C101 YEAR OF STUDY: 2021-22 SEMESTER: I

SUBJECT CODE & SUBJECT NAME: HS3151 & PROFESSIONAL ENGLISH-I

CO	STATEMENT
C101.1	WRITE ESSAYS, E-MAILS, AND LETTERS EFFICIENT WAY.
C101.2	ANALYZE THE EVENTS, REPORTS, ARTICLES AND BLOGS THROUGH COMPREHENSION.
C101.3	ANALYZE THE PROCESS AND PRODUCTS THROUGH TECHNICAL TEXTS
C101.4	WRITE RECOMMENDATIONS AND TRANSCODING FROM NON - VERBAL TO VERBAL.
C101.5	ANALYZE THE VOCABULARY OF VARIOUS FORMS.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C102 YEAR OF STUDY: 2021-22 SEMESTER: I

SUBJECT CODE & SUBJECT NAME: MA3151 & MATRICES AND CALCULUS

CO	STATEMENT
C102.1	APPLY CAYLEY- HAMILTON THEOREM AND ORTHOGONAL TRANSFORMATION FOR DIFFERENT PROCESS OF MATRICES.
C102.2	ANALYZE THE TYPES OF FUNCTIONS AND DIFFERENTIATION RULES FOR REAL LIFE ENGINEERING PROBLEMS.
C102.3	APPLY THE CONCEPTS OF PARTIAL DERIVATIVES AND TOTAL DERIVATIVES IN TAYLOR'S SERIES, JACOBIANS AND MAXIMA AND MINIMA OF FUNCTIONS.
C102.4	APPLY THE RULE OF INTEGRATION IN VARIOUS FUNCTIONS.
C102.5	EVALUATE THE DOUBLE AND TRIPLE INTEGRALS FOR FINDING AREA AND VOLUME OF DIFFERENT PLANE SURFACES.



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C103 YEAR OF STUDY: 2021-22 SEMESTER: I

SUBJECT CODE & SUBJECT NAME: PH3151 & ENGINEERING PHYSICS

CO	STATEMENT
C103.1	EXPLAIN THE BASIC CONCEPTS OF MECHANICS.
C103.2	DESCRIBE WAVE EQUATIONS OF ELECTROMAGNETIC WAVES WITH ITS APPLICATIONS.
C103.3	EXPLAIN THE CONCEPT OF OSCILLATIONS, LASERS AND FIBRE OPTICS
C103.4	COMPREHEND THE IMPORTANCE OF QUANTUM MECHANICS.
C103.5	APPLY QUANTUM MECHANICAL PRINCIPLE TOWARDS THE FORMATION OF ENERGY BANDS..

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C104 YEAR OF STUDY: 2021-22 SEMESTER: I

SUBJECT CODE & SUBJECT NAME: CY3151 & ENGINEERING CHEMISTRY

CO	STATEMENT
C104.1	SUMMARIZE THE METHODS TO PRODUCE SOFT WATER FOR INDUSTRIAL USE AND POTABLE WATER AT CHEAPER COST
C104.2	APPLY BASIC CONCEPTS OF NANOSCIENCE AND NANOTECHNOLOGY IN DESIGNING THE SYNTHESIS OF NANOMATERIALS FOR ENGINEERING AND TECHNOLOGY APPLICATIONS
C104.3	APPLY THE KNOWLEDGE OF PHASE RULE AND COMPOSITES FOR MATERIAL SELECTION REQUIREMENTS
C104.4	DESCRIBE THE VARIOUS TYPES OF FUELS AND THE MANUFACTURE OF SOLID, LIQUID AND GASEOUS FUEL TO MEET ENVIRONMENTAL SUSTAINABILITY
C104.5	EXPLAIN THE PRINCIPLES AND GENERATION OF ENERGY IN NUCLEAR REACTORS, WIND ENERGY AND SOLAR ENERGY AND BATTERIES



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C105 YEAR OF STUDY: 2021-22 SEMESTER: I

SUBJECT CODE & SUBJECT NAME: GE3151 & PROBLEM SOLVING AND PYTHON PROGRAMMING

CO	STATEMENT
C105.1	SUMMARIZE THE METHODS TO PRODUCE SOFT WATER FOR INDUSTRIAL USE AND POTABLE WATER AT CHEAPER COST
C105.2	APPLY BASIC CONCEPTS OF NANOSCIENCE AND NANOTECHNOLOGY IN DESIGNING THE SYNTHESIS OF NANOMATERIALS FOR ENGINEERING AND TECHNOLOGY APPLICATIONS
C105.3	APPLY THE KNOWLEDGE OF PHASE RULE AND COMPOSITES FOR MATERIAL SELECTION REQUIREMENTS
C105.4	DESCRIBE THE VARIOUS TYPES OF FUELS AND THE MANUFACTURE OF SOLID, LIQUID AND GASEOUS FUEL TO MEET ENVIRONMENTAL SUSTAINABILITY
C105.5	EXPLAIN THE PRINCIPLES AND GENERATION OF ENERGY IN NUCLEAR REACTORS, WIND ENERGY AND SOLAR ENERGY AND BATTERIES

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C106 YEAR OF STUDY: 2021-22 SEMESTER: I

SUBJECT CODE & SUBJECT NAME: GE3152/ HERITAGE OF TAMILS

CO	STATEMENT
C106.1	SUMMARIZE ABOUT LANGUAGES, LITERATURES AND SCRIPTS.
C106.2	EXPLAIN MIDDLE STONE, MODERN SCULPTURES, PANCHALOGAIDOLS AND MUSICAL INSTRUMENTS.
C106.3	EXPLAIN ABOUT THE FOLK GODS, ARTS AND HEROIC SPORTS.
C106.4	SUMMARIZE THE POLITICAL THEORIES OF TAMILS.
C106.5	SUMMARIZE INDIAN NATIONAL MOVEMENT CONTRIBUTION OF TAMILS TO INDIAN CULTURE.



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COURSE OUTCOME

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COURSE NAME: C106 YEAR OF STUDY: 2021-22 SEMESTER: I

SUBJECT CODE & SUBJECT NAME: GE3152/ HERITAGE OF TAMILS

CO	STATEMENT
C106.1	SUMMARIZE ABOUT LANGUAGES, LITERATURES AND SCRIPTS.
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C106.5	SUMMARIZE INDIAN NATIONAL MOVEMENT CONTRIBUTION OF TAMILS TO INDIAN CULTURE.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C107 YEAR OF STUDY: 2021-22 SEMESTER: I

SUBJECT CODE & SUBJECT NAME: GE3171/ PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY

CO	STATEMENT
C107.1	WRITE A PYTHON PROGRAMS FOR SIMPLE COMPUTATIONAL PROBLEMS.
C107.2	WRITE PYTHON PROGRAMS WITH CONDITIONALS AND LOOPS.
C107.3	WRITE A PYTHON PROGRAMS STEP-WISE BY DEFINING FUNCTION AND CALLING THEM.
C107.4	WRITE A PYTHON PROGRAMS USING LISTS, TUPLES, AND DICTIONARIES FOR REPRESENTING COMPOUND DATA.
C107.5	WRITE A PYTHON PROGRAM FOR READ AND WRITE DATA FROM TO FILES IN PYTHON.



