MAHENDRA INSTITUTE OF TECHNOLOGY
(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)
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DEPARTMENT OF AUTOMOBILE ENGINEERING

REGULATION & SEMESTER:	**2013- I**
SUBJECT CODE & NAME:	**HS6151 - TECHNICAL ENGLISH – I**
COS	**COURSE OUTCOMES**
CO1	Understand how to apply technical information and knowledge in practical documents for a variety of situations.
CO2	Write cohesively and coherently avoiding grammatical errors, using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Listen and comprehend different spoken discourses in different accents.
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.
SUBJECT CODE & NAME:	PH6151 - Engineering Physics
COS	**COURSE OUTCOMES**
CO1	Student will be able to analyse the elastic properties of materials.
CO2	Student will be able toUnderstand the properties and applications of wave and fiber optics
CO3	Student will have knowledge to apply thermal properties of the material.
CO4	Student will be able toUnderstand Quantum mechanical behavior of the material.
CO5	Studentscan Understand the crystal structure and growing methods of crystal..
SUBJECT CODE & NAME:	**CY 6151 & ENGINEERING CHEMISTRY-I**
COS	**COURSE OUTCOMES**
CO1	Knowledge on principles of polymerization, preparation, properties and uses of some industrially important polymers.
CO2	Fundamental knowledge on thermodynamic laws and the interrelationship between various thermodynamic parameters.
CO3	Knowledge on photochemistry and some modern analytical tools for chemical analysis like UV and IR.
CO4	Knowledge about cooling curves, phase diagrams ,alloys and their practical importance.
CO5	Knowledge to recognize and apply the principles of nano and micro structured materials to predict chemical properties ,chemical reactivity and its applications.
SUBJECT CODE & NAME:	**MA6151- Engineering mathematics-I**
COS	**COURSE OUTCOMES**
CO1	To understand the concept of Eigen values and Eigen vectors, diagonalization of Matrix, symmetric matrices,positive definite matrices and similar matrices
CO2	To familier with limitations of using infinite series approximations for solutions arising in mathematical modeling.
CO3	To understand the concept of functions of several variables
CO4	To apply Differentiation in Maxima and Minima problems
CO5	To compute multiple integrals, area, volume, integrals in polar co ordinates in addition to change of order and change of variables
SUBJECT CODE & NAME:	**GE6152 Engineering Graphics**

COS	COURSE OUTCOMES
CO1	Perform Freehand Sketching Of Basic Geometrical Constructions And Multiple Views Of Objects and conic sections.
CO2	Develop Orthographic Projections Of Lines And Plane Surfaces
CO3	Draw projections of solids
CO4	Draw projections of development of surfaces
CO5	Visualize and to project isometric and perspective sections of simple solids
SUBJECT CODE & NAME:	**GE6163-Physics and Chemistry Laboratory -1**
COS	**COURSE OUTCOMES**
CO1	Student will have knowledge to evaluate the particle size & acceptance angle using laser.
CO2	Student will be able to Apply the principle of ultasonic interferometer
CO3	Student will be able to understand the priciples of spectrometer grating
CO4	Students can Analyse the thermal conductivity of a bad conductor
CO5	Student will be able to Apply the elastic behavior of material
SUBJECT CODE & NAME:	**GE6162 Engineering Practices Laboratory**
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Fabricate carpentry components and pipe connections including plumbing works.
CO2	Use welding equipments to join the structures.
CO3	Carry out the basic machining operations
CO4	Make the sheet metal models
CO5	Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundary and fittings
CO6	Carry out basic home electrical works and appliances
CO7	Measure the electrical quantities
CO8	Elaborate on the components, gates, soldering practices.
REGULATION & SEMESTER:	**2013- II**
SUBJECT CODE & NAME:	MA6251- Engineering mathematics-II
COS	**COURSE OUTCOMES**
	Students shall be able
CO1	To evaluate Gradient, Divergence and Curl of a Vector point functions
CO2	To solve ordinary differential equations that model engineering problems
CO3	To understand the concept of Laplace Transform and inverse transform of simple functions, properties, various related theorems and application to differential
CO4	To understand the concept ofAnalytic functions,conformal mapping and Complex integration
CO5	To understanding of the standard techniques of complex variable theory so as to enable the student to apply them with confidence
SUBJECT CODE & NAME:	PH6251- Engineering Physics -II

CO1	Understand the Electrical properties of conducting materials.
CO2	Understand the properties and applications of semiconducting materials .
CO3	Understand properties and applications of the magnetic materials and super conducting material
CO4	Understand the properties and applications of dielectric materials.
CO5	Understand the properties and applications of new engineering materials
SUBJECT CODE & NAME:	CY 6151 & ENGINEERING CHEMISTRY-I
COS	**COURSE OUTCOMES**
	student will be able to
CO1	Knowledge on principles of polymerization, preparation, properties and uses of some industrially important polymers.
CO2	Fundamental knowledge on thermodynamic laws and the interrelationship between various thermodynamic parameters.
CO3	Knowledge on photochemistry and some modern analytical tools for chemical analysis like UV and IR.
CO4	Knowledge about cooling curves, phase diagrams ,alloys and their practical importance.
CO5	Knowledge to recognize and apply the principles of nano and micro structured materials to predict chemical properties ,chemical reactivity and its applications.
SUBJECT CODE & NAME:	HS6251 - TECHNICAL ENGLISH – II
COS	**COURSE OUTCOMES** **Students will be able to :**
CO1	Identify the need of technical information and understanding practical credentials related to business situations
CO2	Use the language perfectly evading grammatical errors using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Write formal, informal letters and reports effectively
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.
SUBJECT CODE & NAME:	GE6253 Engineering Mechanics
COS	**COURSE OUTCOMES**
CO1	Illustrate the statics of particles in equilibrium
CO2	Analyse the rigid body in equilibrium
CO3	Evaluate the properties of surfaces and solids
CO4	Calculate dynamic forces exerted in rigid body
CO5	Determine the friction and its effects, rigid body dynamics
SUBJECT CODE & NAME:	GE6262-Physics and Chemistry Laboratory -II
COS	**COURSE OUTCOMES**
CO1	students will be able to analyse values of Young's modulus by uniform bending method
CO2	students can apply the principle to Determination of band gap of a semiconductor
CO3	Students will be able to evaluate the Coefficient of viscosity of a liquid by Poiseuille's method
CO4	students can analyse the dispersive power of a prism using Spectrometer
CO5	students can apply the properties of Rigidity modulus using Torsion pendulum

COS	COURSE OUTCOMES
	Student will be able to,
CO1	Ability to use the software packers for drafting and modeling
CO2	Ability to create 2D and 3D models of Engineering Components
REGULATION & SEMESTER:	2013- III
SUBJECT CODE & NAME:	ME6301 - ENGINEERING THERMODYNAMICS
COS	COURSE OUTCOMES
CO1	I unit hepls to enrich the basic knowledge of thermodynamics
CO2	II unit deals about laws with applicatons
CO3	III unit deals about properties of pure substance and staem power cycle with help of mollier charts & steam table
CO4	IV unit deals with relation of idel and real gases
CO5	V unit deals with mixtures of gases ratio with help of psychometry chart

SUBJECT CODE & NAME:	CE6451-FLUID MECHANICS AND MACHINERY
COS	COURSE OUTCOMES
CO1	I unit enrich the knowledge in fuid properties& characteristic
CO2	II unit deals with boundary layer concepts
CO3	III unit come to the concepts of dimensional analysis of fluids
CO4	IV unit outcome is to know the working of pumps and its type
CO5	V unit brings the knowledge of turbine and its efficiency

SUBJECT CODE & NAME:	AT6301 -AUTOMOTIVE ENGINES ENGINES
COS	COURSE OUTCOMES
CO1	I unit gives the knowledge in SI engines working
CO2	II unit enrich the knowledge in fuel system
CO3	III unit explores detail about combustion in SI engines
CO4	IV unit gives liquid and gaseous fluid for SI engines
CO5	V unit deals with emmision form SI engines

SUBJECT CODE & NAME:	AT6302-MECHANICS & MACHINES
COS	COURSE OUTCOMES
CO1	I unit helps to understand the deformation of solids
CO2	II unit helps to understand the beam
CO3	III unit explores the knowledge in shafts

CO5	V unit outcome is stresses in cylinder and sphere
SUBJECT CODE & NAME:	**MA6351- Transforms and Partial Differential Equations**
COS	**COURSE OUTCOMES**
CO1	To understand how to solve the given standard partial differential equations
CO2	To Solve the differential equations by using Fourier series analysis which place vital role in Engineering applications
CO3	To Appreciate the Physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations
CO4	To understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of Engineering
CO5	To apply the Effective mathematical tools for the solutions of partial differential equations by using Z Transform Techniques for discrete time systems
SUBJECT CODE & NAME:	**ME6352-MANUFACTURING TECHNOLOGY**
COS	**COURSE OUTCOMES**
CO1	I unit comes to knoe about the casting
CO2	II unit understand the welding concepts
CO3	III unit comes to know about the concepts of machining in machines
CO4	IV unit concepts of Plastics
CO5	V unit outcome is metallurgy processes
SUBJECT CODE & NAME:	**ME6465 Manufacturing Technology laboratory**
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Explain different metal casting processes, associated defects, merits and demerits
CO2	Compare different metal joining processes.
CO3	Summarize various hot working and cold working methods of metals.
CO4	Work on various sheet metal making processes.
CO5	Distinguish various methods of manufacturing plastic components.
SUBJECT CODE & NAME:	**CE6461 Fluid Mechanics and Machinery Laboratory**
COS	**COURSE OUTCOMES**
CO1	Ability to use the measurement equipments for flow measurement
CO2	Ability to do performance trust on different fluid machinery
SUBJECT CODE & NAME:	**AT6311 Automotive Components Laboratory**
CO1	To train the Students to know the details of different components, dismartley and assembling them.
CO2	Ability to dismantle and assemble the automobile components
REGULATION & SEMESTER:	**2013 - IV**
SUBJECT CODE & NAME:	AT6401-APPLIED THERMODYNAMICS AND HEAT TRANSFER

CO1	I unit teaches the gas power cycles
CO2	II unit helps to the air compressor & refrigeration Cycles
CO3	III unit teaches the conduction in Heat transfer
CO4	IV unit teaches convection in heat transfer
CO5	V unit teaches radiations in heat transfer

SUBJECT CODE & NAME:	ME6403-ENGINEERING MATERIALS AND METALLURGY
COS	**COURSE OUTCOMES**
CO1	I unit to understand Phase diagram FOR MATERIAL PROPERTIES
CO2	II unit to understand Heat Treatment ON MATERIALS
CO3	III unit to understand ferrous and Non ferrous metals
CO4	IV unit explores study of polymers
CO5	V unit explores Mechanical properties

SUBJECT CODE & NAME:	CE6306-STRENGTH OF MATERIALS
COS	**COURSE OUTCOMES**
CO1	I unit helps to study of stress strain in deformation of solids wheather the external force act
CO2	II unit helps to understand the beam
CO3	III unit explores the knowledge in shafts
CO4	IV unit come to know the deflection of beams using various method
CO5	V unit outcome is stresses in cylinder and sphere

SUBJECT CODE & NAME:	AT6402-AUTOMOTIVE CHASSIS
COS	**COURSE OUTCOMES**
CO1	I unit deals about the construction body of four wheeler including chasis,sreering & frame
CO2	II unit deals with types and construction of gears and differential unit
CO3	III unit helps to know about the types pf tyres , rim & axel
CO4	IV unit comes to know about the working of suspension system
CO5	V unit comes to know the working of brake

SUBJECT CODE & NAME:	PR6412 COMPUTER AIDED MACHINE DRAWING LABORATORY
COS	**COURSE OUTCOMES**
CO1	To introduce the students the Indian standard code of practice for engineering drawing and general symbols and abbreviation used on the drawing.
CO2	To provide hands on experience to develop 2D and 3D models of engineering components.

SUBJECT CODE & NAME:	PR6412 COMPUTER AIDED MACHINE DRAWING LABORATORY
COS	**COURSE OUTCOMES**
CO1	To introduce the students the Indian standard code of practice for engineering drawing and general symbols and abbreviation used on the drawing.
CO2	To provide hands on experience to develop 2D and 3D models of engineering components.
CO3	Ability to develop engineering drawing for the industrial component using Indian Standard code of practice

SUBJECT CODE & NAME:	CE6315 Strength of Materials Laboratory
CO1	Perform different destructive testing
CO2	Characteristic materials
CO3	Ability to perform different destructive testing
CO4	Ability to characteristic materials

REGULATION & SEMESTER:	2013 - V
SUBJECT CODE & NAME:	GE6351-Environmental Science and Engineering
COS	**COURSE OUTCOMES**
CO1	1. Students will able to explain scope and importance of Environmental Science, Ecosystem and Biodiversity.
CO2	2. Students will capable to identify the Environmental Pollution and address the complexities in the day today life.
CO3	3. Students will able to obtain knowledge about various Natural Resources and equitable use of resources for sustainable life style.
CO4	4. Students will able to know about Social issues and Possible Solution of various Environmental problem related to energy.
CO5	5. Students will able to acquire knowledge on impacts of Human Population, over the environment and demonstrate the role of Information Technology in Environment and Human Health.

SUBJECT CODE & NAME:	ME6503-DESIGN OF MACHINE ELEMENTS
COS	**COURSE OUTCOMES**
CO1	I unit comes to kow about steady stresses and variable stresses in machine mamberane
CO2	II unit come to know about how to design shaft and coupling
CO3	III unit enhance the knowledge in joints
CO4	IV unit comes to know about the spring and its types
CO5	V unit enhance the knowledge in bearing

SUBJECT CODE & NAME:	AT6501-AUTOMOTIVE TRANSMISSION
COS	**COURSE OUTCOMES**
CO1	I unit to know about the cluthes and brakes in auytomobile
CO2	II unit to know about the hydrodynamic transmission
CO3	III unit to know about the epicycllic gear boxes used in automatic transmission

CO5	V unit to know about the hydrostatic and electric drive

SUBJECT CODE & NAME:	AT6502-AUTOMOTIVE ELECTRICAL AND ELECTRONICS SYSTEMS
COS	**COURSE OUTCOMES**
CO1	I unit to enhance the knowledge in batteries working system
CO2	II unit to enhance the knowledge in CHARGING SYSTEM LIGHTING AND ACCESSORIES
CO3	III unit to enhanced the knowledge in ELECTRONIC IGNITIONSYSTEM
CO4	IV unit to enhance the knowledge in SENSORS IN AUTOMOBILES
CO5	V unit to enhance the knowledge in SAFETY SYSTEMS

SUBJECT CODE & NAME:	AT6503-VEHICLE DESIGN AND DATA CHARACTERISTICS
COS	**COURSE OUTCOMES**
CO1	I unit deals with technical specification of automobile
CO2	II unit deals with Calculation, Tabulation and Plotting of Curves for Air and Rolling Resistances at various vehicle speeds
CO3	III unit deals with Calculation, Tabulation and Plotting of Curves for Air and Rolling Resistances at various vehicle speeds
CO4	IV unit deals with Calculation, Tabulation and Plotting of Curves for Air and Rolling Resistances at various vehicle speeds
CO5	V unit helps to know about the gear ratios

SUBJECT CODE & NAME:	AT6504-AUTOMOTIVE FUELS AND LUBRICANTS
COS	**COURSE OUTCOMES**
CO1	I unit deals with manufacture of fuel & lubrications
CO2	II unit deals with Engine friction
CO3	III unit deals with requirements of lubricating oils
CO4	IV units deals with properties and testing of fluids
CO5	V units deals with fuel rating

SUBJECT CODE & NAME:	GE6674 - COMMUNICATION SKILLS AND SOFTSKILLS LAB
COS	**COURSE OUTCOMES**
CO1	Acquire wide knowledge in all the four skills such as listening, speaking, reading and writing.
CO2	Develop their performance in interviews, group discussions and other recruitment exercises.
CO3	Improve their soft skills and interpersonal skills to excel in the career as well as in National and International Competitive exams.
CO4	Design their resume in an effective way and write excellent letters and reports in formal situations.
CO5	Lead the team confidently by acquiring excellent leadership skills.

COS	COURSE OUTCOMES
CO1	To introduce the testing procedure for electrical and electronics system in automobile.
CO2	Ability to rectify and faults in electrical and electronics systems and maintain the same.

SUBJECT CODE & NAME:	AT6512 AUTOMOTIVE FUELS AND LUBRICANTS LABORATORY
COS	COURSE OUTCOMES
CO1	To study the characteristics of the fuels and Lubricants used in automobile
CO2	Ability to characteristic and chase the fuels and Lubricantes for the automobiles.

REGULATION & SEMESTER:	2013-VI
SUBJECT CODE & NAME:	MG6851-PRINCIPLES OF MANAGEMENT
COS	COURSE OUTCOMES
CO1	I unit deals about management and organisation
CO2	II unit how to plan the working process in organisation
CO3	III unit how to organising the work
CO4	IV unit hoe to motivate the workers in organisation
CO5	V unit how to control the economy of organisation

SUBJECT CODE & NAME:	AT6601-AUTOMOTIVE ENGINE COMPONENTS DESIGN
COS	COURSE OUTCOMES
CO1	I unit brrings the knowledge in material science
CO2	II unit brings the knowledge in designing cylinder
CO3	III unit helps to knowhoe to design the crankshaft
CO4	IV unit helps to know how to design the Flywheel
CO5	IV unit helps to know how to design the valves

SUBJECT CODE & NAME:	AT6602-AUTOMOTIVE CHASSIS COMPONENTS DESIGN
COS	COURSE OUTCOMES
CO1	I unit throws the knowledge in suspension in automobiles
CO2	II unit throws the knowledge in front axel and steering
CO3	III unit throws the knowledge in clutch
CO4	IV unit throws the knowledge in gear Box
CO5	V unit throws the knowledge in rear axel

SUBJECT CODE & NAME:	AT6603 -Two and Three Wheelers
COS	**COURSE OUTCOMES**
CO1	I unit brings the knowledge of SI-CI engines valve and port timing diagram
CO2	II unit brings the knowledge of fuel & ignition system of automobiles
CO3	III unit brings the knowledge of structures (chasis) of automobiles
CO4	IV unit helps to know about brakes & wheels
CO5	V unit helps to know about current case studies

SUBJECT CODE & NAME:	AT6604-Vehicle Dynamics
COS	**COURSE OUTCOMES**
CO1	I unit teaches vibrations in auomobile
CO2	II unit teaches force acting in tyres and analysisthe forces
CO3	III unit teaches vertical dynamics of vibration in automobiles
CO4	IV unit teaches longitudinal dynamics and controls the vehicles
CO5	V unit teaches lateral dynamics in vehicles
SUBJECT CODE & NAME:	AT6611 COMPUTER AIDED ENGINE AND CHASSIS DESIGN LABORATORY
COS	**COURSE OUTCOMES**
CO1	To famiarise the students to use modeling software to model engine components and chassis design
CO2	Ability to use the drafty and modeling software for automobile components design
SUBJECT CODE & NAME:	AT6612 TWO AND THREE WHEELERS LABORATORY
COS	**COURSE OUTCOMES**
CO1	To train the students to conduct performance test on two and three wheelers
CO2	To train the students to dismatle and assemble the gear box, steering system etc.,
CO3	Ability to assemble the engine components and conduct performance test on two and three wheelers.
REGULATION & SEMESTER:	**2013-VII**
SUBJECT CODE & NAME:	AT6701 Engine and Vehicle Management System
COS	**COURSE OUTCOMES**
CO1	I unit deals with role of electronics in automobile
CO2	II unit deals with act of sensors in automobile
CO3	III unit deals with SI engine management

CO5	V unit deals with Anti breaking System

SUBJECT CODE & NAME:	ME6603 -FINITE ELEMENT ANALYSIS
COS	**COURSE OUTCOMES**
CO1	I unit deals with role of FEA in engineering
CO2	II unit deals with one dimensional problems
CO3	III unit deals with two dimensional problrms
CO4	IV unit deals with two dimwnsional vector variable problems
CO5	V unit deals with Isoparametric formulation

SUBJECT CODE & NAME:	AT6702-VEHICLE MAINTENANCE
COS	**COURSE OUTCOMES**
CO1	I unit deals with maintenance of workshop
CO2	II unit deals with engine sub system maintenance
CO3	III unit deals with transmission and drive line maintenance
CO4	IV unit deals with steering & brake
CO5	V unit deals with AC maintenance in automobile

SUBJECT CODE & NAME:	AT6703-AUTOMOTIVE POLLUTION AND CONTROL
COS	**COURSE OUTCOMES**
CO1	I unit throws the knowledge of automotive pollutants
CO2	II unit throws the knowledge in emission in SI engine
CO3	III unit throws the knowledge in emission in CI engine
CO4	IV unit throws the knowledge in emission control
CO5	V unit throws the knowledge in emmision measurement

SUBJECT CODE & NAME:	AT6711-ENGINE PERFORMANCE AND EMISSION TESTING LABORATORY
COS	**COURSE OUTCOMES**
CO1	To conduct performance test and emission test on the IC engines.
CO2	Ability to control the emission and use of different equipments to conduct performance test.