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C108

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: BS3171/ PHYSICS AND CHEMISTRY
LABORATORY

CO	STATEMENT
C108.1	CALCULATE THE YOUNG'S MODULUS BY NON-UNIFORM BENDING, SIMPLE HARMONIC OSCILLATORS BY TORSION PENDULUM.
C108.2	CALCULATE THE THICKNESS OF A THIN WIRE BY AIR WEDGE AND VELOCITY OF SOUND, COMPRESSIBILITY OF LIQUID USING ULTRA SONIC INTERFEROMETER.
C108.3	CALCULATE THE WAVELENGTH, ACCEPTANCE ANGLE AND NUMERICAL APERTURE USING LASER.
C108.4	ESTIMATE THE AMOUNT OF HARDNESS, CHLORIDE, ALKALINITY IN WATER SAMPLES.
C108.5	ESTIMATE THE AMOUNT OF ACID, IRON CONTENT PRESENT IN A GIVEN SOLUTION BY USING PH, CONDUCTIVITY AND POTENTIOMETRIC TITRATION.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C109

YEAR OF STUDY: 2021-22

SEMESTER: I

SUBJECT CODE & SUBJECT NAME: GE3172/ ENGLISH LABORATORY

CO	STATEMENT
C109.1	ANALYZE GENERAL INFORMATION AS WELL AS COMPLEX ACADEMIC SITUATIONS.
C109.2	DESCRIBE THEIR PERSONAL EXPERIENCES, EVENTS, DOCUMENTARIES AND INTERVIEWS IN BOTH TEMPORARY AND PERMANENT SITUATIONS.
C109.3	DESCRIBE PRODUCTS AND PROCESSES AND EXPLAIN THEIR PURPOSES CLEARLY AND ACCURATELY.
C109.4	APPLY SPEAKING SKILLS IN FORMAL AND INFORMAL COMMUNICATIVE CONTEXTS.
C109.5	ANALYZE OR USE THEIR OPINIONS EFFECTIVELY IN BOTH FORMAL AND INFORMAL DISCUSSION.



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C110 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: GE3251/ PROFESSIONAL ENGLISH II

CO	STATEMENT
C110.1	WRITE ESSAYS AND EMAILS IN DIFFERENT FORMS EFFECTIVELY.
C110.2	WRITE LETTERS AND RESPONSES TO COMPLAINTS FOR THE CAUSAL RELATIONS.
C110.3	ANALYZE THE NEWS REPORTS, EXCERPTS AND CASE STUDIES.
C110.4	WRITE THE REPORTS OF EVENTS AND TRANSCODING.
C110.5	WRITE JOB APPLICATION WITH RESUME IN THE CONTEXT OF JOB SEARCH.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C111 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: MA3251/ STATISTICS AND NUMERICAL METHODS

CO	STATEMENT
C110.1	ANALYZE THE CONCEPTS OF SAMPLING, MEAN AND VARIANCE USING VARIOUS TESTS.
C110.2	ANALYZE THE CONCEPTS OF DESIGN OF EXPERIMENTS USING ANOVA.
C110.3	SOLVE THE ALGEBRAIC AND NUMERICAL EQUATIONS USING NUMERICAL TECHNIQUES.
C110.4	EVALUATE THE NUMERICAL DIFFERENTIATION AND INTEGRATION USING DIFFERENT METHODS.
C110.5	SOLVE THE FIRST ORDER DIFFERENTIAL EQUATIONS USING VARIOUS METHODS.



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C111 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: MA3251/ STATISTICS AND NUMERICAL METHODS

CO	STATEMENT
C111.1	ANALYZE THE CONCEPTS OF SAMPLING, MEAN AND VARIANCE USING VARIOUS TESTS.
C111.2	ANALYZE THE CONCEPTS OF DESIGN OF EXPERIMENTS USING ANOVA.
C111.3	SOLVE THE ALGEBRAIC AND NUMERICAL EQUATIONS USING NUMERICAL TECHNIQUES.
C111.4	EVALUATE THE NUMERICAL DIFFERENTIATION AND INTEGRATION USING DIFFERENT METHODS.
C111.5	SOLVE THE FIRST ORDER DIFFERENTIAL EQUATIONS USING VARIOUS METHODS.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C113 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: PH3203/ PHYSICS FOR ELECTRICAL ENGINEERING

CO	STATEMENT
C113.1	SUMMARIZE THE BASICS OF CRYSTALLOGRAPHY AND ITS IMPORTANCE.
C113.2	EXPLAIN THE ELECTRICAL AND MAGNETIC PROPERTIES OF MATERIALS.
C113.3	APPLY THE BASICS OF SEMICONDUCTOR PHYSICS IN DEVICE APPLICATIONS.
C113.4	COMPREHEND THE DIFFERENT PROPERTIES OF OPTICAL MATERIALS AND THE FUNCTIONING OF OPTO- ELECTRONIC DEVICES.
C113.5	DESCRIBE THE BASICS OF QUANTUM STRUCTURES AND THEIR APPLICATIONS IN NANO DEVICES



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C122 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: BE3255/ BASIC CIVIL AND MECHANICAL ENGINEERING

CO	STATEMENT
C122.1	SUMMARIZE PROFESSION OF CIVIL AND MECHANICAL ENGINEERING
C122.2	DESCRIBE THE PRINCIPLES OF SURVEYING AND ELUCIDATE THE APPLICATIONS OF MATERIALS IN CIVIL ENGINEERING.
C122.3	EXPLAIN THE ELEMENTS OF CONSTRUCTION AND CATEGORIZE THE VARIOUS FORMS OF STRUCTURES.
C122.4	EXPLAIN THE CONSTITUENTS AND OPERATIONAL PRINCIPLES OF DIVERSE POWER PLANTS AND ENGINES.
C122.5	EXPLAIN THE OPERATIONAL PRINCIPLES OF REFRIGERATION AND AIR CONDITIONING SYSTEMS

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C116 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: GE3252 / TAMILS AND TECHNOLOGY

CO	STATEMENT
C116.1	SUMMARIZE THE ANCIENT HISTORY AND TECHNOLOGY OF TAMIL.
C116.2	EXPLAIN THE LIFESTYLE AND ARCHITECTURAL TECHNIQUES OF THE SANGAM PERIOD.
C116.3	EXPLAIN THE BUSINESS PRACTICES AND CURRENCY EXCHANGE OF ANCIENT TAMIL PEOPLE.
C116.4	SUMMARIZE THE AGRICULTURE AND IRRIGATION TECHNOLOGY IN SANGAM PERIOD.
C116.5	EXPLAIN THE COMPUTER APPLICATIONS IN TAMIL TECHNOLOGICAL DEVELOPMENT.



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C118 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: GE3251 / ENGINEERING GRAPHICS

CO	STATEMENT
C118.1	DRAW THE VARIOUS CURVES USED IN ENGINEERING PRACTICES.
C118.2	DRAW THE PROJECTIONS OF STRAIGHT LINES WHICH ARE INCLINED TO BOTH THE PLANES.
C118.3	DRAW THE PROJECTIONS OF SOLIDS INCLINED TO ONE PLANE AND PARALLEL TO OTHER PLANE.
C118.4	DRAW THE PROJECTIONS OF SECTIONED SOLIDS AND DRAW THE DEVELOPMENT OF LATERAL SURFACES OF A SOLID.
C118.5	DRAW THE ISOMETRIC PROJECTIONS AND PERSPECTIVE PROJECTIONS OF SIMPLE SOLIDS.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C122 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: BE3255/ BASIC CIVIL AND MECHANICAL ENGINEERING

CO	STATEMENT
C122.1	SUMMARIZE PROFESSION OF CIVIL AND MECHANICAL ENGINEERING
C122.2	DESCRIBE THE PRINCIPLES OF SURVEYING AND ELUCIDATE THE APPLICATIONS OF MATERIALS IN CIVIL ENGINEERING.
C122.3	EXPLAIN THE ELEMENTS OF CONSTRUCTION AND CATEGORIZE THE VARIOUS FORMS OF STRUCTURES.
C122.4	EXPLAIN THE CONSTITUENTS AND OPERATIONAL PRINCIPLES OF DIVERSE POWER PLANTS AND ENGINES.
C122.5	EXPLAIN THE OPERATIONAL PRINCIPLES OF REFRIGERATION AND AIR CONDITIONING SYSTEMS



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C123 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: EE3251 / ELECTRIC CIRCUIT ANALYSIS

CO	STATEMENT
C123.1	ANALYZE D.C AND A.C CIRCUITS USING BASIC CIRCUIT LAWS.
C123.2	SOLVE D.C AND A.C CIRCUITS USING NETWORK THEOREMS AND NETWORK REDUCTION TECHNIQUES.
C123.3	ANALYZE THE TRANSIENT RESPONSE OF RL, RC AND RLC CIRCUITS USING LAPLACE TRANSFORM.
C123.4	DESCRIBE THE BEHAVIOR OF RESONANCE AND COUPLED CIRCUITS.
C123.5	ANALYZE THREE PHASE BALANCED AND UNBALANCED CIRCUITS WITH STAR AND DELTA CONNECTED LOAD.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C124 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: GE3272 / COMMUNICATION LABORATORY / FOREIGN LANGUAGE

CO	STATEMENT
C124.1	APPLY VARIOUS GROUP DISCUSSION SKILLS TO TAKE PART IN EFFECTIVE DISCUSSIONS IN A PROFESSIONAL CONTEXT.
C124.2	ANALYZE CONCEPTS AND PROBLEMS AND MAKE EFFECTIVE PRESENTATIONS EXPLAINING THEM CLEARLY
C124.3	WRITE ESSAYS, EMAILS, REPORTS AND LETTERS EFFICIENT WAY
C124.4	WRITE THE SHORT ARTICLES AND INSTRUCTIONS
C124.5	WRITE A JOB APPLICATION, COVER LETTER AND RECOMMENDATIONS.



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C125 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: GE3271 / ENGINEERING PRACTICES
LABORATORY

CO	STATEMENT
C125.1	SUMMARIZE THE PLUMBING AND CARPENTRY OF RESIDENTIAL AND INDUSTRIAL BUILDING
C125.2	DESIGN OF DIFFERENT JOINTS USING WELDING WORK
C125.3	DEMONSTRATE OF FOUNDRY OPERATIONS & FITTING MODELS
C125.4	DESIGN OF RESIDENTIAL HOUSE WIRING, LAMP WIRING AND ENERGY METER CALIBRATION
C125.5	STUDY OF ELECTRONIC EQUIPMENTS, ASSEMBLING AND TESTING OF PCB COMPONENTS

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C128 YEAR OF STUDY: 2021-22 SEMESTER: II

SUBJECT CODE & SUBJECT NAME: GE3271 / ENGINEERING PRACTICES
LABORATORY

CO	STATEMENT
C128.1	EVALUATE OUTPUT CURRENT AND VOLTAGE FOR ELECTRIC CIRCUITS USING THEVENIN'S AND NORTON'S THEOREMS.
C128.2	EVALUATE OUTPUT CURRENT AND VOLTAGE FOR ELECTRIC CIRCUITS USING FUNDAMENTAL ELECTRICAL LAWS WITH EXPERIMENTAL SET UP.
C128.3	EVALUATE OUTPUT CURRENT VOLTAGE AND POWER N FOR ELECTRIC CIRCUITS USING RECIPROCITY AND MAXIMUM TRANSFER THEOREMS.
C128.4	ANALYZE FREQUENCY RESPONSE OF SERIES & PARALLEL RESONANCE CIRCUITS USING EXPERIMENTAL METHODS.
C128.5	ANALYZE THE TRANSIENT OF RL AND RC CIRCUITS



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C101 YEAR OF STUDY: 2022-23 SEMESTER: III

SUBJECT CODE & SUBJECT NAME: MA3303 & PROBABILITY AND COMPLEX FUNCTIONS

CO	STATEMENT
C101.1	APPLY THE CONCEPT OF PROBABILITY AND STANDARD DISTRIBUTIONS IN REAL LIFE PROBLEMS.
C101.2	ANALYZE THE CONCEPTS OF TWO DIMENSIONAL RANDOM VARIABLES.
C101.3	ANALYZE THE PROPERTIES AND MAPPINGS FOR CONSTRUCTING ANALYTIC FUNCTIONS
C101.4	EVALUATE THE COMPLEX AND CONTOUR INTEGRAL USING CAUCHY'S THEOREM.
C101.5	SOLVE HIGHER ORDER DIFFERENTIAL EQUATIONS OF DIFFERENT TYPES FOR ENGINEERING APPLICATIONS.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C202 YEAR OF STUDY: 2022-23 SEMESTER: III

SUBJECT CODE & SUBJECT NAME: EE3301&ELECTROMAGNETIC FIELDS

CO	STATEMENT
C202.1	APPLY THE VECTOR OPERATORS ON ELECTRIC FIELD AND MAGNETIC FIELD IN A THREE-DIMENSIONAL COORDINATE SYSTEM.
C202.2	APPLY THE ELECTROSTATIC LAWS AND THEOREMS TO OBTAIN ELECTRIC FIELD INTENSITY & ELECTRIC FORCE WITH DISCRETE AND CONTINUOUS CHARGES.
C202.3	APPLY THE CONCEPTS OF ELECTROSTATICS TO OBTAIN THE ELECTRIC FIELD, ELECTRIC POTENTIAL, BOUNDARY CONDITIONS & CAPACITANCE IN DIFFERENT MEDIUMS.
C202.4	APPLY THE MAGNETO STATIC LAWS TO OBTAIN MAGNETIC FIELD INTENSITY, FLUX DENSITY, FORCE POTENTIAL, ENERGY DENSITY & TORQUE.
C202.5	EXPLAIN THE DIFFERENT METHODS OF EMF GENERATION, MAXWELL'S EQUATIONS & ITS APPLICATIONS



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COURSE NAME: C203 YEAR OF STUDY: 2022-23 SEMESTER: III

SUBJECT CODE & SUBJECT NAME: EE3302& DIGITAL LOGIC CIRCUITS

CO	STATEMENT
C203.1	UNDERSTAND THE CONCEPTS OF NUMBER SYSTEMS, DIGITAL LOGIC FAMILIES
C203.2	DESIGN AND IMPLEMENT THE COMBINATIONAL LOGIC CIRCUITS
C203.3	DESIGN AND IMPLEMENT THE SEQUENTIAL LOGIC CIRCUITS.
C203.4	DESIGN THE ASYNCHRONOUS SEQUENTIAL CIRCUITS AND DESCRIBE THE OPERATION OF PROGRAMMABLE LOGIC DEVICES
C203.5	UNDERSTAND THE DIGITAL SIMULATION TECHNIQUES FOR APPLICATION-ORIENTED LOGIC CIRCUITS USING VHDL CODING.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C204 YEAR OF STUDY: 2022-23 SEMESTER: III