SUBJECT CODE & NAME:	AT6712 VEHICLE MAINTENANCE LABORATORY
COS	**COURSE OUTCOMES**
CO1	To train the structures in identifying the fault and rectification

REGULATION & SEMESTER:	2013-VIII
SUBJECT CODE & NAME:	AT6801-VEHICLE BODY ENGINEERING
COS	COURSE OUTCOMES
CO1	I unit enhance the knowledge in structure of car body
CO2	II unit enhance the knowledge in structure of bus body
CO3	III unit enhance the knowledge in commercial vehicle
CO4	IV unit enhance the knowledge in drag force
CO5	V uni enhance the knowledge in body repair

SUBJECT CODE & NAME:	PROFESSIONAL ETHICS IN ENGINEERING
COS	COURSE OUTCOMES
CO1	I unit teachs the human values
CO2	II unit teachs the ethical theories
CO3	III unit teaches the ethics code in engineering
CO4	IV unit teaches the safety responsibilities & rights of engineering workers
CO5	V unit discuss about the global issues

SUBJECT CODE & NAME:	AT6811 PROJECT WORK
COS	COURSE OUTCOMES
CO1	To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination
CO2	On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

DEPARTMENT OF BIOMEDICAL ENGINEERING

REGULATION & SEMESTER:	2013- I
SUBJECT CODE & NAME:	HS6151 Technical English – I
COS	COURSE OUTCOMES
CO1	Understand how to apply technical information and knowledge in practical documents for a variety of situations.
CO2	Write cohesively and coherently avoiding grammatical errors, using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Listen and comprehend different spoken discourses in different accents.
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.

SUBJECT CODE & NAME:	MA6151 Mathematics – I
COS	**COURSE OUTCOMES**
CO1	To understand the concept of Eigen values and Eigen vectors, diagonalization of Matrix, symmetric matrices,positive definite matrices and similar matrices
CO2	To familier with limitations of using infinite series approximations for solutions arising in mathematical modeling.
CO3	To understand the concept of functions of several variables
CO4	To apply Differentiation in Maxima and Minima problems
CO5	To compute multiple integrals, area, volume, integrals in polar co ordinates in addition to change of order and change of variables

SUBJECT CODE & NAME:	PH6151 Engineering Physics – I
COS	**COURSE OUTCOMES**
CO1	Student will be able to analyse the elastic properties of materials.
CO2	Student will be able toUnderstand the properties and applications of wave and fiber optics
CO3	Student will have knowledge to apply thermal properties of the material.
CO4	Student will be able toUnderstand Quantum mechanical behavior of the material.
CO5	Studentscan Understand the crystal structure and growing methods of crystal..

SUBJECT CODE & NAME:	CY6151 Engineering Chemistry – I
COS	**COURSE OUTCOMES**
CO1	Knowledge on principles of polymerization, preparation, properties and uses of some industrially important polymers.
CO2	Fundamental knowledge on thermodynamic laws and the interrelationship between various thermodynamic parameters.
CO3	Knowledge on photochemistry and some modern analytical tools for chemical analysis like UV and IR.
CO4	Knowledge about cooling curves, phase diagrams ,alloys and their practical importance.
CO5	Knowledge to recognize and apply the principles of nano and micro structured materials to predict chemical properties ,chemical reactivity and its applications.

SUBJECT CODE & NAME:	GE6151 Computer Programming
COS	**COURSE OUTCOMES**
CO1	Design C Programs for problems.
CO2	Write and execute C programs for simple applications

SUBJECT CODE & NAME:	GE6152 Engineering Graphics
COS	**COURSE OUTCOMES**
CO1	Perform Freehand Sketching Of Basic Geometrical Constructions And Multiple Views Of Objects and conic sections.
CO2	Develop Orthographic Projections Of Lines And Plane Surfaces

CO4	Draw projections of development of surfaces
CO5	Visualize and to project isometric and perspective sections of simple solids

SUBJECT CODE & NAME:	GE6161 Computer Practices Laboratory
COS	**COURSE OUTCOMES**
CO1	Apply good programming design methods for program development.
CO2	Design and implement C programs for simple applications.
CO3	Develop recursive programs.

SUBJECT CODE & NAME:	GE6162 Engineering Practices Laboratory
COS	**COURSE OUTCOMES**
CO1	Fabricate carpentry components and pipe connections including plumbing works.
CO2	Use welding equipments to join the structures.
CO3	Carry out the basic machining operations
CO4	Make the sheet metal models
CO5	Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundary and fittings
CO6	Carry out basic home electrical works and appliances
CO7	Measure the electrical quantities
CO8	Elaborate on the components, gates, soldering practices.

SUBJECT CODE & NAME:	GE6163 Physics and Chemistry Laboratory - I
COS	**COURSE OUTCOMES**
CO1	Student will have knowledge to evaluate the particle size & acceptance angle using laser.
CO2	Student will be able to Apply the principle of ultasonic interferometer
CO3	Student will be able to understand the priciples of spectrometer grating
CO4	Students can Analyse the thermal conductivity of a bad conductor
CO5	Student will be able to Apply the elastic behavior of material
REGULATION & SEMESTER:	**2013- II**
SUBJECT CODE & NAME:	HS6251 Technical English – II
COS	**COURSE OUTCOMES**
CO1	Identify the need of technical information and understanding practical credentials related to business situations
CO2	Use the language perfectly evading grammatical errors using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Write formal, informal letters and reports effectively

SUBJECT CODE & NAME:	MA6251 Mathematics – II
COS	**COURSE OUTCOMES**
CO1	To evaluate Gradient, Divergence and Curl of a Vector point functions and related identities.
CO2	To solve ordinary differential equations that model engineering problems
CO3	To understand the concept of Laplace Transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficie
CO4	To understand the concept ofAnalytic functions,conformal mapping and Complex integration
CO5	To understanding of the standard techniques of complex variable theory so as to enable the student to apply them with confidence

SUBJECT CODE & NAME:	PH6251 Engineering Physics – II
COS	**COURSE OUTCOMES**
CO1	Students will be able to Understand the Electrical properties of conducting materials.
CO2	Students can Understand the properties and applications of semiconducting materials .
CO3	students can apply the properties and applications of the magnetic materials and super conducting material
CO4	students Understand the properties and applications of dielectric materials.
CO5	students can analyse the properties and applications of new engineering materials

SUBJECT CODE & NAME:	CY6251 Engineering Chemistry – II
COS	**COURSE OUTCOMES**
CO1	Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost.
CO2	Apply their knowledge for protection of different metals from corrosion .
CO3	The knowledge of converting solar energy into most needy electrical energy efficiently and economically to reduce the environmental pollution.
CO4	Apply their knowledge for various engineering materials
CO5	Explain about analysis and manufacture of various types of fuel.

SUBJECT CODE & NAME:	EC6202 Electronic Devices and Circuits
COS	**COURSE OUTCOMES**
CO1	Understand the current voltage characteristics of semiconductor devices,
CO2	Design and analyze the basic operations of Transistor
CO3	Know about Gain and Frequency response of Amplifier
CO4	Know about different power amplifier circuits, their design and use in electronics and communication circuits.
CO5	Design the different oscillator circuits for various frequencies

SUBJECT CODE & NAME:	EE6201 Circuit Theory

CO1	Ability analyse electrical circuits
CO2	Ability to apply circuit theorems
CO3	Ability to analyse AC and DC Circuits

SUBJECT CODE & NAME:	GE6262 Physics and Chemistry Laboratory - II
COS	**COURSE OUTCOMES**
CO1	students will be able to analyse values of Young's modulus by uniform bending method
CO2	students can apply the principle to Determination of band gap of a semiconductor
CO3	Students will be able to evaluate the Coefficient of viscosity of a liquid by Poiseuille's method
CO4	students can analyse the dispersive power of a prism using Spectrometer
CO5	students can apply the properties of Rigidity modulus using Torsion pendulum

SUBJECT CODE & NAME:	EC6211 Circuits and Devices Laboratory
COS	**COURSE OUTCOMES**
CO1	Learn the characteristics of basic electronic devices
CO2	Design RL and RC circuits
CO3	Verify Thevinin & Norton theorem
CO4	Verify KVL & KCL, and Super Position Theorems
CO5	Verify maximum power transfer & reciprocity theorems
REGULATION & SEMESTER:	**2013- III**
SUBJECT CODE & NAME:	MA6351 Transforms and Partial Differential Equations
COS	**COURSE OUTCOMES**
CO1	Able to understand the basics of partial differential equation
CO2	Able to understand Fourier series analysis for solving boundary value problems.
CO3	Able to analyze the applications of partial differential equations
CO4	Able to understand the Fourier transform techniques used in wide variety of situations
CO5	Able to anlayze and apply Z transform techniques for discrete time systems.

SUBJECT CODE & NAME:	BM6301 Bio Chemistry
COS	**COURSE OUTCOMES**
CO1	Able to explain the fundamentals of biochemistry
CO2	Able to understand the structural and functional properties of arbohydrates, proteins, lipids and nucleic acids
CO3	Able to analyze the role of biomolecules on specific metabolic diseases and disorders.

CO5	Able to understand the enzymes and its kinematics

SUBJECT CODE & NAME:	EC6303 Signals and Systems
COS	**COURSE OUTCOMES**
CO1	Able to understand and to determine if a given system is linear/causal/stable
CO2	Able to determine the frequency components present in a deterministic signal
CO3	Able to analyze the characteristics of LTI systems in the time domain
CO4	Able to analyze the characteristics of LTI systems in the frequency domain
CO5	Able to compute the output of an LTI system in the time and frequency domains

SUBJECT CODE & NAME:	BM6302 Sensors and Measurements
COS	**COURSE OUTCOMES**
CO1	Able to Analyze various electrical parameters with accuracy, precision, resolution
CO2	Able to Select appropriate passive or active transducers for measurement of physical phenomenon
CO3	Able to Understand and select appropriate light sensors for measurement of physical phenomenon..
CO4	Able to Employ AC and DC bridges for relevant parameter measurement
CO5	Able to Employ Multimeter, CRO and different types of recorders for appropriate measurement

SUBJECT CODE & NAME:	EC6301 Object Oriented Programming and Data Structures
COS	**COURSE OUTCOMES**
CO1	Able to Explain the concepts of Object oriented programming
CO2	Able to Write simple applications using C++.
CO3	Able to Discuss the different methods of organizing large amount of data

SUBJECT CODE & NAME:	BM6303 Anatomy and Human Physiology
COS	**COURSE OUTCOMES**
CO1	Able to explain basic structure and functions of cell
CO2	Able to learnt about anatomy and physiology of various systems of human body
CO3	Able to explain interconnect of various systems
CO4	Able to demonstrate the knowledge of importance of anatomical features and physiology of human systems
CO5	Able to Recognize and define a variety of terms specific to the human body and human health.

SUBJECT CODE & NAME:	BM6311 Bio Chemistry and Human Physiology Laboratory
COS	**COURSE OUTCOMES**

CO2	Able to Separate and analyze the importance of macromolecules.

SUBJECT CODE & NAME:	BM6312 OOPS and Data Structures Laboratory
COS	**COURSE OUTCOMES**
CO1	Able to Design and implement C++ programs for manipulating stacks, queues, linked lists,trees, and graphs
CO2	Able to Apply good programming design methods for program development.
CO3	Able to Apply the different data structures for implementing solutions to practical problems.
REGULATION & SEMESTER:	**2013- IV**
SUBJECT CODE & NAME:	MA6451 Probability and Random Processes
COS	**COURSE OUTCOMES**
CO1	Able to Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon.
CO2	Able to Understand the basic concepts of one and two dimensional random variables and apply in engineering applications
CO3	Able to Apply the concept of testing of hypothesis for small and large samples in real life problems.
CO4	Able to Apply the basic concepts of classifications of design of experiments in the field of agriculture and statistical quality control
CO5	Able to Have the notion of sampling distributions and statistical techniques used in engineering and management problems

SUBJECT CODE & NAME:	BM6401 Medical physics
COS	**COURSE OUTCOMES**
CO1	Able to Explain about non-ionizing radiation, interaction with tissue and its effects
CO2	Able to Define and compare intensities of sensory stimuli
CO3	Able to Summarizes how ionizing radiation interacts with the human body, how to quantify it and its levels seen in the environment and healthcare
CO4	Able to Explain the fundamentals of radioactivity and radioactive isotopes
CO5	Able to Illustrates the methods of detecting and recording the ionizing radiation and its interaction with matter

SUBJECT CODE & NAME:	BM6402 Basics of Electrical Engineering
COS	**COURSE OUTCOMES**
CO1	Able to understand the concepts of magnetic circuits
CO2	Able to understand the principle and application of transformers
CO3	Able to understand theprinciple of operation of DC motors
CO4	Able to understand theprinciple of operation of AC Machines
CO5	Able to understand the principle of fractional-kW motors and their applications.

SUBJECT CODE & NAME:	BM6403 Analog and Digital Ics
COS	**COURSE OUTCOMES**

CO2	Able to Do applications of Digital ICs
CO3	Able to Understand the basic of the Digital systems
CO4	Able to Design various functional circuits using these Ics

SUBJECT CODE & NAME:	BM6404 Pathology and Microbiology
COS	**COURSE OUTCOMES**
CO1	Able to Analyze structural and functional aspects of living organisms
CO2	Able to Explain the function of microscope
CO3	Able to Discuss the importance of public health.
CO4	Able to Describe methods involved in treating the pathological diseases

SUBJECT CODE & NAME:	CS6304 Analog and Digital Communication
COS	**COURSE OUTCOMES**
CO1	Able to Apply analog and digital communication techniques.
CO2	Able to Use data and pulse communication techniques
CO3	Able to Analyze Source and Error control coding.
CO4	Able to Utilize multi-user radio communication.

SUBJECT CODE & NAME:	BM6411 Circuits and ICs Laboratory
COS	**COURSE OUTCOMES**
CO1	Able to Design Circuits using logic gates
CO2	Able to Build Circuits for different application using opamp
CO3	Able to Differentiate between oscillator and wave form generator
CO4	Able to Convert Signals from Analog to Digital Vice versa

SUBJECT CODE & NAME:	BM6412 Pathology and Microbiology Laboratory
COS	**COURSE OUTCOMES**
CO1	Able to perform practical experiments on tissue processing
CO2	Able to perform practical experiments on cryoprocessing
CO3	Able to perform practical experiments on staining processes
REGULATION & SEMESTER:	**2013- V**
SUBJECT CODE & NAME:	BM6501 Bio Control Systems
COS	**COURSE OUTCOMES**
CO1	Able to Understand the need for mathematical modeling of various systems, its representation in block diagrams and signal flow graphs

CO3	Able to Analyze the frequency response characteristics of various systems using different charts
CO4	Able to Understand the concept of modeling basic physiological systems
CO5	Able to Comprehend the application aspects of time and frequency response analysis in physiological control systems

SUBJECT CODE & NAME:	BM6502 Diagnostic and Therapeutic Equipment - I
COS	**COURSE OUTCOMES**
CO1	Able to Describe the working and recording setup of all basic cardiac equipment
CO2	Able to Understand the working and recording of all basic neurological equipment‘s.
CO3	Able to Discuss the recording of diagnostic and therapeutic equipment‘s related to EMG
CO4	Able to Explain about measurements of parameters related to respiratory system.
CO5	Able to Describe the measurement techniques of sensory responses

SUBJECT CODE & NAME:	BM6503 Bio Materials and Artificial Organs
COS	**COURSE OUTCOMES**
CO1	Able to Analyze different types of Biomaterials and its classification and apply the concept of nanotechnology towards biomaterials use.
CO2	Able to Identify significant gap required to overcome challenges and further development in metallic and ceramic materials
CO3	Able to Identify significant gap required to overcome challenges and further development in polymeric materials
CO4	Able to Create combinations of materials that could be used as a tissue replacement implant
CO5	Able to Understand the testing standards applied for biomaterials

SUBJECT CODE & NAME:	BM6504 Biomedical Instrumentation
COS	**COURSE OUTCOMES**
CO1	Able to Explain the application of analog ICs in the designing circuit
CO2	Able to Illustrate different electrode placement for various physiological recordings
CO3	Able to Design bio amplifier for various physiological recordings
CO4	Able to Explain various technique for non-electrical physiological measurements
CO5	Able to Demonstrate different biochemical measurement techniques

SUBJECT CODE & NAME:	EC6504 Microprocessor and Microcontroller
COS	**COURSE OUTCOMES**
CO1	Able to Design and implement programs on 8086 microprocessor
CO2	Able to Design I/O circuits
CO3	Able to Design Memory Interfacing circuits
CO4	Able to Design and implement 8051 microcontroller based systems

SUBJECT CODE & NAME:	MD6501 Hospital Management
COS	**COURSE OUTCOMES**
CO1	Able to Explain the principles of Hospital administration
CO2	Able to Identify the importance of Human resource management
CO3	Able to List various marketing research techniques
CO4	Able to Identify Information management systems and its uses.
CO5	Able to Understand safety procedures followed in hospitals.

SUBJECT CODE & NAME:	BM6511 Microprocessor and Microcontroller Laboratory
COS	**COURSE OUTCOMES**
CO1	Able to Write ALP Programmes for fixed and Floating Point and Arithmetic
CO2	Able to Interface different I/Os with processor
CO3	Able to Generate waveforms using Microprocessors
CO4	Able to Execute Programs in 8051

SUBJECT CODE & NAME:	BM6512 Bio Medical Instrumentation Laboratory
COS	**COURSE OUTCOMES**
CO1	Able to Design the amplifier for Bio signal measurements
CO2	Able to perform Recording and analysis of bio signals

SUBJECT CODE & NAME:	GE6674 Communication and Soft Skills - Laboratory Based
COS	**COURSE OUTCOMES**
CO1	Able to Take international examination such as IELTS and TOEFL
CO2	Able to Make presentations and Participate in Group Discussions
CO3	Able to Successfully answer questions in interviews.
REGULATION & SEMESTER:	**2013- VI**
SUBJECT CODE & NAME:	BM6601 Radiological Equipment
COS	**COURSE OUTCOMES**
CO1	Able to Describe the working principle of X ray machine and its application
CO2	Able to Illustrate the principle computed tomography
CO3	Able to Interpret the technique used for visualizing various sections of the body using magnetic resonance imaging
CO4	Able to Demonstrate the applications of radio nuclide imaging
CO5	Able to Outline the methods of radiation safety

COS	COURSE OUTCOMES
CO1	Able to Explain the mechanics of physiological systems
CO2	Able to Analyze the biomechanical systems
CO3	Able to Design orthopaedic applications

SUBJECT CODE & NAME:	BM6603 Diagnostic and Therapeutic Equipment - II
COS	COURSE OUTCOMES
CO1	Able to Explain about measurements of parameters related to respiratory system
CO2	Able to Describe the measurement techniques of sensory responses
CO3	Able to Analyze different types and uses of diathermy units
CO4	Able to Discuss ultrasound imaging techniques and its usefulness in diagnosis.
CO5	Able to Outline the importance of patient safety against electrical hazard

SUBJECT CODE & NAME:	EC6502 Principles of Digital Signal Processing
COS	COURSE OUTCOMES
CO1	Able to apply DFT for the analysis of digital signals & systems
CO2	Able to design IIR and FIR filters
CO3	Able to analyze finite Word length effect on filters
CO4	Able to design the Multirate Filters
CO5	Able to apply Adaptive Filters to equalization

SUBJECT CODE & NAME:	GE6351 Environmental Science and Engineering
COS	COURSE OUTCOMES
CO1	Able to create Public awareness of environment at infant stage.
CO2	Able to understand Ignorance and incomplete knowledge has lead to misconceptions.
CO3	Able to understand Development and improvement in standard of living has lead to serious environmental disasters

SUBJECT CODE & NAME:	BM6002 Biometric Systems
COS	COURSE OUTCOMES
CO1	Able to Understand the need for mathematical modeling of various systems, its representation in block diagrams and signal flow graphs
CO2	Able to Analyze the time response of various systems and discuss the concept of system stability
CO3	Able to Analyze the frequency response characteristics of various systems using different charts
CO4	Able to Understand the concept of modeling basic physiological systems
CO5	Able to Comprehend the application aspects of time and frequency response analysis in physiological control systems

SUBJECT CODE & NAME:	BM6611 Digital Signal Processing Laboratory
COS	**COURSE OUTCOMES**
CO1	Able to Carry out simulation of DSP systems
CO2	Able to Demonstrate their abilities towards DSP processor based implementation of DSP systems
CO3	Able to Analyze Finite word length effect on DSP systems
CO4	Able to Demonstrate the applications of FFT to DSP
CO5	Able to Implement adaptive filters for various applications of DSP

SUBJECT CODE & NAME:	BM6612 Diagnostic and Therapeutic Equipment Laboratory
COS	**COURSE OUTCOMES**
CO1	Able to analyze the Bio medical signals
CO2	Able to to check the safety of any medical equipments
CO3	Able to have the knowledge about therapeutic equipments
REGULATION & SEMESTER:	**2013- VII**
SUBJECT CODE & NAME:	BM6701 Pattern Recognition and Neural Networks
COS	**COURSE OUTCOMES**
CO1	Able to understand the fundamentals of pattern recognition and its application
CO2	Able to understand the several supervised and unsupervised algorithms suitable for pattern classification
CO3	Able to understand the basics of neural network architectures
CO4	Able to understand the concepts of Back propagation network and Associative memory
CO5	Able to anlayze and apply neural networks

SUBJECT CODE & NAME:	BM6702 Medical Informatics
COS	**COURSE OUTCOMES**
CO1	Able to Discuss about health informatics
CO2	Able to analyze different ICT applications in medicine
CO3	Able to Explain the function of Hospital Information Systems
CO4	Able toAnalyze medical standards

SUBJECT CODE & NAME:	BM6703 Medical Optics
COS	**COURSE OUTCOMES**
CO1	Able to Demonstrate knowledge of the fundamentals of optical properties of tissues
CO2	Able to Analyze the components of instrumentation in Medical Photonics and Configurations
CO3	Able to Describe surgical applications of lasers

CO5	Able to Investigate emerging techniques in medical optics

SUBJECT CODE & NAME:	IT6005 Digital Image Processing
COS	**COURSE OUTCOMES**
CO1	Able to Discuss digital image fundamentals.
CO2	Able to Apply image enhancement and restoration techniques.
CO3	Able to Use image compression and segmentation Techniques.
CO4	Able to Represent features of images

SUBJECT CODE & NAME:	MD6010 Telehealth Technology
COS	**COURSE OUTCOMES**
CO1	Able to Apply multimedia technologies in telemedicine.
CO2	Able to Explain Protocols behind encryption techniques for secure transmission of data.
CO3	Able to Apply telehealth in healthcare

SUBJECT CODE & NAME:	EC6601 VLSI Design
COS	**COURSE OUTCOMES**
CO1	Able to Explain the basic CMOS circuits
CO2	Able to understand the CMOS process technology.
CO3	Able to Discuss the techniques of chip design using programmable devices.
CO4	Able to Model the digital system using Hardware Description Language.