SUBJECT CODE & SUBJECT NAME: EC3301& ELECTRON DEVICES AND CIRCUITS

CO	STATEMENT
C204.1	EXPLAIN THE STRUCTURE AND OPERATION OF PN JUNCTION DEVICES(DIODE, ZENER DIODE, LED,LASER DIODE)
C204.2	ANALYZE CLIPPER CLAMPER HALF WAVE AND FULL WAVE RECTIFIER, REGULATOR CIRCUITS USING PN JUNCTION DIODES
C204.3	ANALYZE THE STRUCTURE AND CHARACTERISTICS OF BJT, FET, MOSFET,UJT, THYRISTOR AND IGBT.
C204.4	ANALYZE THE PERFORMANCE OF VARIOUS CONFIGURATION OF BJT AND MOSFET BASED AMPLIFIER.
C204.5	EXPLAIN THE CHARACTERISTICS OF MOS-BASED CASCADE DIFFERENTIAL AMPLIFIER AND FEEDBACK, OSCILLATORS



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REGULATION 2021

COURSE NAME: C205 YEAR OF STUDY: 2022-23 SEMESTER: III

SUBJECT CODE & SUBJECT NAME: EE3303& ELECTRICAL MACHINES-I

CO	STATEMENT
C205.1	APPLY THE LAWS GOVERNING THE ELECTROMECHANICAL ENERGY CONVERSION FOR SINGLY AND MULTIPLE EXCITED SYSTEMS.
C205.2	EXPLAIN THE CONSTRUCTION, WORKING PRINCIPLE OF DC GENERATORS, ARMATURE REACTION, COMMUTATION TECHNIQUES, TYPES AND CHARACTERISTICS OF GENERATOR.
C205.3	EXPLAIN THE WORKING PRINCIPLE, TORQUE EQUATION, SPEED CONTROL, STARTING METHODS, LOAD CHARACTERISTICS, LOSSES AND EFFICIENCY, AND DIFFERENT TESTING OF DC MOTORS.
C205.4	DESCRIBE THE CONSTRUCTION, PRINCIPLE OF OPERATION AND DRAW THE EQUIVALENT CIRCUIT OF TRANSFORMER AND PREDETERMINE THE EFFICIENCY AND REGULATION.
C205.5	DESCRIBE THE WORKING PRINCIPLE OF AUTO TRANSFORMER, THREE PHASE TRANSFORMER WITH DIFFERENT TYPES OF CONNECTIONS.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C206 YEAR OF STUDY: 2022-23 SEMESTER: III

SUBJECT CODE & SUBJECT NAME: CS3353& C PROGRAMMING AND DATA STRUCTURES

CO	STATEMENT
C206.1	WRITE PROGRAMS USING CONDITIONAL STATEMENTS AND EXPRESSION.
C206.2	WRITE PROGRAMS USING FUNCTION AND POINTER.
C206.3	EXPLAIN THE IMPLEMENTATION OF LINEAR DATA STRUCTURES.
C206.4	APPLY THE VARIOUS ALGORITHMS OF TREE DATA STRUCTURE FOR SOLVING REAL WORLD PROBLEMS.
C206.5	APPLY SORTING AND SEARCHING ALGORITHMS FOR SOLVING A GIVEN PROBLEMS.



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C207 YEAR OF STUDY: 2022-23 SEMESTER: III

SUBJECT CODE & SUBJECT NAME: EC3311& ELECTRONIC DEVICES AND CIRCUITS
LABORATORY

CO	STATEMENT
C207.1	EVALUATE THE CHARACTERISTICS OF PN DIODE,ZENER DIODE , TRANSISTOR,JFET,UJT
C207.2	DESIGN AMPLIFIER CIRCUITS R,RL OSCILLATORS,PASSIVE FILTERS AND OBTAIN THE FREQUENCY RESPONSE CHARACTERISTICS
C207.3	ESTIMATE THE CHARACTERISTICS OF A PHTO DIODE, PHOTO TRANSISTOR, LIGHT ACTVATED RELAY, FET.
C207.4	EVALUATE THEUOTPUT PARAETERS FOR SINGLE PHASE AND FULL WAVE RECTIFIER
C207.5	SUMMARIZE THE FREQUENCY AND PHASE MEASUREMNT USING CRO

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C208 YEAR OF STUDY: 2022-23 SEMESTER: III

SUBJECT CODE & SUBJECT NAME: EE3311& ELECTRICAL MACHINES-I
LABORATORY

CO	STATEMENT
C208.1	ANALYSE THE OPEN CIRCUIT AND LOAD CHARACTERISTICS IF DC SHUNT GENERATOR AND COMPOUND GENERATOR
C208.2	ANALYSE THE LOAD TEST ON DC SHUNT , DC COMPOUND AND DC SERIES MOTOR
C208.3	ANALYSE THE SWINBURNE TEST, SPEED CONTROL OF DC SHUN MOTOR AND HOPKINSON TEST- DC MOTOR-GENERATOR SET
C208.4	ANALYSE THE SHORT CIRCUIT,SUMPNERS TEST AND SEPARATION OF NO LOAD LOSSES TEST IN SINGLE PHASE TRANSFORMER
C208.5	EXPLAIN THE STUDY OF STARTERS AD THE PHASE TRANSFORMER CONNECTIONS



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C209 YEAR OF STUDY: 2022-23 SEMESTER: III

SUBJECT CODE & SUBJECT NAME: :CS3362& C PROGRAMMING AND DATA STRUCTURES LABORATORY

CO	STATEMENT
C209.1	WRITE PROGRAMS USING CONDITIONAL STATEMENTS AND EXPRESSION.
C209.2	WRITE PROGRAMS USING FUNCTION AND POINTER.
C209.3	APPLY STACK, QUEUE AND LIST ADT'S OPERATIONS FOR SOLVING A GIVEN PROBLEM.
C209.4	EVALUATE VARIOUS KINDS OF SEARCHING AND SORTING TECHNIQUES.
C209.5	APPLY APPROPRIATE HASHING TECHNIQUES FOR THE GIVEN PROBLEM.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C210 YEAR OF STUDY:2022-23 SEMESTER: III

SUBJECT CODE & SUBJECT NAME: GE3361& PROFESSIONAL DEVELOPMENT

CO	STATEMENT
C210.1	STRUCTURE AND ORGANIZE TECHNICAL DOCUMENTS EFFECTIVELY USING ADVANCED MS WORD TOOLS FOR DAY-TO-DAY ACADEMIC REQUIREMENTS.
C210.2	PERFORM DATA OPERATIONS, ANALYSIS, AND VISUALIZATION IN MS EXCEL TO RETRIEVE AND PRESENT DATA EFFICIENTLY.
C210.3	UTILIZE MS EXCEL TO ANALYZE COMPLEX DATASETS AND PRODUCE VISUAL REPRESENTATIONS FOR ENHANCED UNDERSTANDING AND DECISION-MAKING.
C210.4	CREATE HIGH-QUALITY ACADEMIC PRESENTATIONS USING MS POWERPOINT WITH INTEGRATED TABLES, CHARTS, GRAPHS, AND MEDIA FOR CLARITY.
C210.5	PROFESSIONAL PRESENTATIONS EFFECTIVELY.

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REGULATION 2021

COURSE NAME: C211 YEAR OF STUDY: 2022-23 SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: GE3451& ENVIRONMENTAL SCIENCES AND SUSTAINABILITY

CO	STATEMENT
C211.1	EXPLAIN THE CONCEPTS OF ENVIRONMENT, ECOSYSTEM, BIO DIVERSITY AND ITS CONSERVATION
C211.2	EXPLAIN THE CAUSES AND EFFECTS AND CONTROL OF PREVENTIVE MEASURES OF ENVIRONMENTAL POLLUTION
C211.3	UNDERSTAND RENEWABLE AND NON-RENEWABLE RESOURCES, ECONOMIC AND SOCIAL ASPECTS OF SUSTAINABILITY.
C211.4	DESCRIBE THE CONCEPTS OF CARBON CREDIT, ENVIRONMENTAL MANAGEMENT.
C211.5	EXPLAIN THE SUSTAINABILITY PRACTICES, UNDERSTANDING GREEN MATERIALS, ENERGY CYCLES AND ROLE OF SUSTAINABLE URBANISATION.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C212 YEAR OF STUDY: 2022-23 SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: EE3401& TRANSMISSION AND DISTRIBUTION

CO	STATEMENT
C212.1	DESCRIBE THE STRUCTURE OF POWER SYSTEM, COMPUTATION OF TRANSMISSION LINE PARAMETERS FOR DIFFERENT CONFIGURATIONS.
C212.2	EXPLAIN THE TRANSMISSION LINES TO DETERMINE THE LINE PERFORMANCE AND TO UNDERSTAND THE IMPACT OF FERRANTI EFFECT AND CORONA ONLINE PERFORMANCE
C212.3	EXPLAIN THE MECHANICAL DESIGN OF TRANSMISSION LINES, GROUNDING AND TO UNDERSTAND ABOUT THE INSULATORS IN TRANSMISSION SYSTEM.
C212.4	APPLY THE UNDERGROUND CABLES AND UNDERSTAND THE PERFORMANCE ANALYSIS OF UNDERGROUND CABLE.
C212.5	APPLY THE MODELLING, PERFORMANCE ANALYSIS AND MODERN TRENDS IN DISTRIBUTION SYSTEM.

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COURSE NAME: C213 YEAR OF STUDY:2022-23 SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: EE3402&LINEAR INTEGRATED CIRCUITS

CO	STATEMENT
C213.1	EXPLAIN THE BASIC IC FABRICATION OF LINEAR INTEGRATED CIRCUITS.
C213.2	DESIGN INVERTING AND NON-INVERTING AMPLIFIER.
C213.3	DESIGN VARIOUS APPLICATIONS USING OPERATIONAL AMPLIFIER.
C213.4	EXPLAIN WAVEFORM GENERATORS AND SPECIFIC FUNCTION IC'S.
C213.5	EXPLAIN VOLTAGE REGULATORS AND APPLICATION OF IC'S.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C214 YEAR OF STUDY: 2022-23 SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: :EE3403 & MEASUREMENTS AND INSTRUMENTATION

CO	STATEMENT
C214.1	EXPLAIN THE CLASSIFICATION STATIC AND DYNAMIC CHARACTERISTICS ERRORS IN MEASURING INSTRUMENTS
C214.2	DESCRIBE THE TYPES OF MOVING IRON AND MOVING COIL INSTRUMENTS
C214.3	SUMMARISE THE TYPES OF AC/DC BRIDGES AND INSTRUMENTATION AMPLIFIERS
C214.4	EXPLAIN THE CLASSIFICATION OF TRANSDUCERS AND SMART SENSORS
C214.5	DESCRIBE THE A/D CONVERTERS ,D/A CONVERTERS AND BASICS OF PLC PROGRAMMING

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COURSE NAME: C215 YEAR OF STUDY: 2022-23 SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: EE3404 & MICROPROCESSORS AND MICROCONTROLLERS

CO	STATEMENT
C215.1	DESCRIBE THE ARCHITECTURE, MEMORY ORGANIZATION, I/O PORTS, INTERRUPTS AND TIMING DIAGRAM OF 8085.
C215.2	WRITE AN ASSEMBLY LANGUAGE PROGRAM FOR 8085 PROCESSOR WITH LOOP STRUCTURE, COUNTING AND INDEXING.
C215.3	ANALYZE THE CONFIGURATION & INTERFACING OF INTERFACING ICs WITH 8085 & 8051.
C215.4	EXPLAIN THE ARCHITECTURE, MEMORY ORGANIZATION, I/O PORTS, INTERRUPTS AND TIMERS OF 8051.
C215.5	EXPLAIN THE ARCHITECTURE, MEMORY ORGANIZATION, I/O PORTS, INTERRUPTS AND TIMER OF PIC 16/18.

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C216 YEAR OF STUDY: 2022-23 SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: EE3405 & ELECTRICAL MACHINES-II

CO	STATEMENT
C216.1	EXPLAIN THE CONSTRUCTION AND WORKING PRINCIPLES OF SYNCHRONOUS GENERATOR AND TO FIND VOLTAGE REGULATION USING EMF, MMF, ASA METHOD
C216.2	DESCRIBE THE CONSTRUCTION AND WORKING PRINCIPLES OF SYNCHRONOUS MOTOR
C216.3	EXPLAIN THE CONSTRUCTION AND WORKING PRINCIPLE OF THREE PHASE INDUCTION MOTOR
C216.4	EXPLAIN TO ACQUIRE KNOWLEDGE ABOUT THE STARTING AND SPEED CONTROL OF INDUCTION MOTOR
C216.5	DESCRIBE THE CONSTRUCTION AND WORKING PRINCIPLES OF SINGLE PHASE INDUCTION MOTOR AND SPECIAL ELECTRICAL MACHINES

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COURSE NAME: C217 YEAR OF STUDY: 2022-23 SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: EE3411&ELECTRICAL MACHINES -II
LABORATORY

CO	STATEMENT
C217.1	ESTIMATE THE EMF AND MMF METHODS ON ALTERNATORS
C217.2	ESTIMATE THE CHARACTERISTICS OF V AND INVERTED V CURVES OF SYNCHRONOUS MOTOR
C217.3	EVALUATE THE HANDSON EXPERIENCE OF CONDUCTING VARIOUS TESTS ON ALTERNATORS AND BOTAINING THEIR PERFORMANCE INDICES USING STANDARD ANALYTICAL AS WELL AS GRAPHICL AL METHODS TO UNDERSTAND THE IMPORTANCE OF SYNCHRONOUS MACHINES
C217.4	EVALUATE THE HANDSON EXPERIENCE OF CONDUCTING VARIOUS TESTS ON ALTERNATORS AND BOTAINING THEIR PERFORMANCE INDICES USING STANDARD ANALYTICAL AS WELL AS GRAPHICL AL METHODS TO UNDERSTAND THE IMPORTANCE OF SINGLE AND THREE PHASE INDUCTION MOTORS
C217.5	EVALUATE TO ACQUIRE KNOWLEDGE ON SEPARATION OF LOSSES IN THREE PHASE INDUCTION MOTORS

COURSE OUTCOME

REGULATION 2021

COURSE NAME:218 YEAR OF STUDY: 2022-23 SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: EE3412& LINEAR AND DIGITAL CIRCUITS
LABORATORY

CO	STATEMENT
C218.1	DESIGN OF COMBINATIONAL CIRCUITS AND VERIFY ITS OUTPUTS
C218.2	DESIGN OF SYNCHRONOUS LOGIC CIRCUITS AND VERIFY ITS OUTPUT
C218.3	EVALUATE THE OUTPUTS FOR INVERTING , NON-INVERTING,ADDERS,COMPARATORS , INTEGRATORS AND DIFFERENTIATORS
C218.4	EVALUATE THE OUTPUTS FOR 555TIMER APPLICATIONS
C218.5	ESTIMATE THE OUTPUT FOR VARIABLE VOLTAGE REGULATOR