SUBJECT CODE & NAME:	BM6711 Hospital Training
COS	**COURSE OUTCOMES**
CO1	Able to Advocate a patient-centred approach in healthcare
CO2	Able to Communicate with other health professionals in a respectful and responsible manner
CO3	Able to Recognize the importance of inter-professional collaboration in healthcare.
CO4	Able to Propose a patient-centred interprofessional health improvement plan based upon the patient‘s perceived need
CO5	Able to Use the knowledge of one‘s own role and those of other professions to address the healthcare needs of populations and patients served.

SUBJECT CODE & NAME:	BM6712 Digital Image Processing Laboratory
COS	**COURSE OUTCOMES**
CO1	Able to Perform filtering operations in the image
CO2	Able to Use transforms and analyse the characteristics of the image.

CO4	Able to Implement project on simple image processing applications.
CO5	Able to Apply image processing technique to solve real world problems

REGULATION & SEMESTER:	**2013- VIII**
SUBJECT CODE & NAME:	BM6801 Rehabilitation Engineering
COS	**COURSE OUTCOMES**
CO1	Able to understand the principles of rehabilitation
CO2	Able to understand new rehabilitation concepts for future development and its applications
CO3	Able to analyze the therapeutic Exercise Techniques.
CO4	Able to understand the concepts of principles in management of communication related to rehabilitation.
CO5	Able to understand the devices used in prosthetics and orthotics

SUBJECT CODE & NAME:	BM6010 Assist Devices
COS	**COURSE OUTCOMES**
CO1	Able to understand various mechanical techniques that will help failing heart
CO2	Able to understand the functioning of the unit which does the clearance of urea from the blood.
CO3	Able to analyze the tests related to hearing loss and to develop electronic devices to compensate for the loss.
CO4	Able to understand the concepts of orthodic and prosthetic devices
CO5	Able to anlayze and apply electrical stimulation techniques for clinical applications.

SUBJECT CODE & NAME:	MD6008 Fiber Optics and Lasers in Medicine
COS	**COURSE OUTCOMES**
CO1	Able to understand different objective property of tissues
CO2	Able to understand the concepts of Instrumentation in photonics.
CO3	Able to analyze the application of lasers in different areas of medicine.
CO4	Able to understand Optical Holography
CO5	Able to understand the special techniques of Lasers

SUBJECT CODE & NAME:	BM6012 Wearable Systems
COS	**COURSE OUTCOMES**
CO1	Able to understand different types of sensors
CO2	Able to understand and apply the concepts of signal processing in wearable systems.
CO3	Able to analyze the concepts of energy harvesting for wearable systems.
CO4	Able to understand the concepts of wireless health systems

SUBJECT CODE & NAME:	BM6811 Project Work
COS	**COURSE OUTCOMES**
CO1	Able to understand, analyze any challenging practical problems and find solution by formulating proper methodology.

DEPARTMENT OF CIVIL ENGINEERING	
REGULATION & SEMESTER:	**2013 - I**
SUBJECT CODE & NAME:	HS6151 - Technical English - I
COS	**COURSE OUTCOMES**
CO1	Understand how to apply technical information and knowledge in practical documents for a variety of situations.
CO2	Write cohesively and coherently avoiding grammatical errors, using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Listen and comprehend different spoken discourses in different accents.
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.

SUBJECT CODE & NAME:	MA6151 - Mathematics – I
COS	**COURSE OUTCOMES**
CO1	Able to develop the use of matrix algebra techniques this is needed by engineers for practical applications.
CO2	Able to make the student knowledgeable in the area of infinite series and their convergence so that he/ she will be familiar with limitations of using infinite series approximations for sc
CO3	Understand to familiarize the student with functions of several variables. This is needed in many branches of engineering.
CO4	Able to introduce the concepts of improper integrals, Gamma, Beta and Error functions which are needed in engineering applications.
CO5	Able to acquaint the student with mathematical tools needed in evaluating multiple integrals and their usage.

SUBJECT CODE & NAME:	PH6151 - Engineering Physics – I
COS	**COURSE OUTCOMES**
CO1	Student will be able to analyse the elastic properties of materials.
CO2	Student will be able toUnderstand the properties and applications of wave and fiber optics
CO3	Student will have knowledge to apply thermal properties of the material.
CO4	Student will be able toUnderstand Quantum mechanical behavior of the material.
CO5	Studentscan Understand the crystal structure and growing methods of crystal..

SUBJECT CODE & NAME:	CY6151 - Engineering Chemistry – I
COS	**COURSE OUTCOMES**
CO1	Know and develop innovative methods to produce soft water for boiler feed by various treatment process.

CO3	Significance and properties of alloy making and its application on phase diagram.
CO4	Explain about analysis and manufacture of various types of fuel.
CO5	The importance and application of energy sources and energy storage devices.

SUBJECT CODE & NAME:	GE6151 - Computer Programming
COS	**COURSE OUTCOMES**
CO1	Learn the organization of a digital computer.
CO2	Be exposed to the number systems.
CO3	Learn to think logically and write pseudo code or draw flow charts for problems.
CO4	Be exposed to the syntax of C.
CO5	Be familiar with programming in C. Learn to use arrays, strings, functions, pointers, structures and unions in C.

SUBJECT CODE & NAME:	GE6152 - Engineering Graphics
COS	**COURSE OUTCOMES**
CO1	Perform free hand sketching of basic geometrical constructions and multiple views of objects.
CO2	Do orthographic projection of lines and plane surfaces.
CO3	Draw projections and solids and development of surfaces.
CO4	Prepare isometric and perspective sections of simple solids.
CO5	Demonstrate computer aided drafting.

SUBJECT CODE & NAME:	GE6161 - Computer Practices Laboratory
COS	**COURSE OUTCOMES**
CO1	Apply good programming design methods for program development.
CO2	Design and implement C programs for simple applications.
CO3	Develop recursive programs.

SUBJECT CODE & NAME:	GE6162 - Engineering Practices Laboratory
COS	**COURSE OUTCOMES**
CO1	Ability to fabricate carpentry components and pipe connections including plumbing works.
CO2	Ability to use welding equipments to join the structures.
CO3	Ability to fabricate electrical and electronics circuits.

SUBJECT CODE & NAME:	GE6163 - Physics and Chemistry Laboratory - I
COS	**COURSE OUTCOMES**

CO2	Student will be able to Apply the principle of ultasonic interferometer
CO3	Student will be able to understand the priciples of spectrometer grating
CO4	Students can Analyse the thermal conductivity of a bad conductor
CO5	Student will be able to Apply the elastic behavior of material

REGULATION & SEMESTER:	**2013 - II**
SUBJECT CODE & NAME:	HS6251 - Technical English - II
COS	**COURSE OUTCOMES**
CO1	Identify the need of technical information and understanding practical credentials related to business situations
CO2	Use the language perfectly evading grammatical errors using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Write formal, informal letters and reports effectively
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.

SUBJECT CODE & NAME:	MA6251 - Mathematics – II
COS	**COURSE OUTCOMES**
CO1	To understand the concept of Eigen values and Eigen vectors, diagonalization of Matrix, symmetric matrices,positive definite matrices and similar matrices
CO2	To evaluate Gradient, Divergence and Curl of a Vector point functions and related identities.
CO3	To evaluate a Line,Surface and Volume integrals by using Gauss, Stokes and Green's Theorems and their verification.
CO4	To understand the concept ofAnalytic functions,conformal mapping and Complex integration
CO5	To understand the concept of Laplace Transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficie
SUBJECT CODE & NAME:	PH6251 - Engineering Physics – II
COS	**COURSE OUTCOMES**
CO1	Students will be able to Understand the Electrical properties of conducting materials.
CO2	Students can Understand the properties and applications of semiconducting materials .
CO3	students can apply the properties and applications of the magnetic materials and super conducting material
CO4	students Understand the properties and applications of dielectric materials.
CO5	students can analyse the properties and applications of new engineering materials
SUBJECT CODE & NAME:	CY6251 - Engineering Chemistry – II
COS	**COURSE OUTCOMES**
CO1	Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost.
CO2	Apply their knowledge for protection of different metals from corrosion .
CO3	The knowledge of converting solar energy into most needy electrical energy efficiently and economically to reduce the environmental pollution.
CO4	Apply their knowledge for various engineering materials

SUBJECT CODE & NAME:	GE6252 - Basic Electrical and Electronics Engineering
COS	**COURSE OUTCOMES**
CO1	Ability to identify the electrical components and explain the characteristics of electrical machines.
CO2	Ability to identify electronics components and understand the characteristics
CO3	Ability to explain the fundamentals of semiconductor and applications.
CO4	Ability to explain the principles of digital electronics
CO5	Ability to impart knowledge of communication.

SUBJECT CODE & NAME:	GE6253 - Engineering Mechanics
COS	**COURSE OUTCOMES**
CO1	Ability to explain the differential principles applies to solve engineering problems dealing with force, displacement, velocity and acceleration.
CO2	Ability to analyse the forces in any structures.
CO3	Ability to solve rigid body subjected to dynamic forces.
CO4	Calculate dynamic forces exerted in rigid body
CO5	Determine the friction and the effects by the laws of friction

SUBJECT CODE & NAME:	GE6261 - Computer Aided Drafting and Modeling Laboratory
COS	**COURSE OUTCOMES**
CO1	Ability to use the software packers for drafting and modeling
CO2	Ability to create 2D and 3D models of Engineering Components

SUBJECT CODE & NAME:	GE6262 - Physics and Chemistry Laboratory - II
COS	**COURSE OUTCOMES**
CO1	Students will be able to analyse values of Young's modulus by uniform bending method
CO2	Students can apply the principle to Determination of band gap of a semiconductor
CO3	Students will be able to evaluate the Coefficient of viscosity of a liquid by Poiseuille's method
CO4	Students can analyse the dispersive power of a prism using Spectrometer
CO5	Students can apply the properties of Rigidity modulus using Torsion pendulum

REGULATION & SEMESTER:	**2013 - III**
SUBJECT CODE & NAME:	MA6351 - TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS
COS	**COURSE OUTCOMES**
CO1	To understand how to solve the given standard partial differential equations

CO3	To Appreciate the Physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations
CO4	To understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of Engineering
CO5	To apply the Effective mathematical tools for the solutions of partial differential equations by using Z-Transform Techniques for discrete time systems

SUBJECT CODE & NAME:	GE6351 - ENVIRONMENTAL SCIENCE AND ENGINEERING
COS	**COURSE OUTCOMES**
CO1	Play an important role in transferring a healthy environment for future generations.
CO2	Analyze the impact of engineering solutions in a global and societal context.
CO3	Discuss contemporary issues that results in environmental degradation and would attempt to provide solutions to overcome those problems.
CO4	Ability to consider issues of environment and sustainable development in his personal and professional undertakings.
CO5	Highlight the importance of ecosystem and biodiversity. Paraphrase the importance of conservation of resources

SUBJECT CODE & NAME:	CE6301 - ENGINEERING GEOLOGY
COS	**COURSE OUTCOMES**
CO1	Will be able to understand the importance of geological knowledge such as earth, earthquake, volcanism and the action of various geological agencies.
CO2	Will get basics knowledge on properties of minerals.
CO3	Gain knowledge about types of rocks, their distribution and uses.
CO4	Will understand the methods of study on geological structure.
CO5	Will understand the application of geological investigation in projects such as dams, tunnels, bridges, roads, airport and harbor.

SUBJECT CODE & NAME:	CE6302 - MECHANICS OF SOLID
COS	**COURSE OUTCOMES**
CO1	Understand the fundamental concepts of stress and strain in mechanics of solids and structures.
CO2	Analyze determinate beams and trusses to determine shear forces, bending moments and axial forces.
CO3	Determine Shear force and bending moment in beams and understand concept of theory of simple bending.
CO4	Know concepts in designing shafts to transmit required power.
CO5	Design springs for its maximum energy storage capacities.

SUBJECT CODE & NAME:	CE6303 - MECHANICS OF FLUIDS
COS	**COURSE OUTCOMES**
CO1	Get a basic knowledge of fluids in static, kinematic and dynamic equilibrium.
CO2	Understand and solve the problems related to equation of motion.
CO3	Gain knowledge about dimensional and model analysis.
CO4	Learn types of flow and losses of flow in pipes.

SUBJECT CODE & NAME:	CE6304 - SURVEYING – I
COS	**COURSE OUTCOMES**
CO1	Know the principle, different types of surveys and instruments used in surveying.
CO2	Find the areas and distances by using linear methods.
CO3	Measure included angles and bearings by using compass.
CO4	Measure the horizontal angles and vertical angles by using theodolite.
CO5	Measure the elevations and contours by using leveling instruments.

SUBJECT CODE & NAME:	CE6311 - SURVEYING PRACTICAL -I
COS	**COURSE OUTCOMES**
CO1	Operate various survey instruments and be able to implement theoretical knowledge in the field works.

SUBJECT CODE & NAME:	CE6312 - COMPUTER AIDED BUILDING DRAWING
COS	**COURSE OUTCOMES**
CO1	The students will be able to draft the plan, elevation and sectional views of the buildings, industrial structures, and framed buildings using computer software.

REGULATION & SEMESTER:	2013 - IV
SUBJECT CODE & NAME:	MA6459 - NUMERICAL METHODS
COS	**COURSE OUTCOMES**
CO1	To solve the systems of linear algebraic equations by using Gauss Elimination
CO2	To understand the concepts of numerical interpolation and approximation of functions.
CO3	To analyze the difference between integration and differention concepts
CO4	To understand the concept of interpolation of errors in numerical methods..
CO5	To understand the concept of numerically integrate partial differential equations for initial boundary value problems

SUBJECT CODE & NAME:	CE6401 - CONSTRUCTION MATERIALS
COS	**COURSE OUTCOMES**
CO1	Compare the properties of most common and advanced building materials.
CO2	Understand the typical and potential applications of lime, cement and aggregates.
CO3	Know the production of concrete and also the method of placing and making of concrete elements.
CO4	Understand the applications of timbers and other materials.
CO5	Understand the importance of modern material for construction.

SUBJECT CODE & NAME:	CE6402 - STRENGTH OF MATERIALS
COS	**COURSE OUTCOMES**
CO1	Determine the strain energy and compute the deflection of determinate beams, frames and trusses using energy principles.
CO2	Analyze propped cantilever, fixed beams and continuous beams using theorem of three moment equation for external loadings and support settlements.
CO3	Find the load carrying capacity of columns and stresses induced in columns and cylinders
CO4	Determine principal stresses and planes for an element in three dimensional state of stress and study various theories of failure.
CO5	Determine the stresses due to Unsymmetrical bending of beams, locate the shear center, and find the stresses in curved beams.

SUBJECT CODE & NAME:	CE6403 - APPLIED HYDRAULIC ENGINEERING
COS	**COURSE OUTCOMES**
CO1	Apply their knowledge of fluid mechanics in addressing problems in open channels.
CO2	Able to identify a effective section for flow in different cross sections.
CO3	To solve problems in uniform, gradually and rapidly varied flows in steady state conditions.
CO4	Understand the principles, working and application of turbines.
CO5	Understand the principles, working and application of pumps.

SUBJECT CODE & NAME:	CE6404 - SURVEYING – II
COS	**COURSE OUTCOMES**
CO1	Set out of curves using various methods.
CO2	Principles and methods of measurement of horizontal vertical angles and leveling using Survey total station.
CO3	Understand the working principle of GPS, its components, signal structure, processing techniques used in GPS observations and error sources.
CO4	Demonstrate methods of survey in water bodies by hydrographic surveying, basic concepts adopted in photogrammetric.
CO5	Concept and principle of modern surveying.

SUBJECT CODE & NAME:	CE6405 - SOIL MECHANICS
COS	**COURSE OUTCOMES**
CO1	Classify the soil and assess the engineering properties, based on index properties.
CO2	Understand the stress concepts in soils
CO3	Understand and identify the settlement in soils.
CO4	Determine the shear strength of soil.
CO5	Analyze both finite and infinite slopes.

SUBJECT CODE & NAME:	CE6411 - STRENGTH OF MATERIAL LABORATORY
COS	**COURSE OUTCOMES**

SUBJECT CODE & NAME:	CE6412 - HYDRAULIC ENGINEERING LABORATORY
COS	**COURSE OUTCOMES**
CO1	The students will be able to measure flow in pipes and determine frictional losses.
CO2	The students will be able to develop characteristics of pumps and turbines.

SUBJECT CODE & NAME:	CE6413 - SURVEYING – II
COS	**COURSE OUTCOMES**
CO1	Students completing this course would have acquired practical knowledge on handling survey instruments like Theodolite, Tachometry and Total station and have adequate knowledge to carry

REGULATION & SEMESTER:	2013 - V
SUBJECT CODE & NAME:	CE6501 - STRUCTURAL ANALYSIS I
COS	**COURSE OUTCOMES**
CO1	Analyze continuous beams, pin-jointed indeterminate plane frames and rigid plane frames by strain energy method
CO2	Analyse the continuous beams and rigid frames by slope defection method.
CO3	Understand the concept of moment distribution and analysis of continuous beams and rigid frames with and without sway.
CO4	Analyse the indeterminate pin jointed plane frames continuous beams and rigid frames using matrix flexibility method.
CO5	Understand the concept of matrix stiffness method and analysis of continuous beams, pin jointed trusses and rigid plane frames.

SUBJECT CODE & NAME:	CE6502 - FOUNDATION ENGINEERING
COS	**COURSE OUTCOMES**
CO1	Understand the site investigation, methods and sampling.
CO2	Get knowledge on bearing capacity and testing methods.
CO3	Design shallow footings.
CO4	Determine the load carrying capacity, settlement of pile foundation.
CO5	Determine the earth pressure on retaining walls and analysis for stability.

SUBJECT CODE & NAME:	CE6503 - ENVIRONMENTAL ENGINEERING I
COS	**COURSE OUTCOMES**
CO1	An insight into the structure of drinking water supply systems, including water transport, treatment and distribution
CO2	The knowledge in various unit operations and processes in water treatment
CO3	An ability to design the various functional units in water treatment
CO4	An understanding of water quality criteria and standards, and their relation to public health
CO5	The ability to design and evaluate water supply project alternatives on basis of chosen criteria.

SUBJECT CODE & NAME:	CE6504 - HIGHWAY ENGINEERING
COS	**COURSE OUTCOMES**
CO1	Get knowledge on planning and aligning of highway.
CO2	Geometric design of highways
CO3	Design flexible and rigid pavements.
CO4	Gain knowledge on Highway construction materials, properties, testing methods
CO5	Understand the concept of pavement management system, evaluation of distress and maintenance of pavements.

SUBJECT CODE & NAME:	CE6505 - DESIGN OF REINFORCED CONCRETE ELEMENTS
COS	**COURSE OUTCOMES**
CO1	Understand the various design methodologies for the design of RC elements.
CO2	Know the analysis and design of flanged beams by limit state method and sign of beams for shear, bond and torsion.
CO3	Design the various types of slabs and staircase by limit state method.
CO4	Design columns for axial, uniaxial and biaxial eccentric loadings.
CO5	Design of footing by limit state method.

SUBJECT CODE & NAME:	CE6506 - CONSTRUCTION TECHNIQUES EQUPIMENTS AND PRACTICES
COS	**COURSE OUTCOMES**
CO1	Know the different construction techniques and structural systems
CO2	Understand various techniques and practices on masonry construction, flooring, and roofing.
CO3	Plan the requirements for substructure construction.
CO4	Know the methods and techniques involved in the construction of various types of super structures
CO5	Select, maintain and operate hand and power tools and equipment used in the building construction sites.

SUBJECT CODE & NAME:	CE6674 - COMMUNICATION SKILLS LABORATORY
COS	**COURSE OUTCOMES**
CO1	Acquire wide knowledge in all the four skills such as listening, speaking, reading and writing.
CO2	Develop their performance in interviews, group discussions and other recruitment exercises.
CO3	Improve their soft skills and interpersonal skills to excel in the career as well as in National and International Competitive exams.
CO4	Design their resume in an effective way and write excellent letters and reports in formal situations.
CO5	Lead the team confidently by acquiring excellent leadership skills.

SUBJECT CODE & NAME:	CE6511 - SOIL MECHANICS LABORATORY
COS	**COURSE OUTCOMES**

SUBJECT CODE & NAME:	CE6512 - SURVEYING CAMP
COS	**COURSE OUTCOMES**
CO1	Conduct various types of survey in the field and prepare the necessary survey map and report using the measurements taken.
CO2	Handle advanced instruments like total station for the survey works.

REGULATION & SEMESTER:	2013 - VI
SUBJECT CODE & NAME:	CE6601 - DESIGN OF REINFORCED CONCRETE AND BRICK MASONREY STRUCTURES
COS	**COURSE OUTCOMES**
CO1	Comprehensive design knowledge of retaining walls.
CO2	Comprehensive design knowledge of water tanks.
CO3	Knowledge on yield line theory and failure pattern of slab under different loads.
CO4	Knowledge on design of staircase, flat slab and road bridges.
CO5	Knowledge on design of brick walls and columns

SUBJECT CODE & NAME:	CE6602 - STRUCTURAL ANALYSIS II
COS	**COURSE OUTCOMES**
CO1	Draw influence lines for statically determinate structures and calculate critical stress resultants.
CO2	Understand Muller Breslau principle and draw the influence lines for statically indeterminate beams.
CO3	Analyse the three hinged, two hinged and fixed arches.
CO4	Analyse of suspension bridges with stiffening girders
CO5	Understand the concept of Plastic analysis and the method of analyzing beams and rigid frames.

SUBJECT CODE & NAME:	CE6603 - DESIGN OF STEEL STRUCTURES
COS	**COURSE OUTCOMES**
CO1	Understand the concepts of various design philosophies
CO2	Design common bolted and welded connections for steel structures
CO3	Design tension members and understand the effect of shear lag.
CO4	Understand the design concept of axially loaded columns and column base connections.
CO5	Understand specific problems related to the design of laterally restrained and unrestrained steel beams.

SUBJECT CODE & NAME:	CE6604 - RAILWAYS, AIRPORTS,AND HARBOUR ENGINEERING
COS	**COURSE OUTCOMES**
CO1	Understand the methods of route alignment and design elements in Railway Planning and Constructions.

CO3	Gain an insight on the planning and site selection of Airport Planning and design.
CO4	Analyze and design the elements for orientation of runways and passenger facility systems.
CO5	Understand the various features in Harbours and Ports, their construction, coastal protection works and coastal Regulations to be adopted.

SUBJECT CODE & NAME:	CE6605 - ENVIRONMENTAL ENGINEERING II
COS	**COURSE OUTCOMES**
CO1	An ability to estimate sewage generation and design sewer system including sewage pumping stations
CO2	The required understanding on the characteristics and composition of sewage, self- purification of streams
CO3	An ability to perform basic design of the unit operations and processes that are used in sewage treatment
CO4	Understand the standard methods for disposal of sewage.
CO5	Gain knowledge on sludge treatment and disposal.

SUBJECT CODE & NAME:	CE6002 - CONCRETE TECHNOLOGY
COS	**COURSE OUTCOMES**
CO1	The various requirements of cement, aggregates and water for making concrete
CO2	The effect of admixtures on properties of concrete
CO3	The concept and procedure of mix design as per IS method
CO4	The properties of concrete at fresh and hardened state
CO5	The importance and application of special concretes.

SUBJECT CODE & NAME:	CE6611 - ENVIRONMENTAL ENGINEERING LABORATORY
COS	**COURSE OUTCOMES**
CO1	Quantify the pollutant concentration in water and wastewater
CO2	Suggest the type of treatment required and amount of dosage required for the treatment
CO3	Examine the conditions for the growth of micro-organisms

SUBJECT CODE & NAME:	CE6612 - CONCRETE AND HIGHWAY ENGINEERING LABORATORY
COS	**COURSE OUTCOMES**
CO1	Assess the quality of the concrete through laboratory tests.
CO2	Assess the durability properties of concrete
CO3	Design the mix proportion for the required concrete strength.
CO4	Assess the quality of bitumen through laboratory tests.

REGULATION & SEMESTER:	**2013 - VII**

COS	COURSE OUTCOMES
CO1	Student will develop knowledge in the simulation and mathematical model development.
CO2	Students will be trained to identify, formulate and solve complicated problem.
CO3	Students will be able to understand the role of natural calamity in the damage of structures.
CO4	Students will be able to develop the skill to analyse data and to apply the same in the practical problems.
CO5	Students will be able to apply the developed methodologies for the safe and stable design of structures.

SUBJECT CODE & NAME:	CE6702 - PRESTRESSED CONCRETE STRUCTURES
COS	COURSE OUTCOMES
CO1	Understand the behaviour of prestressed concrete members and able to analyze the prestressed concrete beams.
CO2	Design the prestressed concrete members for flexure and shear as per the relevant design code (IS 1343).
CO3	Analyze for deflection of prestressed concrete members and design the anchorage zone.
CO4	Analyze and design of composite beams and continuous beams.
CO5	Design of prestressed concrete structures - sleepers, Tanks, pipes and poles.

SUBJECT CODE & NAME:	CE6703 - WATER RESOURCES AND IRRIGATION ENGINEERING
COS	COURSE OUTCOMES
CO1	Have knowledge and skills on crop water requirements.
CO2	Understand the methods and management of irrigation.
CO3	Gain knowledge on types of Impounding structures
CO4	Understand methods of irrigation including canal irrigation.
CO5	Get knowledge on water management on optimization of water use.

SUBJECT CODE & NAME:	CE6704 - ESTIMATION, AND QUANTITY SURVEYING
COS	COURSE OUTCOMES
CO1	Estimate the quantities for buildings,
CO2	Rate Analysis for all Building works, canals, and Roads and Cost Estimate.
CO3	Understand types of specifications, principles for report preparation, tender notices types.
CO4	Gain knowledge on types of contracts
CO5	Evaluate valuation for building and land.

SUBJECT CODE & NAME:	CE6006 - TRAFFIC ENGINEERING AND MANAGEMENT
COS	COURSE OUTCOMES
CO1	Analyse traffic problems and plan for traffic systems various uses.

CO3	Design Channels, Intersections, signals and parking arrangements.
CO4	Awareness about the traffic rules and prevention.
CO5	Develop Traffic management Systems.

SUBJECT CODE & NAME:	EN6501 - MUNICIPAL SOLID WASTE MANAGEMENT
COS	**COURSE OUTCOMES**
CO1	Understanding of the nature and characteristics of municipal solid wastes and the regulatory requirements regarding municipal solid waste management.
CO2	Reduction, reuse and recycling of waste.
CO3	Ability to plan and design systems for storage, collection, transport, processing and disposal of municipal solid waste.
CO4	Knowledge on the issues on solid waste management from an integrated and holistic perspective, as well as in the local and international context.
CO5	Design and operation of sanitary landfill.

SUBJECT CODE & NAME:	CE6711 - COMPUTER AIDED DESIGN AND DRAFTING LABORATORY
COS	**COURSE OUTCOMES**
CO1	Design and draw reinforced concrete Cantilever and Counterfort Retaining Walls
CO2	Design and draw flat slab as per code provisions
CO3	Design and draw reinforced concrete and steel bridges
CO4	Design and draw reinforced concrete and steel water tanks
CO5	Design and detail the various steel trusses and cantry girders

SUBJECT CODE & NAME:	CE6712 - DESIGN PROJECT
COS	**COURSE OUTCOMES**
CO1	Prepare the plan of a Civil engineering structure.
CO2	Analyse and design the structure
CO3	Prepare the detailed drawings for structural elements
CO4	Prepare the consolidated project report for tender or any other purpose.

REGULATION & SEMESTER:	**2013 - VIII**
SUBJECT CODE & NAME:	MG6851 - PRINCIPLES OF MANAGEMENT
COS	**COURSE OUTCOMES**
CO1	Understand the concepts of management, administration and the evolution of management thoughts.
CO2	Understand and apply the planning concepts.
CO3	Analyze the different organizational structures and understand the staffing process.
CO4	Analyze the various motivational and leadership theories and understand the communication and controlling processes.

SUBJECT CODE & NAME:	CE6016 - PREFABRICATED STRUCTURES
COS	**COURSE OUTCOMES**
CO1	The student will have good knowledge about design principles, layout of factory and stages of loading in precast construction.
CO2	Acquire knowledge about panel systems, slabs, connections used in precast construction and they will be in a position to design the elements.
CO3	Acquire knowledge about types of floor systems, stairs and roofs used in precast construction.
CO4	Acquire knowledge about types of walls used in precast construction, sealants, design of joints.
CO5	Acquire knowledge about components in industrial building.

SUBJECT CODE & NAME:	CE6021 - REPAIR AND REHABILITATION OF STRUCTURES
COS	**COURSE OUTCOMES**
CO1	The importance of maintenance and assessment method of distressed structures.
CO2	The strength and durability properties ,their effects due to climate and temperature.
CO3	Recent development in concrete
CO4	The techniques for repair rand protection methods
CO5	Repair, rehabilitation and retrofitting of structures and demolition methods.

SUBJECT CODE & NAME:	CE6811 - PROJECT WORK
COS	**COURSE OUTCOMES**
CO1	On Completion of the project work students will be in a position to take up any challenging

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING	
REGULATION & SEMESTER:	**2013 - I**
SUBJECT CODE & NAME:	HS6151 Technical English – I
COS	**COURSE OUTCOMES**
CO1	Understand how to apply technical information and knowledge in practical documents for a variety of situations.
CO2	Write cohesively, coherently and flawlessly avoiding grammatical errors, using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Listen and comprehend different spoken discourses in different accents.
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.

SUBJECT CODE & NAME:	MA6151 Mathematics – I
COS	**COURSE OUTCOMES**
CO1	To understand the concept of Eigen values and Eigen vectors, diagonalization of Matrix, symmetric matrices,positive definite matrices and similar matrices
CO2	To familier with limitations of using infinite series approximations for solutions arising in mathematical modeling.

CO3	To understand the concept of functions of several variables
CO4	To apply Differentiation in Maxima and Minima problems
CO5	To compute multiple integrals, area, volume, integrals in polar co ordinates in addition to change of order and change of variables

SUBJECT CODE & NAME:	PH6151 Engineering Physics – I
COS	**COURSE OUTCOMES**
CO1	Understand the elastic properties of materials.
CO2	Understand the properties and applications of wave and fiber optics
CO3	Understand thermal properties of the material.
CO4	Understand Quantum mechanical behavior of the material.
CO5	Understand the crystal structure and growing methods of crystal..

SUBJECT CODE & NAME:	CY6151 Engineering Chemistry – I
COS	**COURSE OUTCOMES**
CO1	Students will be able to Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost.
CO2	Students will be able to Apply their knowledge for protection of different metals from corrosion .
CO3	Students will be able to get knowledge of converting solar energy into most needy electrical energy efficiently and economically to reduce the environmental pollution.
CO4	Students will be able to Apply their knowledge for various engineering materials
CO5	Students will be able to Explain about analysis and manufacture of various types of fuel.

SUBJECT CODE & NAME:	GE6151 Computer Programming
COS	**COURSE OUTCOMES**
CO1	Students will be able to understand the Organization of a Computer and number systems.
CO2	Students will be able to Explain the attributes of algorithm and programming basics
CO3	Students will be able to Illustrate simple programs by using arrays and string functions
CO4	Students will be able to Apply functions and pointers for solving problems
CO5	Students will be able to Develop simple applications using structure and union

SUBJECT CODE & NAME:	GE6152 Engineering Graphics
COS	**COURSE OUTCOMES**
CO1	To Know and develop innovative methods to produce soft water for boiler feed by various treatment process.
CO2	Explain role of adsorption phenomena and various catalytic types and its key properties
CO3	Students able to know about significance and properties of alloy making and its application on phase diagram.
CO4	To explain about analysis and manufacture of various types of fuel.
CO5	To Know about the importance and application of energy sources and energy storage devices.

SUBJECT CODE & NAME:	GE6161 Computer Practices Laboratory
COS	**COURSE OUTCOMES**
CO1	students will able to Prepare data using MS office for Presentation and Visualization
CO2	students can Analyze the Problems and design using Flow-chart.
CO3	students will able to Solve Problems using decision making and looping Statements.
CO4	students will able to Use Arrays, Structures & Unions in problem solving.
CO5	students can Solve Problems using Recursive Functions

SUBJECT CODE & NAME:	GE6162 Engineering Practices Laboratory
COS	**COURSE OUTCOMES**
CO1	Analyse the particle size & accptance andle using laser.
CO2	Apply the principle of ultasonic interferometer
CO3	Apply the priciples of spectrometer grating
CO4	Analyse the thermal conductivity of a bad conductor
CO5	Apply the elastic behavior of material

SUBJECT CODE & NAME:	GE6163 Physics and Chemistry Laboratory - I
COS	**COURSE OUTCOMES**
CO1	students will able to dentify the hardness in water.
CO2	students will able to Analysis the alkalinity in water .
CO3	students will able to get knowledge about strong acid and weak acid.
CO4	students will able to Analyse the thermal conductivity of a bad conductor.
CO5	students will able to Apply the elastic behavior of material.

REGULATION & SEMESTER:	2013 - II
SUBJECT CODE & NAME:	HS6251 Technical English – II
COS	**COURSE OUTCOMES**
CO1	Identify the need of technical information and understanding practical credentials related to business situations
CO2	Use the language perfectly evading grammatical errors using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Write formal, informal letters and reports effectively
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.

SUBJECT CODE & NAME:	MA6251 Mathematics – II
COS	**COURSE OUTCOMES**
CO1	To evaluate Gradient, Divergence and Curl of a Vector point functions and related identities.

CO2	To solve ordinary differential equations that model engineering problems
CO3	To understand the concept of Laplace Transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients
CO4	To understand the concept ofAnalytic functions,conformal mapping and Complex integration
CO5	To understanding of the standard techniques of complex variable theory so as to enable the student to apply them with confidence

SUBJECT CODE & NAME:	PH6251 Engineering Physics – II
COS	**COURSE OUTCOMES**
CO1	Understand the Electrical properties of conducting materials.
CO2	Understand the properties and applications of semiconducting materials .
CO3	Understand properties and applications of the magnetic materials and super conducting material
CO4	Understand the properties and applications of dielectric materials.
CO5	Understand the properties and applications of new engineering materials

SUBJECT CODE & NAME:	CY6251 Engineering Chemistry – II
COS	**COURSE OUTCOMES**
CO1	Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost.
CO2	Apply their knowledge for protection of different metals from corrosion .
CO3	The knowledge of converting solar energy into most needy electrical energy efficiently and economically to reduce the environmental pollution.
CO4	Apply their knowledge for various engineering materials
CO5	Explain about analysis and manufacture of various types of fuel.

SUBJECT CODE & NAME:	CS6201 Digital Principles and System Design
COS	**COURSE OUTCOMES**
CO1	Perform arithmetic operations in any number system.
CO2	Simplify the Boolean expression using K-Map and Tabulation techniques.
CO3	Use boolean simplification techniques to design a combinational hardware circuit.
CO4	Design and Analysis of a given digital circuit – combinational and sequential.
CO5	Design using PLD.

SUBJECT CODE & NAME:	CS6202 Programming and Data Structures I
COS	**COURSE OUTCOMES**
CO1	students learn control structures and pointers concepts of C.
CO2	students will be able to implement structures, unions and file operations in C Programming.
CO3	students can learn basics of ADT and able to implement different ADTs and their applications.
CO4	students will be able to solve expressions and create programs for stack and queue applications.
CO5	students are exposed to different sorting Algorithms.

SUBJECT CODE & NAME:	GE6262 Physics and Chemistry Laboratory - II
COS	**COURSE OUTCOMES**
CO1	Identify the hardness in water.
CO2	Analysis the alkalinity in water .
CO3	Find the strength of an acid using PH meter conductometer.
CO4	Analyse the thermal conductivity of a bad conductor.
CO5	Apply the elastic behavior of material.

SUBJECT CODE & NAME:	CS6211 Digital Laboratory
COS	**COURSE OUTCOMES**
CO1	Use boolean simplification techniques to design a combinational hardware circuit.
CO2	Design and Implement combinational and sequential circuits.
CO3	Analyze a given digital circuit – combinational and sequential.
CO4	Design the different functional units in a digital computer system.
CO5	Design and Implement a simple digital system.

SUBJECT CODE & NAME:	CS6212 Programming and Data Structures Laboratory I
COS	**COURSE OUTCOMES**
CO1	students will be able to implement conditional, control structures and pointer concepts using C programming.
CO2	student can be able to create programs using different data structues.
CO3	students will be able to implement file creation and file Handling operations.
CO4	students will solve expression evalations using stack and queue data strcutures.
CO5	students implement different searching and sorting methods using c programming.

REGULATION & SEMESTER:	2013 - III
SUBJECT CODE & NAME:	MA6351 Transforms and Partial Differential Equations
COS	**COURSE OUTCOMES**
CO1	To understand how to solve the given standard partial differential equations
CO2	To Solve the differential equations by using Fourier series analysis which place vital role in Engineering applications
CO3	To Appreciate the Physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations
CO4	To understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of Engineering
CO5	To apply the Effective mathematical tools for the solutions of partial differential equations by using Z Transform Techniques for discrete time systems

SUBJECT CODE & NAME:	CS6301 Programming and Data Structure II
COS	**COURSE OUTCOMES**

CO1	Student can design problem solutions using Object Oriented Techniques.
CO2	Student can applying the concepts of data abstraction, encapsulation and inheritance for problem solutions.
CO3	Student can using the control structures of C++ appropriately.
CO4	Student is able to Critically analyse various algorithms.
CO5	Student can applying the different data structures to problem solutions.

SUBJECT CODE & NAME:	CS6302 Database Management Systems
COS	**COURSE OUTCOMES**
CO1	Students will be able to Illustrate the database design for applications.
CO2	Students will be able to Make use of ER diagram and normalization techniques in database application
CO3	Students will be able toApply concurrency control & recovery mechanism for database problems.
CO4	Students will be able toApply the various concepts in query processing.
CO5	Students will be able toCompare various storage techniques in data mining.