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REGULATION 2021

COURSE NAME: 219 YEAR OF STUDY: 2022-23 SEMESTER: IV

SUBJECT CODE & SUBJECT NAME: EE3413& MICROPROCESSORS AND
MICROCONTROLLERS LABORATORY

CO	STATEMENT
C219.1	WRITE AN ASSEMBLY LANGUAGE PROGRAM FOR SIMPLE ARITHMETIC OPERATIONS, SORTING ,CODE CONVERSIONS AND OBSERVE ITS OUTPUT WITH 8085
C219.2	WRITE AN ASSEMBLY LANGUAGE PROGRAM FOR INTERFACING ADC,DAC,TRAFFIC LIGHT CONTROLLER,KEYBOARD DISPLAY &SERIAL COMMUNICATION WITH 8085
C219.3	WRITE AN ASSEMBLY LANGUAGE PROGRAM WTH CONDITIONAL LOOP & CALLING SUBROUTINE FOR 8051 MICROCONTROLLER AND OBSERVE ITS OUTPUT
C219.4	WRITE AN ASSEMBLY LANGUAGE PROGRAM FOR INTERFACING A/D,D/A,AC&DC MOTORS WITH 8051 MICROCONTROLLER AND OBSERVE IT
C219.5	DESIGN AN EMBEDDED BASED APPLICATIONS AND OBSERVE ITS OUTPUT WITH HARDWARE KIT AND SIMULATION



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COURSE OUTCOME

REGULATION 2021

COURSE NAME:C301

YEAR OF STUDY: 2023-24

SEMESTER: V

SUBJECT CODE & SUBJECT NAME: EE3501&POWER SYSTEM ANALYSIS

CO	STATEMENT
C301.1	SUMMARIZE THE BASIC COMPONENTS OF POWER SYSTEMS FOR DIFFERENT MATRIX MODELS
C301.2	DESCRIBE THE VARIOUS ITERATIVE TECHNIQUES OF POWER SYSTEM ANALYSIS
C301.3	ANALYZE THE DIFFERENT METHODS OF SYMMETRICAL FAULTS ON POWER SYSTEM
C301.4	ANALYZE THE DIFFERENT METHODS OF ASYMMETRICAL FAULTS ON POWER SYSTEM
C301.5	ANALYZE THE DIFFERENT STABILITY METHODS OF STEADY STATE POWER SYSTEM

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C302

YEAR OF STUDY:2023-24

SEMESTER:V

SUBJECT CODE & SUBJECT NAME: EE3591& POWER ELECTRONICS

CO	STATEMENT
C302.1	ANALYZE THE OPERATION OF SEMICONDUCTOR DEVICE, BUCKBOOST CONVERTERS
C302.2	ANALYZE THE OPERATION OF SINGLE PHASE AND THREE PHASE INVERTERS WITH AND WITHOUT PWM TECHNIQUES
C302.3	ANALYZE THE OPERATION OF UNCONTROLLED RECTIFIERS , VOLTAGE DOUBLER CIRCUIT
C302.4	ANALYZE THE OPERATION OF TWO PULSE , THREE PULSE CONVERTER WITH AND WITHOUT SOURCE AND LOAD INDUCTANCE
C302.5	ANALYZE THE OPERATION OF AC VOLTAGE CONTROLLER AND CYCLOCONVERTER



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C303 YEAR OF STUDY: 2023-24 SEMESTER: V

SUBJECT CODE & SUBJECT NAME: EE3503&CONTROL SYSTEMS

CO	STATEMENT
C303.1	APPLY THE TRANSFER FUNCTION MODELS FOR ANALYSIS OF PHYSICAL SYSTEM AND INTRODUCE THE CONTROL SYSTEM COMPONENTS
C303.2	ANALYZE THE TIME RESPONSE AND STEADY STATE ERROR MODULE OF P,PI,PID CONTROLLER
C303.3	ANALYZE THE OPEN LOOP AND CLOSED LOOP FREQUENCY RESPONSE OF SYSTEM BY USING BODE AND POLAR PLOT
C303.4	DESIGN OF COMPONENTS AND CRITERION OF LAG LEAD AND LAG-LEAD COMPENSATION OF FREQUENCY RESPONSE
C303.5	ANALYSE THE STEADYSTATE VARIABLE AND CONCEPT OF CONTROLABILITY AND OBSERVABILITY

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C304 YEAR OF STUDY: 2023-24 SEMESTER:V

SUBJECT CODE & SUBJECT NAME: EE3001&UTILIZATION AND CONSERVATION OF ELECTRICAL ENERGY

CO	STATEMENT
C304.1	SUMMARIZE THE ELECTRICAL TRACTION SYSTEMS AND THEIR PERFORMANCES
C304.2	ANALYZE THE PRINCIPLE AND DESIGN OF VARIOUS ILLUMINATION SYSTEMS AND ENERGY EFFICIENCY LAMPS
C304.3	EXPLAIN THE VARIOUS HEATING AND WELDING
C304.4	SUMMARIZE THE ENERGY AUDITING TECHNIQUES
C304.5	EXPLAIN THE DOMESTIC UTILIZATION OF ELECTRICAL ENERGY



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C314

YEAR OF STUDY: 2023-24

SEMESTER: V

SUBJECT CODE & SUBJECT NAME: EE3014& POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS

CO	STATEMENT
C314.1	SUMMARIZE THE AVAILABLE RENEWABLE ENERGY SOURCES
C314.2	DEMONSTRATE THE WORKING PRINCIPLES OF ELECTRICAL MACHINES FOR WIND ENERGY CONVERSION SYSTEM
C314.3	ANALYSE THE PRINCIPLES OF POWER CONVERTERS USED FOR SOLAR PV SYSTEMS
C314.4	DESCRIBE THE PRINCIPLES OF POWER CONVERTERS USED FOR WIND ENERGY CONVERSION SYSTEM
C314.5	COMPREHEND THE AVAILABLE HYBRID RENEWABLE ENERGY SYSTEMS

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C320

YEAR OF STUDY: 2023-24

SEMESTER: V

SUBJECT CODE & SUBJECT NAME: EE3017& EMBEDDED C PROGRAMMING

CO	STATEMENT
C320.1	EXPLAIN THE STRUCTURED PROGRAM DEVELOPMENT IN C WITH FUNCTIONS AND ARRAYS
C320.2	COMPREHEND THE BASIC CONCEPTS OF EMBEDDED C WITH PROGRAMMING EXAMPLES
C320.3	WRITE DATA CONVERSION AND SERIALIZATION 8051 PROGRAMS IN C USING I/O PORTS
C320.4	WRITE 8051 C PROGRAMS FOR SERIAL PORTS & INTERRUPTS
C320.5	WRITE 8051 PROGRAMS IN C FOR INTERFACING WITH PERIPHERALS