SUBJECT CODE & NAME:	CS6303 Computer Architecture
COS	**COURSE OUTCOMES**
CO1	Students will be able to Explain the computer organization components, instructions and addressing modes
CO2	Students will be able to Apply arithmetic operations for Solving problems
CO3	Students will be able to Illustrate the basic of MIPS implementation and pipelining
CO4	Students will be able to Understand the concept of parallelism and multi-core processor
CO5	Students will be able to Classify the memory technologies and I/O systems

SUBJECT CODE & NAME:	CS6304 Analog and Digital Communication
COS	**COURSE OUTCOMES**
CO1	Able to review the analog communication techniques
CO2	Able to review the digital communication techniques
CO3	Able to use data and pulse communication techniques
CO4	Able to analyze Source and Error control coding
CO5	Able to Utilize multi-user radio communication

SUBJECT CODE & NAME:	GE6351 Environmental Science and Engineering
COS	**COURSE OUTCOMES**
CO1	Students will able to explain scope and importance of Environmental Science, Ecosystem and Biodiversity.
CO2	Students will capable to identify the Environmental Pollution and address the complexities in the day today life.
CO3	Students will able to obtain knowledge about various Natural Resources and equitable use of resources for sustainable life style.
CO4	Students will able to know about Social issues and Possible Solution of various Environmental problem related to energy.

CO5	Students will able to acquire knowledge on impacts of Human Population, over the environment and demonstrate the role of Information Technology in Environment and Human Health.

SUBJECT CODE & NAME:	CS6311 Programming and Data Structure Laboratory II
COS	**COURSE OUTCOMES**
CO1	Student can design and implement C++ programs for manipulating stacks, queues, linked lists, trees, and graphs.
CO2	Student can apply good programming design methods for program development.
CO3	Student can provide knowledge in various data structures and algorithms.
CO4	Student can develop C++ programs for practical problems using non-linear data structures.
CO5	Student can develop recursive programs using trees and graphs.

SUBJECT CODE & NAME:	CS6312 Database Management Systems Laboratory
COS	**COURSE OUTCOMES**
CO1	Student will be able to design and implement a database schema for a given problem-domain.
CO2	Student will be able to create and maintain tables using PL/SQL.
CO3	Student will be able to prepare reports.
CO4	Student will be able to present the concepts and techniques relating to ODBC and its implementations.
CO5	Student will be able to understanding of DML Commands and DCL commands

REGULATION & SEMESTER:	**2013 - IV**
SUBJECT CODE & NAME:	MA6453 Probability and Queueing Theory
COS	**COURSE OUTCOMES**
CO1	To understand the concepts of probability space and the fundamental axioms of probability
CO2	To understand the concept of conditional probability
CO3	To understand the concept of expectation, moment and central moments
CO4	To know an exposure of various distribution functions and help in acquiring skills in handling situations involving more than one variable .Able to analyze the response of random inputs to linear time invariant systems.
CO5	To know a fundamental knowledge of the probability concepts

SUBJECT CODE & NAME:	CS6551 Computer Networks
COS	**COURSE OUTCOMES**
CO1	Students will able to know about components of networks and link layer service
CO2	Students can define the Media Access Control Protocols and different Internetworking
CO3	Students will able to demonstrate various types of routing techniques
CO4	Students will able to know the mechanisms involved in transport layer
CO5	Students can implement the different application layer protocols

SUBJECT CODE & NAME:	CS6401 Operating Systems

COS	COURSE OUTCOMES
CO1	Student can understand basic concepts, structure and functions of OS.
CO2	Student can understand to design various Scheduling algorithms, deadlock, prevention and avoidance algorithms.
CO3	Student can able to compare and contrast various memory management schemes.
CO4	Student can able to design and implement a prototype file systems.
CO5	Students can understand the performance of administrative tasks on Linux Servers.

SUBJECT CODE & NAME:	CS6402 Design and Analysis of Algorithms
COS	COURSE OUTCOMES
CO1	Student can Interpret the fundamental needs of algorithms in problem solving
CO2	Student can Classify the different algorithm design techniques for problem solving
CO3	Student will able to develop algorithms for various computing problems
CO4	Student can Analyze the time and space complexity of various algorithms
CO5	Student can Identify the limitations of algorithms in problem solving

SUBJECT CODE & NAME:	EC6504 Microprocessor and Microcontroller
COS	COURSE OUTCOMES
CO1	Design and implement programs on 8086 microprocessor.
CO2	Design I/O circuits
CO3	Design Memory Interfacing circuits.
CO4	Design and implement 8051 microcontroller based systems
CO5	Describe the architecture and instruction set of ARM microcontroller

SUBJECT CODE & NAME:	CS6403 Software Engineering
COS	COURSE OUTCOMES
CO1	Students shall have strong foundation in science, mathematics, and engineering, and can apply this fundamental knowledge to software engineering tasks.
CO2	Students can effectively apply software engineering practice over the entire system lifecycle.
CO3	Students can select and tailor appropriate methods for projects, and can apply them as both team members and managers to achieve project goals.
CO4	Students can get the knowledge of the ethics, professionalism, and cultural diversity in the work environment.
CO5	Students can apply basic software quality assurance practices to ensure that software designs, development, and maintenance meet or exceed applicable standards.

SUBJECT CODE & NAME:	CS6411 Networks Laboratory
COS	COURSE OUTCOMES
CO1	Student will able to know the socket program using TCP & UDP
CO2	Student can implement the simple applications using TCP & UDP
CO3	Student can implement the code for Data link layer protocol simulation

CO4	Student will able to known the performances of Routing protocol
CO5	Student can implement the with congestion control algorithm using network simulator

SUBJECT CODE & NAME:	CS6412 Microprocessor and Microcontroller Laboratory
COS	**COURSE OUTCOMES**
CO1	Write ALP Programmes for fixed and Floating Point and Arithmetic
CO2	Interface different I/Os with processor
CO3	Generate waveforms using Microprocessors
CO4	Execute Programs in 8051
CO5	Explain the difference between simulator and Emulator

SUBJECT CODE & NAME:	CS6413 Operating Systems Laboratory
COS	**COURSE OUTCOMES**
CO1	Student can able to implement deadlock avoidance, and Detection Algorithms
CO2	Student can understand & Compare the performance of various CPU Scheduling Algorithm
CO3	Student can critically analyze the performance of the various page replacement algorithms
CO4	Student can create processes and implement IPC
CO5	Student can implement of CPU Scheduling Algorithms, page replacement algorithms.

REGULATION & SEMESTER:	**2013 - V**
SUBJECT CODE & NAME:	MA6566 Discrete Mathematics
COS	**COURSE OUTCOMES**
CO1	Student can able to understand the concepts needed to test the logic of a program.
CO2	Student can able to understanding in identifying structures on many levels
CO3	Student can able to analyse a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science
CO4	Student can able to Know the aware of the counting principles
CO5	Student can able to exposed the concepts and properties of algebraic structures such as groups, rings and fields.

SUBJECT CODE & NAME:	CS6501 Internet Programming
COS	**COURSE OUTCOMES**
CO1	Students will be able to Learn the implementation of Java programs.
CO2	Students will be able to Create a basic website using HTML and Cascading Style Sheets.
CO3	Students will be able to Understand and design the client and server side implementation for dynamic web page with validation using JavaScript objects
CO4	Students will be able to Designing of simple web page using PHP, and to present data in XML format.
CO5	Students will be able to Understand the basics of AJAX and web services in WSDL.

SUBJECT CODE & NAME:	CS6502 Object Oriented Analysis and Design
COS	**COURSE OUTCOMES**
CO1	Student can understand the OOAD concepts and various UML diagrams
CO2	Student can uderstand the appropriate design pattern
CO3	Student can illustrate about domain models and conceptual classes
CO4	Students can able to understand, compare and contrast various testing techniques
CO5	Student can construct projects using UML diagram

SUBJECT CODE & NAME:	CS6503 Theory of Computation
COS	**COURSE OUTCOMES**
CO1	The student will be able to design Finite Automata and solve real world problems that can be represented in regular languages.
CO2	The student will be able to design Context Free Grammars , Derivation trees and Derive its Normal forms
CO3	The student will be able to design Pushdown Automata and identify whether the given language is context free or not using pumping lemma
CO4	The student will be able to design Turing Machine using different techniques for any computable problem
CO5	The student will be able to explain and demonstrate the decidability and undecidability of various problems

SUBJECT CODE & NAME:	CS6504 Computer Graphics
COS	**COURSE OUTCOMES**
CO1	The studetns will able to implement the various output primitives and graphics systems.
CO2	The students will able to analyze to study 2D transformations, viewing and clipping techniques.
CO3	The Studetns will able to understand the 3D objects and projections.
CO4	The Students will able to design and illustrated the basic illumination and colour models.
CO5	The Studetns will able to underastand various animation sequences and graphics realism.

SUBJECT CODE & NAME:	CS6511 Case Tools Laboratory
COS	**COURSE OUTCOMES**
CO1	Students can design and implement projects using OO concepts.
CO2	Students can design the UML analysis and design diagrams.
CO3	Students ca apply appropriate design patterns.
CO4	Student can implement code from design.
CO5	Student can compare and contrast various testing techniques.

SUBJECT CODE & NAME:	CS6512 Internet Programming Laboratory
COS	**COURSE OUTCOMES**
CO1	Designing of web pages using HTML/XML and style sheets
CO2	Analyze user interfaces using Java frames and applets

CO3	Validate the dynamic web pages using server side scripting
CO4	Develop a Client Server application and use the frameworks such as JSP Strut, Spring
CO5	Build the applications using AJAX

SUBJECT CODE & NAME:	CS6513 Computer Graphics Laboratory
COS	**COURSE OUTCOMES**
CO1	Studetns can implement to use of algorithms to draw 2D and 3D objects
CO2	Studetns will study the transformations and projections for 2D and 3D objects
CO3	Studetns can Manipulate a graphical object using clipping algorithms and viewing technique
CO4	Studetns will Use an image editing tool for image manipulation and enhancement
CO5	Students can Utilize the authoring tool to develop a 3D scene and to perform 2D animation

REGULATION & SEMESTER:	**2013 - VI**
SUBJECT CODE & NAME:	CS6601 Distributed Systems
COS	**COURSE OUTCOMES**
CO1	students will understand the basics of distributed systems and its trends.
CO2	students will be able to implement network virutalization.
CO3	students will implement remote method invocation and objects using java programming.
CO4	students can be able to design process and resource management systems.
CO5	students will understand in detail the system level and support required for distributed systems.

SUBJECT CODE & NAME:	IT6601 Mobile Computing
COS	**COURSE OUTCOMES**
CO1	students will able to understand the basics of Mobile Computing and MAC protocol.
CO2	students will able to explain the need of Mobile Internet Protocol and Transport Layer Protocol.
CO3	students will able to implement the various architectures of Mobile Telecommunication System
CO4	students will able to compare various routing protocols in Mobile Ad-hoc networks.
CO5	students will able to understand and explain the features of various Mobile Operating Systems.

SUBJECT CODE & NAME:	CS6660 Compiler Design
COS	**COURSE OUTCOMES**
CO1	The student will be able to analyze and be able to know the various phases of compiler
CO2	The student will be able to design and implement a Lexical analyzer.
CO3	The student will be able to design and implement a parser
CO4	The student will be able to understand about storage allocation
CO5	The student will be able to optimize and design code generator

SUBJECT CODE & NAME:	IT6502 Digital Signal Processing
COS	**COURSE OUTCOMES**
CO1	Able to define and analyze discrete time signal and system.
CO2	Able to interpret the transformation of discrete data between time and frequency domains and also apply mathematical tool for accelerating calculations in signal processing applications
CO3	Able to know the frequency response characteristics of IIR filter and learn the design of IIR filtering for undesired signal
CO4	Able to know the linear phase response characteristics of FIR filter and learn the design of FIR filtering for undesired signal
CO5	Able to know the concept of quantization and also analyze how its affect in digital filters

SUBJECT CODE & NAME:	CS6659 Artificial Intelligence
COS	**COURSE OUTCOMES**
CO1	Student can able to learn the key components of the artificial intelligence (AI) field and its relation and role in Computer Science
CO2	Student can identify and analyse artificial intelligence techniques, including search heuristics, knowledge representation, automated planning and agent systems, machine learning, and probabilistic reasoning algorithms
CO3	Student can able to identify and apply AI techniques to a wide range of problems, including complex problem solving via search, knowledge-base systems, machine learning, probabilistic models, agent decision making, etc.
CO4	Student can able to design and implement appropriate AI solution techniques for various level.
CO5	Student can analyse and understand the computational trade-offs involved in applying different AI techniques and models.

SUBJECT CODE & NAME:	IT6702 Data Warehousing and Data Mining
COS	**COURSE OUTCOMES**
CO1	Student will be able to identify the scope and necessity of Data Mining & Warehousing for the society.
CO2	Students will be able to understand various tools of Data Mining and their techniques to solve the real time problems.
CO3	Student can develop further interest in research and design of new Data Mining Techniques.
CO4	Student can examine the different classification and clustering techniques in data mining.
CO5	Student can apply data mining techniques to complex data objects like spatial data, multimedia data and web mining.

SUBJECT CODE & NAME:	CS6611 Mobile Application Development Laboratory
COS	**COURSE OUTCOMES**
CO1	students will able to build a native application using GUI components and Mobile application development framework
CO2	students will able to develop an application using basic graphical primitives and databases
CO3	students will able to Construct an application using multi threading and RSS feed
CO4	students can Make use of location identification using GPS in an application
CO5	students can design new applications to hand held devices

SUBJECT CODE & NAME:	CS6612 Compiler Laboratory
COS	**COURSE OUTCOMES**
CO1	The student will be able to Apply different compiler writing tools to implement the different Phases

CO2	The student will be able to Analyze the data flow and control flow
CO3	The student will be able to Construct the intermediate representation
CO4	The student will be able to Design the back end of a compiler for 8086 assembler
CO5	The student will be able to Compare various code optimization techniques

SUBJECT CODE & NAME:	GE6674 Communication and Soft Skills - Laboratory Based
COS	**COURSE OUTCOMES**
CO1	The student will be able to Acquire wide knowledge in all the four skills such as listening, speaking, reading and writing.
CO2	The student will be able to Develop their performance in interviews, group discussions and other recruitment exercises.
CO3	The student will be able to Improve their soft skills and interpersonal skills to excel in the career as well as in National and International Competitive exams.
CO4	The student will be able to Design their resume in an effective way and write excellent letters and reports in formal situations.
CO5	The student will be able to Lead the team confidently by acquiring excellent leadership skills.

REGULATION & SEMESTER:	**2013 - VII**
SUBJECT CODE & NAME:	CS6701 Cryptography and Network Security
COS	**COURSE OUTCOMES**
CO1	Students will be able to Apply GCD,primality,Fermats,Eulers and Chinese remainder theorems
CO2	Students will be able to Understand the operations of classical and modern cryptographic algorithms
CO3	Students will be able to Perform MAC and hashing
CO4	Students will be able to Familiar with authentication schemes,firewalls,intrusion detection and viruses
CO5	Students will be able to Know the components of E-mail security,IP Security and web security

SUBJECT CODE & NAME:	CS6702 Graph Theory and Applications
COS	**COURSE OUTCOMES**
CO1	Students will be able to write precise and accurate mathematical definitions of objects in graph theory.
CO2	Students will be able to Apply the mathematical definitions to identify,construct examples and two distinguish examples from non examples
CO3	Students will be able to validate and critically assess a mathematical proof.
CO4	Students will be able to apply the combination of theoretical knowledge and independent mathematical thinking in creative investigation of questions in graph theory
CO5	Students will be able to understand the construction of mathematical proofs

SUBJECT CODE & NAME:	CS6703 Grid and Cloud Computing
COS	**COURSE OUTCOMES**
CO1	Student can apply grid computing techniques to solve large scale scientific problems.
CO2	Student can understand the open standard services for Grid Architecture.
CO3	Student can gain knowledge on the concept of virtualization that is fundamental to cloud computing.
CO4	Student can utilize the grid Globus tool kits and student can design Hadoop file system.

CO5	Student can understand the security issues in the grid and the cloud environment and can apply the security models.

SUBJECT CODE & NAME:	CS6704 Resource Management Techniques
COS	**COURSE OUTCOMES**
CO1	Students will be able to solve the optimization problems using simplex method.
CO2	Students will be able to apply Transportation problems for minimize the project duration.
CO3	Students will be able to apply integer programming and linear programming to solve real life application.
CO4	Students will be able to demonstrate the concept of duality to solve shortest route problem
CO5	Students will be able to apply PERT and CPM for problems in project management

SUBJECT CODE & NAME:	IT6801 Service Oriented Architecture
COS	**COURSE OUTCOMES**
CO1	Student can understand the basic principle of XML documents.
CO2	Student will be able to build applications based on XML.
CO3	Student will be able to gained knowledge about the key principles behind SOA.
CO4	Student can develop web services using technology elements.
CO5	Student can build SOA-based applications for intra-enterprise and inter-enterprise applications.

SUBJECT CODE & NAME:	CS6007 Information Retrieval
COS	**COURSE OUTCOMES**
CO1	Students can gain the Knowledge of the basic concepts and techniques in Information Retrieval
CO2	Students can understand how statistical models of text can be used for other IR applications.
CO3	Students can able to write programs to implement search engines
CO4	Students can develop skills in problem solving using systematic approaches
CO5	Students will have the experience of building a document retieval system and relevance feedback system

SUBJECT CODE & NAME:	CS6711 Security Laboratory
COS	**COURSE OUTCOMES**
CO1	Students will be able to Implement the cryptographic algorithms
CO2	Students will be able to Compare the performance of various security algorithms
CO3	Students will be able to Apply the Digital signature for secure data transmission
CO4	Students will be able to Utilize the different open source tools for network security and analysis
CO5	Students will be able to Demonstrate intrusion detection system using network security tool.

SUBJECT CODE & NAME:	CS6712 Grid and Cloud Computing Laboratory
COS	**COURSE OUTCOMES**

CO1	Students can able to make use of the Grid Toolkit.
CO2	Student can design and Implement new Grid applications Grid.
CO3	Students can able to make use of the Cloud Toolkit.
CO4	Sudent can build cloud applications on Cloud.
CO5	Student can construct the applications according to the services.

REGULATION & SEMESTER:	**2013 - VIII**
SUBJECT CODE & NAME:	CS6801 Multi – Core Architectures and Programming
COS	**COURSE OUTCOMES**
CO1	Students will be able to Identify the limitations of ILP and the need for multi-core architectures
CO2	Students will be able to Examine the issues related to Vector Processing, GPU and software pipelining
CO3	Students will be able to Ability to discuss issues on multiprocessors, cache coherence and interconnection networks
CO4	Students will be able to Ability to discuss the architecture and workloads for warehouse scale computers.
CO5	Students will be able to learn the architecture of embedded processors and multiprocessors.

SUBJECT CODE & NAME:	IT6011 Knowledge Management
COS	**COURSE OUTCOMES**
CO1	Students can understand the fundamentals and key concepts of knowledge management
CO2	Students can establish a framework and components for developing knowledge management strategy
CO3	Students can understand cultural and behavioural elements of knowledge management
CO4	Students can share insights for overcoming challenges and recognising success in KM in any organisation
CO5	Students can learn how to make the best use of organisational assessments

SUBJECT CODE & NAME:	MG6088 Software Project Management
COS	**COURSE OUTCOMES**
CO1	Student can understand the Conventional Software Management, Evolution of Software Economics and Improving Software Economics
CO2	Student can analyze the Life cycle phases, Artifacts of the process and Model based software architectures
CO3	Student will able to design the Work Flows of the process, Checkpoints of the process and Iterative Process Planning
CO4	Student will be able to implement the Project Organizations and Responsibilities, Process Automation, Project Control and Process instrumentation
CO5	Student will be able to apply the Tailoring the Process and Future Software Project Management

SUBJECT CODE & NAME:	CS6811 Project Work
COS	**COURSE OUTCOMES**
CO1	Student will able to Identify project goals, constraints, deliverables, performance criteria, control needs, and resource requirements.
CO2	Student can analyze and categorize executable project modules after considering risks.
CO3	Student will be able to choose efficient tools for designing project modules.

CO4	Student can able to combine all the modules through effective team work after efficient testing.
CO5	Student can elaborate the completed task and compile the project report.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING	
REGULATION & SEMESTER:	**2013 - I**
SUBJECT CODE & NAME:	**HS6151 -Technical English - I**
COS	COURSE OUTCOMES
CO1	Understand how to apply technical information and knowledge in practical documents for a variety of situations.
CO2	Write cohesively and coherently avoiding grammatical errors, using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Listen and comprehend different spoken discourses in different accents.
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.

SUBJECT CODE & NAME:	**MA6151 -Mathematics - I**
COS	COURSE OUTCOMES
CO1	To understand the concept of Eigen values and Eigen vectors, diagonalization of Matrix, symmetric matrices,positive definite matrices and similar matrices
CO2	To familier with limitations of using infinite series approximations for solutions arising in mathematical modeling.
CO3	To understand the concept of functions of several variables
CO4	To apply Differentiation in Maxima and Minima problems
CO5	To compute multiple integrals, area, volume, integrals in polar co ordinates in addition to change of order and change of variables

SUBJECT CODE & NAME:	**PH6151 -Engineering Physics 1**
COS	COURSE OUTCOMES
CO1	Student will be able to analyse the elastic properties of materials.
CO2	Student will be able toUnderstand the properties and applications of wave and fiber optics
CO3	Student will have knowledge to apply thermal properties of the material.
CO4	Student will be able toUnderstand Quantum mechanical behavior of the material.
CO5	Studentscan Understand the crystal structure and growing methods of crystal..

SUBJECT CODE & NAME:	**CY6151 -Engineering Chemistry 1**
COS	COURSE OUTCOMES
CO1	Knowledge on principles of polymerization, preparation, properties and uses of some industrially important polymers.
CO2	Fundamental knowledge on thermodynamic laws and the interrelationship between various thermodynamic parameters.
CO3	Knowledge on photochemistry and some modern analytical tools for chemical analysis like UV and IR.

CO5	Knowledge to recognize and apply the principles of nano and micro structured materials to predict chemical properties ,chemical reactivity and its applications.

SUBJECT CODE & NAME:	**GE6151 -Computer Programming**
COS	COURSE OUTCOMES
CO1	Students will be able to understand the Organization of a Computer and number systems.
CO2	Students will be able to Explain the attributes of algorithm and programming basics
CO3	Students will be able to Illustrate simple programs by using arrays and string functions
CO4	Students will be able to Apply functions and pointers for solving problems
CO5	Students will be able to Develop simple applications using structure and union

SUBJECT CODE & NAME:	**GE6152 -Engineering Graphics**
COS	COURSE OUTCOMES
CO1	Students will be able to derform Freehand Sketching Of Basic Geometrical Constructions And Multiple Views Of Objects and conic sections.
CO2	Students will be able to develop Orthographic Projections Of Lines And Plane Surfaces
CO3	Students will be able to draw projections of solids
CO4	Students will be able to draw projections of development of surfaces
CO5	Students will be able to visualize and to project isometric and perspective sections of simple solids

SUBJECT CODE & NAME:	**GE6161 -Computer Practices Laboratory**
COS	COURSE OUTCOMES
CO1	students will able to Prepare data using MS office for Presentation and Visualization
CO2	students can Analyze the Problems and design using Flow-chart.
CO3	students will able to Solve Problems using decision making and looping Statements.
CO4	students will able to Use Arrays, Structures & Unions in problem solving.
CO5	students can Solve Problems using Recursive Functions

SUBJECT CODE & NAME:	**GE6162 -Engineering Practices Laboratory**
COS	COURSE OUTCOMES
CO1	Able to use welding equipments to join the structures and fabricate carpentry components and pipe connections including plumbing works
CO2	Able to design the models using sheet metal works and to Carry out the basic machining operations
CO3	Able to Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundary and fittings
CO4	Able to Measure the electrical quantities and Carry out basic home electrical works and appliances
CO5	Able to Elaborate on the components, gates, soldering practices

SUBJECT CODE & NAME:	GE6163 -Physics and Chemistry Laboratory 1
COS	COURSE OUTCOMES
CO1	Student will have knowledge to evaluate the particle size & acceptance angle using laser.
CO2	Student will be able to Apply the principle of ultasonic interferometer
CO3	Student will be able to understand the priciples of spectrometer grating
CO4	Students can Analyse the thermal conductivity of a bad conductor
CO5	Student will be able to Apply the elastic behavior of material

REGULATION & SEMESTER:	2013 - II
SUBJECT CODE & NAME:	HS6251 -Technical English - II
COS	COURSE OUTCOMES
CO1	Identify the need of technical information and understanding practical credentials related to business situations
CO2	Use the language perfectly evading grammatical errors using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Write formal, informal letters and reports effectively
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.

SUBJECT CODE & NAME:	MA6251 -Mathematics - II
COS	COURSE OUTCOMES
CO1	To evaluate Gradient, Divergence and Curl of a Vector point functions and related identities.
CO2	To solve ordinary differential equations that model engineering problems
CO3	To understand the concept of Laplace Transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients
CO4	To understand the concept ofAnalytic functions,conformal mapping and Complex integration
CO5	To understanding of the standard techniques of complex variable theory so as to enable the student to apply them with confidence

SUBJECT CODE & NAME:	PH6251 -Engineering Physics - II
COS	COURSE OUTCOMES
CO1	Students will be able to Understand the Electrical properties of conducting materials.
CO2	Students can Understand the properties and applications of semiconducting materials .
CO3	students can apply the properties and applications of the magnetic materials and super conducting material
CO4	students Understand the properties and applications of dielectric materials.
CO5	students can analyse the properties and applications of new engineering materials

SUBJECT CODE & NAME:	CY6251 -Engineering Chemistry - II
COS	COURSE OUTCOMES

CO1	Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost.
CO2	Apply their knowledge for protection of different metals from corrosion .
CO3	The knowledge of converting solar energy into most needy electrical energy efficiently and economically to reduce the environmental pollution.
CO4	Apply their knowledge for various engineering materials
CO5	Explain about analysis and manufacture of various types of fuel.

SUBJECT CODE & NAME:	**GE6251 -Basic Civil and Mechanical Engineering**
COS	COURSE OUTCOMES
CO1	Able to understand the Civil and Mechanical Engineering components of Projects
CO2	Able to explain the usage of construction material and proper selection of construction materials
CO3	Able to measure distances and area by surveying
CO4	Able to identify the components used in power plant cycle and to demonstrate working principles of petrol and diesel engine
CO5	Able to elaborate the components of refrigeration and Air conditioning cycle

SUBJECT CODE & NAME:	**EE6201 -Circuit Theory**
COS	COURSE OUTCOMES
CO1	Able to to analyse electrical circuits
CO2	Able to apply network theorems.
CO3	Able to analyze transients.
CO4	Able to understand the three phase circuits.
CO5	Able to understand the resonance and coupled circuits

SUBJECT CODE & NAME:	**GE6262 -Physics and Chemistry Laboratory - II**
COS	COURSE OUTCOMES
CO1	students will be able to analyse values of Young's modulus by uniform bending method
CO2	students can apply the principle to Determination of band gap of a semiconductor
CO3	Students will be able to evaluate the Coefficient of viscosity of a liquid by Poiseuille's method
CO4	students can analyse the dispersive power of a prism using Spectrometer
CO5	students can apply the properties of Rigidity modulus using Torsion pendulum

SUBJECT CODE & NAME:	**GE6263 -Computer Programming Laboratory**
COS	COURSE OUTCOMES
CO1	students will able to Prepare data using MS office for Presentation and Visualization
CO2	students can Analyze the Problems and design using Flow-chart.
CO3	students will able to Solve Problems using decision making and looping Statements.
CO4	students will able to Use Arrays, Structures & Unions in problem solving.

CO5	students can Solve Problems using Recursive Functions

SUBJECT CODE & NAME:	**EE6211 -Electric Circuits Laboratory**
COS	COURSE OUTCOMES
CO1	Able to verify kirchoff's laws, finding out the currents and voltages using mesh and nodal analysis to make a comparison with theoretical values..
CO2	Able to reduce the given complex circuit to simple circuit by applying theorems and can verify the theoretical and practical outputs
CO3	Able to analyze transient response of RL, RC and RLC circuits.
CO4	Able to simulate different forms of three phase circuits.
CO5	Able to calculate the resonant frequency.

REGULATION & SEMESTER:	**2013 - III**
SUBJECT CODE & NAME:	**MA6351-Transforms and Partial Differential Equations**
COS	COURSE OUTCOMES
CO1	To understand how to solve the given standard partial differential equations
CO2	To Solve the differential equations by using Fourier series analysis which place vital role in Engineering applications
CO3	To Appreciate the Physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations
CO4	To understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of Engineering
CO5	To apply the Effective mathematical tools for the solutions of partial differential equations by using Z-Transform Techniques for discrete time systems

SUBJECT CODE & NAME:	**EE6301-Digital Logic Circuits**
COS	COURSE OUTCOMES
CO1	Able to solve number systems and simplify the mathematical expressions using Boolean functions
CO2	Able to implement synchronous sequential circuits.
CO3	Able to implement combinational circuits and asynchronous sequential circuits.
CO4	Able to list the memory devices.
CO5	Able to demonstrate digital simulation techniques for development.

SUBJECT CODE & NAME:	**EE6302-Electromagnetic Theory**
COS	COURSE OUTCOMES
CO1	Able to explain the basic science, circuit theory, Electromagnetic field theory.
CO2	Able to describe the basic mathematical concepts related to electromagnetic vector fields, electrostatics, electrical potential and energy density
CO3	Able to describe the concepts of magnetostatics.
CO4	Able to explain concepts of Faraday’s law, induced emf ,Maxwell’s equations.
CO5	Able to apply electromagnetic waves and Pointing vector to solve the electrical engineering problems.

SUBJECT CODE & NAME:	**EE6351-Environmental Science and Engineering**

COS	COURSE OUTCOMES
CO1	Explain scope and importance of Environmental Science, Ecosystem and Biodiversity.
CO2	Identify the Environmental Pollution and address the complexities in the day today life.
CO3	Obtain knowledge about various Natural Resources and equitable use of resources for sustainable life style.
CO4	To know about Social issues and Possible Solution of various Environmental problem related to energy.
CO5	Acquire knowledge on impacts of Human Population, over the environment and demonstrate the role of Information Technology in Environment and Human Health.

SUBJECT CODE & NAME:	EC6202-Electronic Devices and Circuits
COS	COURSE OUTCOMES
CO1	Able to explain the structure and operation of the basic electronic devices
CO2	Able to compare different types of amplifiers.
CO3	Able to compare different types of Oscillators
CO4	Able to design the basic electronic devices
CO5	Able to apply electronic devices for engineering practice.

SUBJECT CODE & NAME:	EE6303-Linear Integrated Circuits and Applications
COS	COURSE OUTCOMES
CO1	Able to understand the procedure of IC fabrication process
CO2	Able to discuss the op-amp's basic construction, characteristics, parameter limitations, various configurations and basic applications of IC
CO3	Able to analyze and deign basic op-amp circuits, particularly various linear and non-linear circuits, active filters, signal generators, and data converters
CO4	Able to explain internal functional blocks and the applications of special ICs like Timers, PLL circuits
CO5	Able to understand the characteristics of applications ICs like voltage regulators, LM317 and function generator IC

SUBJECT CODE & NAME:	EC6361-Electronics Laboratory
COS	COURSE OUTCOMES
CO1	Able to demonstrate linear electronic circuits.
CO2	Able to determine the VI characteristics of diode and apply the diode concept in rectifiers.
CO3	Able to determine the VI characteristics and frequency response of Switching devices in different configurations.
CO4	Able to design oscillators, multi vibrator and differential amplifiers
CO5	Able to discuss the characteristics of Photo diode, phototransistor and LED.

SUBJECT CODE & NAME:	EE6311- Linear and Digital Integrated Circuits Laboratory
COS	COURSE OUTCOMES
CO1	Able to verify truth table for AND, OR, EXOR, NOT, NOR, NAND gates JK FF, RS FF, D Flipflop.
CO2	Able to Implement the Boolean Functions, Adder/ Subtractor circuits, Code converters, Parity generator and parity checking
CO3	Able to Implement the Encoders and Decoders, Muliplexer, demultiplexer, Counters and 40bit shift registers using suitable IC's.

CO4	Able to design the inverting and non0inverting amplifier, adder, comparator, Integrator and Differentiator using Opamp and to study the applications.
CO5	Able to design a timer circuit using NE555 IC.

REGULATION & SEMESTER:	**2013 - IV**
SUBJECT CODE & NAME:	**MA6459 -Numerical Methods**
COS	COURSE OUTCOMES
CO1	To solve the systems of linear algebraic equations by using Gauss Elimination
CO2	To understand the concepts of numerical interpolation and approximation of functions.
CO3	To analyze the difference between integration and differention concepts
CO4	To understand the concept of interpolation of errors in numerical methods..
CO5	To understand the concept of numerically integrate partial differential equations for initial boundary value problems

SUBJECT CODE & NAME:	**EE6401-Electrical Machines - I**
COS	COURSE OUTCOMES
CO1	Able to discuss magnetic circuits and magnetic materials
CO2	Able to explain the constructional details, the principle of operation, prediction of performance, the methods of testing the transformers and three phase transformer connections.
CO3	Able to summarize principles of electrical machine.
CO4	Able to explain the working principles of DC machine.
CO5	Able to estimate the various losses taking place in D.C. Motor

SUBJECT CODE & NAME:	**CS6456-Object Oriented Programming**
COS	COURSE OUTCOMES
CO1	Able to design finite automata for different kinds of real time problems.
CO2	Able to design regular expression and languages for real time problems.
CO3	Able to design and implement context free and push down automata for different types of problems.
CO4	Able to explain properties and different kinds of form of context free language.
CO5	Able to design turing machine for real time problems. Explain P and NP classes.

SUBJECT CODE & NAME:	**EE6402-Transmission and Distribution**
COS	COURSE OUTCOMES
CO1	Able to explain the structure of power system and the operation of varioius types of power plants.
CO2	Able to compute transmission line parameters
CO3	Able to explain the different types of insulators, cables and different distribution schemes
CO4	Able to analyze the voltage distribution in insulator strings and cables and methods to improve the same
CO5	Able to compare the different types of distribution system.

SUBJECT CODE & NAME:	EE6403-Discrete Time Systems and Signal Processing
COS	COURSE OUTCOMES
CO1	Able to classify signals and systems & their mathematical representation.
CO2	Able to analyse the discrete time systems, various transformation techniques & their computation
CO3	Able to design and implement digital filters
CO4	Able to analyse programmable digital signal processor & quantization effects
CO5	Able to explain code optimization of high level programming language code

SUBJECT CODE & NAME:	EE6404-Measurements and Instrumentation
COS	COURSE OUTCOMES
CO1	Able to describe the basic laws governing the operation of the instruments, relevant charrcteristics and their standards
CO2	Able to Understand the principles and working of various electrical and electronics instruments
CO3	Able to explain the Comparision methods of measurements using various bridges and grounding techniques
CO4	Able to use storage, display devices, various transducers in real time application
CO5	Able to understand the various type of transducer working and elements of elements of data acquisition system

SUBJECT CODE & NAME:	CS6461-object Oriented Programming Laboratory
COS	COURSE OUTCOMES
CO1	Able to Implement a function of symbol table in C programming language.
CO2	Able to Design and implement one-pass & two-pass assembler.
CO3	Able to Design and implement single-pass and two- pass macro processor .
CO4	Able to Implement and operation of linker and loader.
CO5	Able to Implement structure and operations of text editor.

SUBJECT CODE & NAME:	EE6411-Electrical Machines Laboratory - I
COS	COURSE OUTCOMES
CO1	Able to compute performance characteristics by conducting suitable test on Transformers
CO2	Able to analyze performance characteristics of DC motor.
CO3	Able to demonstrate the speed control test on DC motor
CO4	Able to compute the speed control of DC generator.
CO5	Able to predetermine the performance of dc machines.

REGULATION & SEMESTER:	2013 - V
SUBJECT CODE & NAME:	EE6501 - Power System Analysis
COS	COURSE OUTCOMES
CO1	Able to discuss various aspects of power system.

CO2	Able to analyze the power system under steady state operating condition
CO3	Able to use numerical methods to solve the power flow problem.
CO4	Able to analyze the system under faulted conditions.
CO5	Able to analyze the transient behavior of power system when it is subjected to a fault.

SUBJECT CODE & NAME:	**EE6502 - Microprocessors and Microcontrollers**
COS	COURSE OUTCOMES
CO1	Able to describe the architecture and the concepts of 8085 microprocessor
CO2	Able to develop simple assembly language programming (ALP) using 8085 microprocessor
CO3	Able to describe the architecture, memory organization, data & I/O transfer and interrupt concepts of 8051 microcontroller
CO4	Able to compare 8085 and 8051
CO5	Able to manipulate simple applications using 8051 microcontroller

SUBJECT CODE & NAME:	**ME6701 - Power Plant Engineering**
COS	COURSE OUTCOMES
CO1	Able to describe different types of power plant and its functions and to discuss their flow lines and issues related to them.
CO2	Able to discuss different types of renewable resources and issues related to them.
CO3	Able to solve energy and economic related issues in power sectors.
CO4	Able to discuss different types of non renewable resources and issues related to them.
CO5	Able to describe gas and diesel power plants.

SUBJECT CODE & NAME:	**EE6503 - Power Electronics**
COS	COURSE OUTCOMES
CO1	Able to compare different types of power semiconductor devices and their switching characteristics.
CO2	Able to explain the operation, characteristics and performance parameters of controlled converters
CO3	Able to compare different modulation techniques of pulse width modulated inverters.
CO4	Able to discuss the operation of control circuits to HVDC, UPS and tap changing transformer.
CO5	Able to explain the operation, characteristics and performance parameters of DC-DC choppers

SUBJECT CODE & NAME:	**EE6504 - Electrical Machines - II**
COS	COURSE OUTCOMES
CO1	Able to describe the Construction, operation and performance of salient and non – salient type synchronous generators.
CO2	Able to describe the Construction, operation and performance of synchronous motors.
CO3	Able to describe the Construction, operation and performance of induction machines
CO4	Able to compare different Starting and speed control methods.
CO5	Able to explain the Construction, operation and performance of single phase induction motors and special machines

SUBJECT CODE & NAME:	IC6501 - Control Systems
COS	COURSE OUTCOMES
CO1	Able to Understand the use of transfer function models for analysis physical systems and understand the control system components
CO2	Able to Determine Transient and Steady State behavior of systems using standard test signals
CO3	Able to acquire the knowledge in frequency response of control system and compensators
CO4	Able to Analyse the stability of the system and design of compensators
CO5	Able to Understand state variable representation of physical systems and the effect of state feedback

SUBJECT CODE & NAME:	EE6511 - Control and Instrumentation Laboratory
COS	COURSE OUTCOMES
CO1	Able to apply control engineering tools using both analog and digital techniques.
CO2	Able to apply Laplace transform, transfer functions, modeling RLC circuit, block diagrams for simulation and control.
CO3	Able to Design experiments to measure system parameters
CO4	Able to Design a Lead, lag and lead-lag compensator.
CO5	Able to simulate first and second order system using matlab

SUBJECT CODE & NAME:	GE6674 - Communication and Soft Skills- Laboratory Based
COS	COURSE OUTCOMES
CO1	Acquire wide knowledge in all the four skills such as listening, speaking, reading and writing.
CO2	Develop their performance in interviews, group discussions and other recruitment exercises.
CO3	Improve their soft skills and interpersonal skills to excel in the career as well as in National and International Competitive exams.
CO4	Design their resume in an effective way and write excellent letters and reports in formal situations.
CO5	Lead the team confidently by acquiring excellent leadership skills.

SUBJECT CODE & NAME:	EE6512 - Electrical Machines Laboratory - II
COS	COURSE OUTCOMES
CO1	Able to calculate the regulation of three phase alternator by EMF, MMF,ZPF and ASA methods.
CO2	Able to calculate the negative sequence and zero sequence impedance of alternators.
CO3	Able to practice the test on synchronous motor to draw V and Inverted V curves.
CO4	Able to conduct the suitable test on three0phase induction motor, single phase induction motor and find the performance.
CO5	Able to conduct speed control of three phase induction motor by v/f method

REGULATION & SEMESTER:	2013 - VI
SUBJECT CODE & NAME:	EC6651 - Communication Engineering
COS	COURSE OUTCOMES

CO1	Ability to understand different methods of analog communication and their significance
CO2	Understand the knowledge of Digital Communication methods for high bit rate transmission
CO3	Apply the concepts of source and line coding techniques for efficient transmission without errors
CO4	Understand the various Multiple Access Techniques
CO5	Disscuss the various media for digital communication

SUBJECT CODE & NAME:	**EE6601 - Solid State Drives**
COS	COURSE OUTCOMES
CO1	Able to understand the stable steady-state operation and transient dynamics of a motor-load system.
CO2	Able to study and analyze the operation of the converter / chopper fed dc drive and to solve simple problems
CO3	Able to study and understand the operation of both classical and modern induction motor drives.
CO4	Able to understand the differences between synchronous motor drive and induction motor drive and to learn the basics of permanent magnet synchronous motor drives.
CO5	Able to analyze and design the current and speed controllers for a closed loop solid-state DC motor drive and simulation using a software package.