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COURSE OUTCOME

REGULATION 2021

COURSE NAME:C351

YEAR OF STUDY: 2023-24

SEMESTER: V

SUBJECT CODE & SUBJECT NAME: EE3511&POWER ELECTRONICS LABORATORY

CO	STATEMENT
C351.1	ANALYSE THE CHARACTERISTICS OF SCR, TRIAC, MOSFET, IGBT, IGCT, GTO AND PMLDC MOTOR
C351.2	DESIGN A SINGLE PHASE AC TO DC HALF AND FULLY CONTROLLED CONVERTER
C351.3	DESIGN A SWITCH MODE POWER CONVERTER USING MOSFET
C351.4	ANALYSE THE IGBT BASED SINGLE PHASE AND THREE PHASE PWM INVERTER
C351.5	DESIGN A MODEL OF SINGLE PHASE AND THREE PHASE FULL CONVERTER ,DC-DCCINVERTER ,AC VOLTAGE CONTROLLER USING SIMULATION SOFTWARE

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C352

YEAR OF STUDY: 2023-24

SEMESTER: V

SUBJECT CODE & SUBJECT NAME: EE3512& CONTROL AND INSTRUMENTATION LABORATORY

CO	STATEMENT
C352.1	DESIGN A SIMULATION MODEL OF PHYSICAL SYSTEM IN ELECTRIC FIELD
C352.2	ANALYSE THE STABILITY OF LINEAR SYSTEMS IN THE TIME DOMAIN AND FREQUENCY DOMAIN
C352.3	DESIGN COMPENNSATOR BASED ON THE TIME AND FREQUENCY DOMAIN SPECIFICATIONS
C352.4	DEVELOP LNEAR MODEL MAINLY STATE VARIABLE AND TRANSFER FUNCTION MODEL
C352.5	DESIGN A LAG,LEAD COMPENSATORS AND PID CONTROLLERS



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C353

YEAR OF STUDY: 2023-24

SEMESTER: VI

SUBJECT CODE & SUBJECT NAME: EE3601& PROTECTION AND SWITCHGEAR

CO	STATEMENT
C353.1	EXPLAIN PROTECTIVE SCHEMES AND TYPE OF EARTHING.
C353.2	DESCRIBE THE OPERATING PRINCIPLES OF VARIOUS RELAYS.
C353.3	APPLY SUITABLE PROTECTIVE SCHEME FOR THE PROTECTION OF VARIOUS POWER SYSTEM APPARATUS.
C353.4	ANALYSE THE IMPORTANCE OF STATIC RELAYS AND NUMERICAL RELAYS IN POWER SYSTEM PROTECTION.
C353.5	SUMMARIZE THE MERITS AND DEMERITS AND APPLICATION AREAS OF VARIOUS CIRCUIT BREAKERS.

COURSE OUTCOME

REGULATION 2021

COURSE NAME:C354

YEAR OF STUDY: 2023-24

SEMESTER: VI

SUBJECT CODE & SUBJECT NAME :EE3602&POWER SYSTEM OPERATION AND CONTROL

CO	STATEMENT
C354.1	DESCRIBE THE LOAD CHARACTERISTICS, POWER SYSTEM CONTROL METHODS AND FORECASTING METHODS
C354.2	EXPLAIN THE SPEED -LOAD CHARACTERISTICS AND DESIGN THE LOAD FREQUENCY CONTROL ANALYSIS
C354.3	SUMMARIZE THE EFFECT OF REACTIVE POWER CONTROL IN POWER SYSTEM ANND ANALYSIS OF ITS CONTROL TECHNIQUES
C354.4	EXPLAIN THE FORMATION OF UNIT COMMITMENT AND ECONOMIC DISPATCH PROBLEM AND SOLUTION DEVELOPMENT USING DIFFERENT METHODS
C354.5	ANALYZE AND CONTROL THE POWER SYSTEM OPERATION USING COMPUTER AIDED DEVICES



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COURSE OUTCOME

REGULATION 2021

COURSE NAME:C312

YEAR OF STUDY: 2023-24

SEMESTER: VI

SUBJECT CODE & SUBJECT NAME: EE3009&: SPECIAL ELECTRICAL MACHINES

CO	STATEMENT
C312.1	EXPLAIN THE CONSTRUCTION,WORKING AND TORQUE EQUATION OF STEPPER MOTOR
C312.2	DESCRIBE THE CONSTRUCTION,WORKING AND TORQUE EQUATION OF SWITCHED RELUCTANCE MOTOR
C312.3	EXPLAIN THE CONSTRUCTION,WORKING AND TORQUE EQUATION OF PERMANENT MAGNET BRUSHLESS DC MOTOR
C312.4	DESCRIBE THE CONSTRUCTION,WORKING AND TORQUE EQUATION OF PERMANENT MAGNET SYNCHRONOUS MOTOR
C312.5	EXPLAIN THE CONSTRUCTION,WORKING AND TORQUE EQUATION OF HYSTERESIS, AC SERIES AND LINEAR MOTORS

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C356

YEAR OF STUDY: 2023-24

SEMESTER: VI

SUBJECT CODE & SUBJECT NAME: OCS352&IOT CONCEPTS AND APPLICATIONS

CO	STATEMENT
C356.1	EXPLAIN THE ARCHITECTURE OF IOT
C356.2	COMPREHEND THE FUNCTIONAL BLOCKS OF AN IOT ECOSYSTEM
C356.3	DESCRIBE THE VARIOUS PROTOCOLS FOR IOT
C356.4	DESIGN PORTABLE IOT USING ARDUINO/RASPBERRYPI/OPEN PLATFORM
C356.5	ANALYZE APPLICATIONS OF IOT INA REAL TIME SCENARIO



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C315

YEAR OF STUDY: 2023-24

SEMESTER: VI

SUBJECT CODE & SUBJECT NAME: EE3012&ELECTRICAL DRIVES

CO	STATEMENT
C315.1	DESCRIBE THE BASIC REQUIREMENTS OF MOTOR SELECTION FOR DIFFERENT LOAD PROFILES
C315.2	ANALYSE THE STEADY STATE BEHAVIOUR AND STABILITY ASPECTS OF DRIVE SYSTEMS
C315.3	ANALYSE THE DYNAMIC PERFORMANCE OF THE DC DRIVE USING CONVERTER AND CHOPPER CONTROL
C315.4	EXPLAIN THE OPERATION AND PERFORMANCE OF AC DRIVE AND SIMULATE THE AC DRIVE
C315.5	DESIGN THE CONTROLLER FOR ELECTRICAL DRIVES

COURSE OUTCOME

REGULATION 2021

COURSE NAME:329

YEAR OF STUDY: 2023-24

SEMESTER: VI

SUBJECT CODE & SUBJECT NAME: EE3026&DESIGN OF MOTOR AND POWER CONVERTERS FOR ELECTRICAL VEHICLES

CO	STATEMENT
C329.1	UNDERSTAND THE CONCEPT OF ELECTRICAL DRIVE DYNAMICS AND STANDARD DRIVE CYCLES
C329.2	EXPLAIN APPROPRIATE ELECTRIC MACHINE FOR ELECTRIC VEHICLE APPLICATIONS
C329.3	COMPUTE TRANSFER FUNCTION WITH FACTORS SUCH AS CONSTANT, INTEGRAL, DIFFERENTIAL, FIRST ORDER FACTOR AND SECOND ORDER FACTOR (BOTH NUMERATORS & DENOMINATORS).
C329.4	DESIGN OF DC-DC BUCK, BOOST AND BUCK-BOOST CONVERTERS
C329.5	DESIGN A POWER STAGE TRANSFER FUNCTIONS FOR DC-DC CONVERTERS AND TO SIMULATE DC-DC CONVERTERS AND TO OBTAIN GAIN MARGIN AND PHASE MARGIN.