SUBJECT CODE & NAME:	**EE6602 - Embedded Systems**
COS	COURSE OUTCOMES
CO1	Able to introduce the Building Blocks of Embedded System
CO2	Able to describe and Educate in Various Embedded Development Strategies
CO3	Able to Design and Introduce Bus Communication in processors, Input/output interfacing.
CO4	Able to impart knowledge in Various processor scheduling algorithms.
CO5	Able to describe the Basics of Real time operating system and example tutorials to discuss on one real-time operating system tool

SUBJECT CODE & NAME:	**EE6603 - Power System Operation and Control**
COS	COURSE OUTCOMES
CO1	To discuss the overview of power system operation and control.
CO2	Design and model power-frequency dynamics and to design power-frequency controller.
CO3	Describe the model reactive power-voltage interaction and the control actions to be implemented for maintaining the voltage profile against varying system load.
CO4	Able to study the economic operation of power system.
CO5	Able to teach about SCADA and its application for real time operation and control of power systems.

SUBJECT CODE & NAME:	**EE6604 - Design of Electrical Machines**
COS	COURSE OUTCOMES
CO1	Able to compute mmf and thermal rating of various types of electrical machines.
CO2	Able to design armature and field systems for D.C. machines and core, yoke, windings.
CO3	Able to design cooling systems of transformers
CO4	Able to design stator and rotor of induction machines

CO5	Able to design stator and rotor of synchronous machine

SUBJECT CODE & NAME:	**EE6002 - Power System Transients**
COS	COURSE OUTCOMES
CO1	To discuss about the study of generation of switching transients and their control using circuit – theoretical concept.
CO2	Able to learn the mechanism of lighting strokes and the production of lighting surges.
CO3	Describe the propagation, reflection and refraction of travelling waves.
CO4	Able to study the impact of voltage transients caused by faults
CO5	To discuss the concepts of circuit breaker action, load rejection on integrated power system.

SUBJECT CODE & NAME:	**EE6611 - Power Electronics and Drives Laboratory**
COS	COURSE OUTCOMES
CO1	Able to describe the characteristics of SCR,TRIAC, MOSFET and IGBT
CO2	Able to analyze characteristics of AC to DC fully controlled converter, half-controlled converter and choppers
CO3	Able to analyze characteristics of single phase and three phase IGBT PWM inverter
CO4	Able to draw characteristics of resonant converter and cycloconverter.
CO5	Able to draw characteristics of Ac voltage controller

SUBJECT CODE & NAME:	**EE6612 - Microprocessors and Microcontrollers Laboratory**
COS	COURSE OUTCOMES
CO1	Able to develop simple assembly language programs using 8085 microprocessor.
CO2	Able to to configure interface with 8085 with I/O and serial communication
CO3	Able to develop simple applications with 8051 using basic instructions, I/O programming and motor control
CO4	Able to analyse the integration of motors with 8085 micro controllers
CO5	Able to interface various devices.

SUBJECT CODE & NAME:	**EE6613 - Presentation Skills and Technical Seminar**
COS	COURSE OUTCOMES
CO1	Able to study advanced engineering developments
CO2	Able to prepare and present technical reports
CO3	Able to use various teaching aids such as over head projectors, power point presentation and demonstrative models
CO4	Ability to face the placement interviews

REGULATION & SEMESTER:	**2013 - VII**
SUBJECT CODE & NAME:	**EE6701 - High Voltage Engineering**
COS	COURSE OUTCOMES

CO1	Understand breakdown phenomena in gases and to elucidate the concepts used for the generation of high voltages and currents.
CO2	Elucidate the concepts used for the measurement of high voltages and currents and design corresponding circuits.
CO3	Understand high voltage testing techniques of Power apparatus and causes of over voltage in Power systems.
CO4	Design the layout of Gas Insulated substations and to know the concepts of insulation coordination.
CO5	Design and maintenance of insulator, bushing and circuit breaker

SUBJECT CODE & NAME:	**EE6702 - Protection and Switchgear**
COS	COURSE OUTCOMES
CO1	Able to discuss the causes of abnormal operating conditions and the protection schemes equipped for it.
CO2	Able to analyze the characteristics and functions of different types of electromagnetic relays.
CO3	Able to understand the concepts of protection of apparatus used in power system.
CO4	Able to understand the concepts of numerical protection and characteristics of static relays.
CO5	Able to explain the construction and working of different types of circuit breakers.

SUBJECT CODE & NAME:	**EE6703 - Special Electrical Machines**
COS	COURSE OUTCOMES
CO1	Able to explain the construction, principle of operation and performance of synchronous reluctance motors.
CO2	Able to analyze the construction, principle of operation and performance of stepper motors.
CO3	Able to discuss the construction, principle of operation, control and performance of switched reluctance motors.
CO4	Able to discuss the construction, principle of operation, control and performance of permanent magnet brushless D.C. motors
CO5	Able to explain the construction, principle of operation, control and performance of permanent magnet synchronous motors.

SUBJECT CODE & NAME:	**MG6851 - Principles of Management**
COS	COURSE OUTCOMES
CO1	Student will be able to understand managerial functions and organization
CO2	Student will be able to understand of planning techniques
CO3	Student will be able to understanding of organizing an organization
CO4	Student will be able to demonstrate the concepts of directing
CO5	Student will be able to understanding of controlling

SUBJECT CODE & NAME:	**EE6005 - Power Quality**
COS	COURSE OUTCOMES
CO1	Classify the power quality problems
CO2	Analyze voltage sag problems and suggest preventive techniques
CO3	Identify the harmonic sources and the effects of harmonic distortion
CO4	Identify the DG sources; analyze the power quality issues and operating conflicts when DG is interconnected to the grid.

CO5	Understand reasons for grounding and describe the wiring & grounding problems and solutions

SUBJECT CODE & NAME:	**EE6008 - Microcontroller Based System Design**
COS	COURSE OUTCOMES
CO1	Able to know about the architecture of PIC microcontroller
CO2	Able to know about the functions of interrupts and timers
CO3	Able to Understand the peripheral devices for data communication and transfer
CO4	Able to know about the functional blocks of ARM processor
CO5	Able to Understand the architecture of ARM processors

SUBJECT CODE & NAME:	**EE6711 - Power System Simulation Laboratory**
COS	COURSE OUTCOMES
CO1	Ability to acquire knowledge on Formation of Bus Admittance and Impedance Matrices and Solution of Networks
CO2	Ability to analyze the power flow using GS and NR method
CO3	Ability to find Symmetric and Unsymmetrical fault
CO4	Ability to understand the economic dispatch

SUBJECT CODE & NAME:	**EE6712 - Comprehension**
COS	COURSE OUTCOMES
CO1	Able to encourage the students to comprehend the knowledge acquired during the Course through periodic exercise

REGULATION & SEMESTER:	**2013 - VIII**
SUBJECT CODE & NAME:	**EE6801 - Electric Energy Generation, Utilization and Conservation**
COS	COURSE OUTCOMES
CO1	Able to discuss the engineering aspects of electrical energy generation and utilization
CO2	Able to analyze the various concepts behind renewable energy resources
CO3	Able to implement energy saving concept by different ways of illumination
CO4	Able to explain electrolytic process and storage of battery
CO5	Able to discuss electric heating and welding for industrial applications and electrical traction

SUBJECT CODE & NAME:	**EE6010 - High Voltage Direct Current Transmission**
COS	COURSE OUTCOMES
CO1	Able To understand the concept, planning of DC power transmission and comparison with AC Power transmission
CO2	Able To analyze HVDC converters
CO3	Able To study about the HVDC system control
CO4	Able To analyze harmonics and design of filters.

CO5	Able To model and analysis the DC system under study state

SUBJECT CODE & NAME:	**EC6601 - VLSI Design**
COS	COURSE OUTCOMES
CO1	Able to understand the MOS circuit realization of the various building blocks that is common to any microprocessor or digital VLSI circuit
CO2	Able to understand the Architectural choices and performance tradeoffs involved in designing the circuits in CMOS technology
CO3	Able to realize the circuits in CMOS technology
CO4	Able to design the transistor circuit level design and realization for digital operation
CO5	Able to solve the issues involved and encountered in courses on CMOS Analog IC design

SUBJECT CODE & NAME:	**EE6811 - Project Work**
COS	COURSE OUTCOMES
CO1	Able to develop the ability to solve a specific problem right from its identification and literature review
CO2	Able to find solution by formulating proper methodology
CO3	Able to train the students in preparing project reports and to face reviews and viva voce examination
CO4	Able to be in a position to take up any challenging practical problems
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING	
REGULATION & SEMESTER:	**2013 - I**
SUBJECT CODE & NAME:	HS6151 Technical English – I
COS	**COURSE OUTCOMES**
CO1	Understand how to apply technical information and knowledge in practical documents for a variety of situations.
CO2	Write cohesively and coherently avoiding grammatical errors, using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Listen and comprehend different spoken discourses in different accents.
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.

SUBJECT CODE & NAME:	MA6151 Mathematics – I
COS	**COURSE OUTCOMES**
CO1	To understand the concept of Eigen values and Eigen vectors, diagonalization of Matrix, symmetric matrices,positive definite matrices and similar matrices
CO2	To familier with limitations of using infinite series approximations for solutions arising in mathematical modeling.
CO3	To understand the concept of functions of several variables
CO4	To apply Differentiation in Maxima and Minima problems
CO5	To compute multiple integrals, area, volume, integrals in polar co ordinates in addition to change of order and change of variables

SUBJECT CODE & NAME:	PH6151 Engineering Physics – I

COS	COURSE OUTCOMES
CO1	Understand the elastic properties of materials.
CO2	Understand the properties and applications of wave and fiber optics
CO3	Understand thermal properties of the material.
CO4	Understand Quantum mechanical behavior of the material.
CO5	Understand the crystal structure and growing methods of crystal..

SUBJECT CODE & NAME:	CY6151 Engineering Chemistry – I
COS	COURSE OUTCOMES
CO1	Knowledge on principles of polymerization, preparation, properties and uses of some industrially important polymers.
CO2	Fundamental knowledge on thermodynamic laws and the interrelationship between various thermodynamic parameters.
CO3	Knowledge on photochemistry and some modern analytical tools for chemical analysis like UV and IR.
CO4	Knowledge about cooling curves, phase diagrams ,alloys and their practical importance.
CO5	Knowledge to recognize and apply the principles of nano and micro structured materials to predict chemical properties, chemical reactivity and its applications.

SUBJECT CODE & NAME:	GE6151 Computer Programming
COS	COURSE OUTCOMES
CO1	Students will be able to understand the Organization of a Computer and number systems.
CO2	Students will be able to Explain the attributes of algorithm and programming basics
CO3	Students will be able to Illustrate simple programs by using arrays and string functions
CO4	Students will be able to Apply functions and pointers for solving problems
CO5	Students will be able to Develop simple applications using structure and union

SUBJECT CODE & NAME:	GE6152 Engineering Graphics
COS	COURSE OUTCOMES
CO1	Perform free hand sketching of basic geometrical constructions and multiple views of objects
CO2	Do orthographic projection of lines and plane surfaces.
CO3	Draw projections and solids and development of surfaces
CO4	Prepare isometric and perspective sections of simple solids.
CO5	Demonstrate computer aided drafting

SUBJECT CODE & NAME:	GE6161 Computer Practices Laboratory
COS	COURSE OUTCOMES
CO1	Apply good programming design methods for program development.
CO2	Design and implement C programs for simple applications
CO3	Develop recursive programs

CO4	Expose to problem solving techniques and flow charts
CO5	Use Arrays, strings, functions, structures and unions while programming

SUBJECT CODE & NAME:	GE6162 Engineering Practices Laboratory
COS	**COURSE OUTCOMES**
CO1	Ability to fabricate carpentry components and
CO2	To fabricate pipe connections including plumbing works
CO3	Ability to use welding equipments to join the structures
CO4	Ability to fabricate electrical circuits
CO5	Ability to fabricate electronics circuits
SUBJECT CODE & NAME:	GE6163 Physics and Chemistry Laboratory - I
COS	**COURSE OUTCOMES**
CO1	Student will have knowledge to evaluate the particle size & acceptance angle using laser.
CO2	Student will be able to Apply the principle of ultasonic interferometer
CO3	Student will be able to understand the priciples of spectrometer grating
CO4	Students can Analyse the thermal conductivity of a bad conductor
CO5	Student will be able to Apply the elastic behavior of material

REGULATION & SEMESTER:	**2013 - II**
SUBJECT CODE & NAME:	HS6251 Technical English – II
COS	**COURSE OUTCOMES**
CO1	Identify the need of technical information and understanding practical credentials related to business situations
CO2	Use the language perfectly evading grammatical errors using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Write formal, informal letters and reports effectively
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.
SUBJECT CODE & NAME:	MA6251 Mathematics – II
COS	**COURSE OUTCOMES**
CO1	To evaluate Gradient, Divergence and Curl of a Vector point functions and related identities
CO2	To solve ordinary differential equations that model engineering problems
CO3	To understand the concept of Laplace Transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients
CO4	To understand the concept ofAnalytic functions,conformal mapping and Complex integration
CO5	To understanding of the standard techniques of complex variable theory so as to enable the student to apply them with confidence
SUBJECT CODE & NAME:	PH6251 Engineering Physics – II
COS	**COURSE OUTCOMES**
CO1	Understand the Elastic behaviour of conducting materials

CO2	Understand the properties and applications of semiconducting materials .
CO3	Understand properties and applications of the magnetic materials and super conducting material
CO4	Understand the properties and applications of dielectric materials.
CO5	Understand the properties and applications of new engineering materials
SUBJECT CODE & NAME:	CY6251 Engineering Chemistry – II
COS	**COURSE OUTCOMES**
CO1	Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost.
CO2	Apply their knowledge for protection of different metals from corrosion .
CO3	The knowledge of converting solar energy into most needy electrical energy efficiently and economically to reduce the environmental pollution.
CO4	Apply their knowledge for various engineering materials
CO5	Explain about analysis and manufacture of various types of fuel.
SUBJECT CODE & NAME:	EC6201 Electronic Devices
COS	**COURSE OUTCOMES**
CO1	Understand the current voltage characteristics of semiconductor devices,
CO2	Design and analyze the basic operations of Transistor
CO3	Know about Gain and Frequency response of Amplifier
CO4	Know about different power amplifier circuits, their design and use in electronics and communication circuits.
CO5	Design the different oscillator circuits for various frequencies
SUBJECT CODE & NAME:	EE6201 Circuit Theory
COS	**COURSE OUTCOMES**
CO1	Ability analyse electrical circuits
CO2	Ability to apply circuit theorems
CO3	Ability to analyse AC and DC Circuits
CO4	Analyze coupled circuits and the transient response of circuits
CO5	Analyze Phasor diagrams and analysis of three phase circuits
SUBJECT CODE & NAME:	GE6262 Physics and Chemistry Laboratory - II
COS	**COURSE OUTCOMES**
CO1	Students will be able to analyse values of Young’s modulus by uniform bending method
CO2	Students can apply the principle to Determination of band gap of a semiconductor
CO3	Students will be able to evaluate the Coefficient of viscosity of a liquid by Poiseuille’s method
CO4	Students can analyse the dispersive power of a prism using Spectrometer
CO5	Students can apply the properties of Rigidity modulus using Torsion pendulum
SUBJECT CODE & NAME:	EC6211 Circuits and Devices Laboratory
COS	**COURSE OUTCOMES**
CO1	Learn the characteristics of basic electronic devices
CO2	Design RL and RC circuits

CO3	Verify Thevinin & Norton theorem
CO4	Verify KVL & KCL, and Super Position Theorems
CO5	Verify maximum power transfer & reciprocity theorems
REGULATION & SEMESTER:	**2013 - III**
SUBJECT CODE & NAME:	MA6351 Transforms and Partial Differential Equations
COS	**COURSE OUTCOMES**
CO1	To understand how to solve the given standard partial differential equations
CO2	To Solve the differential equations by using Fourier series analysis which place vital role in Engineering applications
CO3	To Appreciate the Physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations
CO4	To understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of Engineering
CO5	To apply the Effective mathematical tools for the solutions of partial differential equations by using Z-Transform Techniques for discrete time systems
SUBJECT CODE & NAME:	EE6352 Electrical Engineering and Instrumentation
COS	**COURSE OUTCOMES**
CO1	Understand the three phase supply and power measurement
CO2	Understand the concepts in electrical generators, motors and transformers
CO3	Understand the basic measurement and instrumentation based devices.
CO4	Understand the relevance of digital instruments in measurements
CO5	Understand power generation, transmission and distribution concepts
SUBJECT CODE & NAME:	EC6301 Object Oriented Programming and Data Structures
COS	**COURSE OUTCOMES**
CO1	Explain the concepts of Object oriented programming.
CO2	Write simple applications using C++
CO3	Discuss the different methods of organizing large amount of data
CO4	Understand the linear and non-linear data structures
CO5	Write simple applications of linear and non-linear data structures
SUBJECT CODE & NAME:	EC6302 Digital Electronics
COS	**COURSE OUTCOMES**
CO1	Understand the concept of Boolean algebra and show the correlation between Boolean expressions
CO2	Analyze different methods used for simplification of Boolean expressions
CO3	Design and implement Combinational circuits.
CO4	Design and implement synchronous and asynchronous sequential circuits
CO5	Write simple HDL codes for the circuits
SUBJECT CODE & NAME:	EC6303 Signals and Systems
COS	**COURSE OUTCOMES**
CO1	Analyze the properties of signals & systems

CO3	Analyze continuous time LTI systems using Fourier and Laplace Transforms
CO4	Analyze discrete time LTI systems using Z transform and DTFT
CO5	Apply the transforms in designing the systems
SUBJECT CODE & NAME:	EC6304 Electronic Circuits- I
COS	**COURSE OUTCOMES**
CO1	Design circuits with transistor biasing
CO2	Design simple amplifier circuits
CO3	Analyze the small signal equivalent circuits of transistors
CO4	Design the amplifiers with active loads
CO5	Design and analyze large signal amplifiers
SUBJECT CODE & NAME:	EC6311 Analog and Digital Circuits Laboratory
COS	**COURSE OUTCOMES**
CO1	Differentiate cascade and cascade amplifier
CO2	Analyze the limitation in bandwidth of single stage amplifier
CO3	Analyze the limitation in bandwidth of multi stage amplifier
CO4	Simulate amplifiers using Spice
CO5	Measure CMRR in differential amplifier
SUBJECT CODE & NAME:	EC6312 OOPS and Data Structures Laboratory
COS	**COURSE OUTCOMES**
CO1	Design and implement C++ programs for manipulating stacks and queues
CO2	Design and implement C++ programs for manipulating linked lists, trees, and graphs
CO3	Apply different data structures in programs
CO4	Apply good programming design methods for program development.
CO5	Apply the different data structures for implementing solutions to practical problems
REGULATION & SEMESTER:	**2013 - IV**
SUBJECT CODE & NAME:	MA6451 Probability and Random Processes
COS	**COURSE OUTCOMES**
CO1	To understand the concepts of probability space and the fundamental axioms of probability
CO2	To understand the concept of conditional probability
CO3	To understand the concept of expectation, moment and central moments
CO4	To know an exposure of various distribution functions and help in acquiring skills in handling situations involving more than one variable .Able to analyze the response of random inputs to linear time invariant systems.
CO5	To know a fundamental knowledge of the probability concepts
SUBJECT CODE & NAME:	EC6401 Electronic Circuits II
COS	**COURSE OUTCOMES**
CO1	Design and analyze feedback amplifiers

CO2	Know about the frequency stability of Oscillators
CO3	Analyze performance of tuned amplifiers
CO4	Design about Multivibrator Circuits
CO5	Know about Wave Shaping and Blocking Oscillator
SUBJECT CODE & NAME:	EC6402 Communication Theory
COS	**COURSE OUTCOMES**
CO1	Design AM communication systems
CO2	Design Angle modulated communication systems
CO3	Apply the concepts of Random Process to the design of Communication systems
CO4	Analyze the noise performance of AM and FM systems
CO5	Understand the limits set by Information Theory
SUBJECT CODE & NAME:	EC6403 Electromagnetic Fields
COS	**COURSE OUTCOMES**
CO1	Analyze field potentials due to static charges using theorems and laws such as Coulomb's Law, Gauss Law
CO2	Discuss different boundary conditions for electric field and apply Poisson's & Laplace's equations to find capacitance.
CO3	Analyze the field potentials due to charges in static magnetic fields
CO4	Explain the materials affect on magnetic fields and the inductance effects
CO5	Describe the relation between the fields under time varying fields and various Maxwell's Equation
SUBJECT CODE & NAME:	EC6404 Linear Integrated Circuits
COS	**COURSE OUTCOMES**
CO1	Design linear and non linear applications of op – amps
CO2	Design applications using analog multiplier and PLL
CO3	Design ADC and DAC using op – amps
CO4	Generate waveforms using op – amp circuits
CO5	Analyze special function ICs.
SUBJECT CODE & NAME:	EC6405 Control System Engineering
COS	**COURSE OUTCOMES**
CO1	Understand the elements of control system and their modeling using various Techniques
CO2	Perform time domain analysis of control systems required for stability analysis
CO3	Perform frequency domain analysis of control systems required for stability analysis
CO4	Design the compensation technique that can be used to stabilize control systems
CO5	understand the state variable analysis methods
SUBJECT CODE & NAME:	EC6411 Circuit and Simulation Integrated Laboratory
COS	**COURSE OUTCOMES**
CO1	Analyze various types of feedback amplifiers
CO2	Design and Analyze Oscillator and Tuned Amplifier