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Department of Electrical and Electronics Engineering

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C359 YEAR OF STUDY: 2023-24 SEMESTER: VI

SUBJECT CODE & SUBJECT NAME: EE3611&POWER SYSTEM LABORATORY

CO	STATEMENT
C359.1	MODEL AND ANALYSE THE PERFORMANCE OF TRANSMISSION LINES
C359.2	PERFORM POWER FORM ,SHORT CIRCUIT AND STABILITY ANALYSIS FOR ANY POWER SYSTEM NETWORK
C359.3	UNDERSTAND,DESIGN AND ANALYSE THE LOAD FREQUENCY CONTROL MECHANISM
C359.4	PERFORM OPTIMAL SCHEDULING OF GENERATORS AND COMPUTE THE STATE OF POWER SYSTEM
C359.5	UNDERSTAND, ANALYSE ANS APPLY THE RELAYS FOR POWER SYSTEM PROTECTION



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COURSE OUTCOME

REGULATION 2021

COURSE NAME:C401 YEAR OF STUDY: 2024-25

SEMESTER: VII

SUBJECT CODE & SUBJECT NAME: EE3701& HIGH VOLTAGE ENGINEERING

CO	STATEMENT
C401.1	DESCRIBE THE CAUSES OF OVERVOLTAGES,EFFECTS ON POWER SYSTEM & PROTECTION AGAINST OVER VOLTAGES
C401.2	EXPLAIN PROPERTIES OF DIELECTRIC MATERIALS , AND BREAKDOWN IN DIFFERENT MEDIA
C401.3	SUMMARIZE TH E GENERATION OF HIGH VOLTAGES,HIGH CURRENT AND GENERATION OF IMPULSE CURRENT
C401.4	EXPLAIN THE TESTING METHODS OF DIFFERENT VOLTAGES AND TESTING OF INSULATORS
C401.5	APPLY ELECTROSTATIC CONCEPTS IN INDUSTRY

COURSE OUTCOME

REGULATION 2021

COURSE NAME:C402 YEAR OF STUDY:2024-25

SEMESTER: VII

SUBJECT CODE & SUBJECT NAME: GE3791& HUMAN VALUES AND ETHICS

CO	STATEMENT
C402.1	DESCRIBE THE IMPORTANCE OF DEMOCRATIC VALUES IN HARMONIOUS FUNCTIONING OF SOCIAL LIFE
C402.2	EXPLAIN THE PRACTICE OF SECULAR VALUES IN BOTH THEIR PERSONAL AND PROFESSIONAL LIFE.
C402.3	DESCRIBE THE IMPORTANCE OF SOCIAL VALUES IN SOCIAL LIFE
C402.4	EXPLAIN THE PRACTICE OF SOCIAL ETHICS IN THE SOCIETY
C402.5	EXPLAIN THE PRACTICES OF SCIENTIFIC ETHICS IN THE PURSUIT OF TRUTH



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C403 YEAR OF STUDY: 2024-25 SEMESTER:VII

SUBJECT CODE & SUBJECT NAME: GE3751&PRINCIPLES OF MANAGEMENT

CO	STATEMENT
C403.1	EXPLAIN MANAGERIAL FUNCTIONS LIKE PLANNING, ORGANISING,STAFFING,LEADING AND CONTROLLING
C403.2	SUMMARIZE PLANNING, STRATEGIC MANAGEMENT AND DECISION MAKING STEPS AND PROCESS
C403.3	COMPREHEND ORGANIZING STRUCTURE , HR PLANNING ,CAREER PLANNING AND MANAGEMENT
C403.4	DEMONSTRATE FOUNDATIONS OF INDIVIDUAL AND GROUP BEHAVIOUR , LEADERSHIP QUALITIES AND EFFECTIVE WAY OF COMMUNICATION
C403.5	EXPLAIN SYSTEM AND PROCESS OF CONTROL , USES OF COMPUTER IN MANAGEMENT CONTROL

COURSE OUTCOME

REGULATION 2021

COURSE NAME: C355 YEAR OF STUDY:2024-25 SEMESTER: VII

SUBJECT CODE & SUBJECT NAME: OCS351& ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

CO	STATEMENT
C355.1	EXPLAIN THE FOUNDATIONS OF AI AND THE STRUCTURE OF INTEGGLIGENT AGENTS
C355.2	SOLVE ANY AI PROBEMS USING APPROPRIATE SEARCH ALGORITHMS
C355.3	SUMMARIZE MACHINE LEARNING METHODS
C355.4	SOLVE PROBLEMS USING SUPERVISED LEARNING
C355.5	SOLVE PROBLEMS USING UNSUPERVISED LEARNING



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C407 YEAR OF STUDY: 2024-25 SEMESTER: VII

SUBJECT CODE & SUBJECT NAME: CME365& RENEWABLE ENERGY TECHNOLOGIES

CO	STATEMENT
C407.1	COMPREHEND THE INDIAN AND GLOBAL ENERGY SCENARIO
C407.2	DESCRIBE THE VARIOUS SOLAR ENERGY TECHNOLOGIES AND ITS APPLICATIONS
C407.3	EXPLAIN THE VARIOUS WIND ENERGY TECHNOLOGIES
C407.4	SUMMARIZE THE VARIOUS BIO ENERGY TECHNOLOGIES
C407.5	DESCRIBE THE OCEAN AND GEOTHERMAL TECHNOLOGIES

COURSE OUTCOME

REGULATION 2021

COURSE NAME:C487 YEAR OF STUDY:2024-25 SEMESTER: VII

SUBJECT CODE & SUBJECT NAME: OPE353& INDUSTRIAL SAFETY

CO	STATEMENT
C487.1	DESCRIBE THE INTRODUCTION AND BASIC TERMINOLOGIES OF SAFETY
C487.2	EXPLAIN THE IMPORTANT STATUTORY REGULATIONS AND STANDARDS.
C487.3	CONDUCT AND PARTICIPATE IN VARIOUS SAFETY ACTIVITIES IN THE INDUSTRY.
C487.4	DESCRIBE THE WORKPLACE SAFETY EXPOSURES AND HAZARDS.
C487.5	ANALYZE THE VARIOUS HAZARDS AND CONSEQUENCES THROUGH VARIOUS RISK ASSESSMENT TECHNIQUES.



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COURSE OUTCOME

REGULATION 2021

COURSE NAME: C316 YEAR OF STUDY: 2024-25 SEMESTER:V II

SUBJECT CODE & SUBJECT NAME: EE3013& SMPS & UPS

CO	STATEMENT
C316.1	DEMONSTRATE THE WORKING OF BUCK BOOST CONVERTERS IN CONTINUOUS AND DISCONTINUOUS CONDUCTION MODE AND BUILD MODELS OF THE SAME
C316.2	ANALYZE THE BEHAVIOR OF ISOLATED DC-DC CONVERTERS AND DESIGN SMPS FOR BATTERY OPERATED VEHICLE
C316.3	COMPUTE THE STATE SPACE AVERAGE MODEL AND TRANSFER FUNCTION OF BUCK,BOOST AND BUCK BOOST CONVERTERS
C316.4	DEMONSTRATE P,PI ,PID CONTROLLER PERFORMANCE BOTH BY ANALYSIS AND SIMULATION METHOD.
C316.5	COMPARE THE DIFFERENT TOPOLOGIES OF UPS AND SIMULATE THE SAME