CO3	Design and Analyze Wave-shaping circuits
CO4	Know about Multivibrator circuits
CO5	Design and simulate feedback amplifiers, oscillators, tuned amplifiers, wave-shaping circuits and multivibrators using SPICE Tool
SUBJECT CODE & NAME:	EC6412 LINEAR INTEGRATED CIRCUITS LABORATORY
COS	**COURSE OUTCOMES**
CO1	Design oscillators and amplifiers using operational amplifiers
CO2	Design filters using Opamp and perform experiment on frequency response.
CO3	Analyse the working of PLL and use PLL as frequency multiplier.
CO4	Design DC power supply using ICs
CO5	Analyse the performance of oscillators and multivibrators using SPICE
SUBJECT CODE & NAME:	EE6461 Electrical Engineering and Control System Laboratory
COS	**COURSE OUTCOMES**
CO1	Perform experiments to study the load characteristics of DC motors / generators
CO2	Design bridge network circuit to measure the values of passive component
CO3	Analyse the stability of linear system through simulation software.
CO4	Obtain transfer function of DC generators.
CO5	Understand the behavior of linear system through simulation
REGULATION & SEMESTER:	**2013 - V**
SUBJECT CODE & NAME:	EC6501 Digital Communication
COS	**COURSE OUTCOMES**
CO1	Understand the principles of Sampling and Quantization.
CO2	Design and implement base band transmission schemes
CO3	Design and implement band pass signaling schemes
CO4	Analyze the spectral characteristics of band pass signaling schemes and their noise performance.
CO5	Design an Error control coding scheme
SUBJECT CODE & NAME:	EC6502 Principles of Digital Signal Processing
COS	**COURSE OUTCOMES**
CO1	Able to interpret the transformation of discrete data between time and frequency domains and also apply mathematical tool for accelerating calculations in signal processing applications
CO2	Able to know the frequency response characteristics of IIR filter and learn the design of IIR filtering for undesired signal
CO3	Able to know the linear phase response characteristics of FIR filter and learn the design of FIR filtering for undesired signal
CO4	Able to know the concept of quantization and also analyze how its affect in digital filters
CO5	Able to know various approach for changing the sampling rate of a digital signal is to convert it back into analog and then to re-digitize it at the new rate
SUBJECT CODE & NAME:	EC6503 Transmission Lines and Wave Guides
COS	**COURSE OUTCOMES**
CO1	Able to analyze the propagation of signal through Transmission Lines
CO2	Able to understand the concept of the design of high frequency transmission lines

CO3	Able to design high frequency components and systems with proper matching
CO4	Able to design and implement the different types of filters for high frequency application
CO5	Analyze the propagation of waves in waveguides and resonators
SUBJECT CODE & NAME:	GE6351 Environmental Science and Engineering
COS	**COURSE OUTCOMES**
CO1	Students will able to explain scope and importance of Environmental Science, Ecosystem and Biodiversity.
CO2	Students will capable to identify the Environmental Pollution and address the complexities in the day today life.
CO3	Students will able to obtain knowledge about various Natural Resources and equitable use of resources for sustainable life style.
CO4	Students will able to know about Social issues and Possible Solution of various Environmental problem related to energy.
CO5	Students will able to acquire knowledge on impacts of Human Population, over the environment and demonstrate the role of Information Technology in Environment and Human Health.
SUBJECT CODE & NAME:	EC6504 Microprocessor and Microcontroller
COS	**COURSE OUTCOMES**
CO1	Design and implement programs on 8086 microprocessor.
CO2	Design I/O circuits
CO3	Design Memory Interfacing circuits.
CO4	Design and implement 8051 microcontroller based systems
CO5	Describe the architecture and instruction set of ARM microcontroller
SUBJECT CODE & NAME:	EC6511 Digital Signal Processing Laboratory
COS	**COURSE OUTCOMES**
CO1	Generation of various types of continuous signal and discrete signal.
CO2	Demonstrate their abilities towards DSP processor based implementation of DSP system
CO3	Calculate and analyze the continuous and discrete signals using FFT algorithm.
CO4	Analyze Finite word length effect on DSP systems.
CO5	Implement adaptive filters for various applications of DSP.
SUBJECT CODE & NAME:	EC6512 Communication System Laboratory
COS	**COURSE OUTCOMES**
CO1	Design the various types of continuous signal and discrete signal
CO2	Demonstrate their abilities towards DSP processor based implementation of DSP system
CO3	Calculate and analyze the continuous and discrete signals using FFT algorithm
CO4	Analyze Finite word length effect on DSP systems
CO5	Implement adaptive filters for various applications of DSP
SUBJECT CODE & NAME:	EC6513 Microprocessor and Microcontroller Laboratory
COS	**COURSE OUTCOMES**
CO1	Write ALP Programmes for fixed and Floating Point and Arithmetic
CO2	Interface different I/Os with processor

CO3	Generate waveforms using Microprocessors
CO4	Execute Programs in 8051
CO5	Explain the difference between simulator and Emulator
REGULATION & SEMESTER:	**2013 - VI**
SUBJECT CODE & NAME:	MG6851 Principles of Management
COS	**COURSE OUTCOMES**
CO1	Have clear understanding of managerial function planning and organizing
CO2	Have clear understanding of managerial function staffing and leading
CO3	Have clear understanding of managerial function directing
CO4	Have clear understanding of managerial function controlling
CO5	Have same basic knowledge on international aspect of management
SUBJECT CODE & NAME:	CS6303 Computer Architecture
COS	**COURSE OUTCOMES**
CO1	Design arithmetic and logic unit
CO2	Design and anlayse pipelined control units
CO3	Evaluate performance of memory systems
CO4	Understand parallel processing architectures
CO5	Understand the different ways of communication with I/O devices and standard I/O interfaces
SUBJECT CODE & NAME:	CS6551 Computer Networks
COS	**COURSE OUTCOMES**
CO1	Identify the components required to build different types of networks
CO2	Choose the required functionality at each layer for given application
CO3	Identify solution for each functionality at each layer
CO4	Trace the flow of information from one node to another node in the network
CO5	Apply the flow control and congestion control algorithms
SUBJECT CODE & NAME:	EC6601 VLSI Design
COS	**COURSE OUTCOMES**
CO1	Able to explain the basics of CMOS circuits and the CMOS process technology.
CO2	Able to design and analysis of combinational logic circuits.
CO3	Able to design and analysis of sequential logic circuits.
CO4	Design and realization of adder circuits and multipliers.
CO5	Implementation of Full custom and Semicustom ICs.
SUBJECT CODE & NAME:	EC6602 Antenna and Wave propagation
COS	**COURSE OUTCOMES**
CO1	Understand the various types of antennas and wave propagation
CO2	Analyze the antenna arrays, aperture antennas and special antennas such as frequency independent and broad band.

CO3	Predict the radio wave propagation in sky
CO4	Evaluate the ionospheric and tropospheric wave propagation
CO5	Sketch the radiation pattern from a current element
SUBJECT CODE & NAME:	Elective I Medical Electronics
COS	**COURSE OUTCOMES**
CO1	Know about the various physiological parameters both electrical and non electrical parametres
CO2	Understand the methods of recording and also the method of transmitting the parameters
CO3	Discuss the application of electronics in diagnostic and therapeutic area.
CO4	Measure biochemical and various physiological information
CO5	Describe the working of units which will help to restore normal functioning
SUBJECT CODE & NAME:	EC6611 Computer Networks Laboratory
COS	**COURSE OUTCOMES**
CO1	Communicate between two desktop computers
CO2	Implement the different protocols
CO3	Program using sockets
CO4	Implement and compare the various routing algorithms
CO5	Use simulation tool.
SUBJECT CODE & NAME:	EC6612 VLSI Design Laboratory
COS	**COURSE OUTCOMES**
CO1	Able to Develop the HDL code for basic as well as advanced digital integrated circuits.
CO2	Able to Import the logic modules into FPGA Boards.
CO3	Able to Perform the Synthesization, Place and Route the digital IPs.
CO4	Able to Design, Simulate and Extract the layouts of Analog IC Blocks using EDA tools.
CO5	Able to Simulate the modern chip manufacturing software tools.
SUBJECT CODE & NAME:	GE6674 Communication and Soft Skills - Laboratory Based
COS	**COURSE OUTCOMES**
CO1	Take international examination such as IELTS and TOEFL
CO2	Make their own prepared presentations
CO3	Participate in Group Discussions
CO4	Successfully answer questions in interviews.
CO5	Take the competitive examinations.
REGULATION & SEMESTER:	**2013 - VII**
SUBJECT CODE & NAME:	EC6701 RF and Microwave Engineering
COS	**COURSE OUTCOMES**
CO1	Analyze the different low frequency parameters and S parameters and describe the RF component basics
CO2	Analyze the amplifiers by means of stability, noise figures and study of various matching networks.

CO3	Describe the operation of passive and active microwave devices
CO4	Understand about the working principle of various microwave tubes and the limitations of conventional tubes
CO5	Comprehend the principle of operation of measuring instruments and various microwave measuring procedures
SUBJECT CODE & NAME:	EC6702 Optical Communication and Networks
COS	**COURSE OUTCOMES**
CO1	Understand the basic elements of optical fiber transmission link and modes of configuration.
CO2	various signal degradation factors associated with optical fiber
CO3	Have clear knowledge on optical sources and optical detectors
CO4	Design transmitter and receiver of optical fiber sources.
CO5	Analyze the digital transmission and its associated parameters on system performance
SUBJECT CODE & NAME:	EC6703 Embedded and Real Time Systems
COS	**COURSE OUTCOMES**
CO1	Able to describe the embedded design process and also well know about architecture and programming of ARM processor
CO2	Able to design and analysis for hardware and software computing platforms
CO3	Students are exposed their basic kmowledge in real time operating system for designing various multirate systems
CO4	Able to learn the various protocols for designing nettwork architecture for embedded design
CO5	Able to design a embedded system for various real time applications using basic concepts of computing.
SUBJECT CODE & NAME:	Elective II IT6005 Digital Image Processing
COS	**COURSE OUTCOMES**
CO1	Review the fundamental concepts of a digital image processing system
CO2	Analyze images in the frequency domain and spatial domain using various transforms
CO3	Evaluate the techniques for image enhancement and image restoration
CO4	Categorize various compression techniques
CO5	Interpret Image compression standards and segmentation techniques
SUBJECT CODE & NAME:	Elective III EC6009 Advanced Computer Architecture
COS	**COURSE OUTCOMES**
CO1	Able to Evaluate performance of different architectures with respect to various parameters
CO2	Able to Analyze performance of different ILP techniques
CO3	Able to Implement parallel processing architectures
CO4	Able to Identify cache and memory related issues in multi-processors
CO5	Able to Discuss the different ways of communicating with I/O devices
SUBJECT CODE & NAME:	Elective IV EC6016 OPTO ELECTRONIC DEVICES
COS	**COURSE OUTCOMES**
CO1	Differentiate the solid state physics
CO2	Design display devices
CO3	Design optoelectronic detection devices and modulators

CO4	Design optoelectronic integrated circuits
CO5	Analyze and choose the desired device for their applications
SUBJECT CODE & NAME:	EC6711 Embedded Laboratory
COS	**COURSE OUTCOMES**
CO1	Write programs in ARM for a specific Application using embedded-C
CO2	Able to Interface memory, A/D and D/A convertors with ARM system
CO3	Able to Analyze the performance of interrupt
CO4	Able to Write program for interfacing keyboard, display, motor and sensor.
CO5	Able to design a mini project using embedded system.
SUBJECT CODE & NAME:	EC6712 Optical and Microwave Laboratory
COS	**COURSE OUTCOMES**
CO1	Analyze the performance of simple optical link
CO2	Test microwave components
CO3	Analyse the mode characteristics of fiber
CO4	Analyse the radiation of pattern of antenna
CO5	Measure the various parameters of Numerical Aperture,Connector and Bending loss
REGULATION & SEMESTER:	**2013 - VIII**
SUBJECT CODE & NAME:	EC6801 Wireless Communication
COS	**COURSE OUTCOMES**
CO1	Summarize the principles, algorithms and technologies used in transmission information.
CO2	Illustrate wire and wireless channel.
CO3	Acquire knowledge on different shift keying techniques in fading channels
CO4	Determine signal processing in wireless system
CO5	Elaborate the application oriented design section
SUBJECT CODE & NAME:	EC6802 Wireless Networks
COS	**COURSE OUTCOMES**
CO1	Conversant with the latest 3G/4G networks
CO2	Understand the WiMAX networks and its architecture
CO3	Design and implement wireless network environment for any application using latest wireless protocols and standards
CO4	Implement different type of applications for smart phones and mobile devices with latest network strategies
CO5	understand the evolution of 4G Networks, its architecture and applications
SUBJECT CODE & NAME:	Elective V GE6075 PROFESSIONAL ETHICS IN ENGINEERING
COS	**COURSE OUTCOMES**
CO1	Know the Morals, Values and Ethics
CO2	Describes Engineering Ethics
CO3	Explain Engineering as Social Experimentation

CO4	Describes the Safety, Responsibilities and Rights
CO5	Discuss the Ethical issues related to Engineering
SUBJECT CODE & NAME:	Elective VI EC6019 Data Converters
COS	**COURSE OUTCOMES**
CO1	Understand the concept of Sampling and hold circuits
CO2	Understand the concept of switch capacitor circuits and comparators
CO3	Design ADC/DAC circuits
CO4	Analyze ADC/DAC Architecture and Performance
CO5	Discuss calibration techniques
SUBJECT CODE & NAME:	EC6811 Project Work
COS	**COURSE OUTCOMES**
CO1	Demonstrate a sound technical knowledge of their selected project topic.
CO2	Undertake problem identification, formulation and solution.
CO3	Design engineering solutions to complex problems and Conduct an engineering project
CO4	Communicate with engineers and the community at large in written an oral forms.
CO5	Demonstrate the knowledge, skills and attitudes of a professional engineer.
REGULATION & SEMESTER:	**2013 - VI ELECTIVE - I**
SUBJECT CODE & NAME:	EC6001 MEDICAL ELECTRONICS
COS	**COURSE OUTCOMES**
CO1	Know about the various physiological parameters both electrical and non electrical parametres
CO2	Understand the methods of recording and also the method of transmitting the parameters
CO3	Discuss the application of electronics in diagnostic and therapeutic area.
CO4	Measure biochemical and various physiological information
CO5	Describe the working of units which will help to restore normal functioning
SUBJECT CODE & NAME:	EC6002 ADVANCED DIGITAL SIGNAL PROCESSING
COS	**COURSE OUTCOMES**
CO1	Describe about Discrete Time Random Signals
CO2	Know about various parametric methods
CO3	Explain the parametric methods for power spectrum estimation.
CO4	Discuss adaptive filtering techniques using LMS algorithm and the applications of adaptive filtering.
CO5	Analyze the wavelet transforms
SUBJECT CODE & NAME:	CS6401 OPERATING SYSTEMS
COS	**COURSE OUTCOMES**
CO1	Design various Scheduling algorithms.
CO2	Design deadlock, prevention and avoidance algorithms.
CO3	Compare and contrast various memory management schemes.

CO4	Design and Implement a prototype file systems.
CO5	Perform administrative tasks on Linux Servers
SUBJECT CODE & NAME:	EC6003 ROBOTICS AND AUTOMATION
COS	**COURSE OUTCOMES**
CO1	Explain the basic concepts of working of robot
CO2	Analyze the function of sensors in the robot
CO3	Design consideration of Control units
CO4	Write program to use a robot for a typical application
CO5	Use Robots in different applications
REGULATION & SEMESTER:	**2013 - VII ELECTIVE - II**
SUBJECT CODE & NAME:	EC6004 SATELLITE COMMUNICATION
COS	**COURSE OUTCOMES**
CO1	To analyze the Satellite orbits.
CO2	To analyze the Space segment and Satellite link design
CO3	To study about Earth segment and System noise
CO4	To study about various Multiple Access Techniques
CO5	Design various satellite applications
SUBJECT CODE & NAME:	EC6005 ELECTRONIC TESTING
COS	**COURSE OUTCOMES**
CO1	Know about different testing equipments
CO2	Analyze about Digital Testing
CO3	Analyze about Analog Testing
CO4	Design the different testing schemes for a circuit
CO5	Design the different testing schemes for a circuit
SUBJECT CODE & NAME:	EC6006 AVIONICS
COS	**COURSE OUTCOMES**
CO1	Describe the hardware required for aircraft.
CO2	Discuss about Aircraft system interface
CO3	Describes about the various principles in flight disk and cockpit panels
CO4	Explain the communication and navigation techniques used in aircrafts.
CO5	Discuss about the autopilot and cockpit display related concepts
SUBJECT CODE & NAME:	CS6012 SOFT COMPUTING
COS	**COURSE OUTCOMES**
CO1	Apply various soft computing frame works.
CO2	Design of various neural networks.
CO3	Use fuzzy logic.

CO4	Apply genetic programming.
CO5	Discuss hybrid soft computing.
SUBJECT CODE & NAME:	IT6005 DIGITAL IMAGE PROCESSING
COS	**COURSE OUTCOMES**
CO1	Review the fundamental concepts of a digital image processing system
CO2	Analyze images in the frequency domain and spatial domain using various transforms
CO3	Evaluate the techniques for image enhancement and image restoration
CO4	Categorize various compression techniques
CO5	Interpret Image compression standards and segmentation techniques
SUBJECT CODE & NAME:	CS6013 FOUNDATION SKILLS IN INTEGRATED PRODUCT DEVELOPMENT
COS	**COURSE OUTCOMES**
CO1	Define, formulate and analyze a problem
CO2	Solve specific problems independently or as part of a team
CO3	Develop documentation, test specifications and coordinate with various teams to validate and sustain up to the EoL (End of Life) support activities for engineering customer
CO4	Work independently as well as in teams
CO5	Manage a project from start to finish
REGULATION & SEMESTER:	**2013 - VII ELECTIVE - III**
SUBJECT CODE & NAME:	EC6007 SPEECH PROCESSING
COS	**COURSE OUTCOMES**
CO1	Model speech production system and describe the fundamentals of speech.
CO2	Extract and compare different speech parameters.
CO3	Choose an appropriate statistical speech model for a given application.
CO4	Design a speech recognition system.
CO5	Use different speech synthesis techniques.
SUBJECT CODE & NAME:	EC6008 WEB TECHNOLOGY
COS	**COURSE OUTCOMES**
CO1	Basic idea about Java Fundamentals
CO2	Have knowledge about the fundamental Java networking technologies
CO3	Design their own web services using the client concepts
CO4	Design their own web services using the server concepts
CO5	Describe the techniques involved to support real-time Software development
SUBJECT CODE & NAME:	EC6009 ADVANCED COMPUTER ARCHITECTURE
COS	**COURSE OUTCOMES**
CO1	Evaluate performance of different architectures with respect to various parameters
CO2	Analyze performance of different ILP techniques
CO3	Know about Data Level Parallesism

CO4	Know about Thread Level Parallesism
CO5	Identify cache and memory related issues in multi-processors
SUBJECT CODE & NAME:	EC6010 ELECTRONICS PACKAGING
COS	**COURSE OUTCOMES**
CO1	Know Electronic System Packaging
CO2	Design System Packaging
CO3	Design with schematic work and component
CO4	Analyze Surface mount Technology and Thermal Consideration
CO5	Propose a design procedure and solution
SUBJECT CODE & NAME:	EC6011 ELECTROMAGNETIC INTERFERENCE AND COMPATIBILITY
COS	**COURSE OUTCOMES**
CO1	Discuss about basics of EMI,EMC
CO2	Know Coupling Mechanism
CO3	Analyze EMI problems in PCB level
CO4	Describe Standards and Regulations
CO5	Measure emission immunity level from different systems to couple with the prescribed EMC standards
REGULATION & SEMESTER:	**2013 - VII ELECTIVE - IV**
SUBJECT CODE & NAME:	EC6012 CMOS ANALOG IC DESIGN
COS	**COURSE OUTCOMES**
CO1	Study Sample and Hold Circuits
CO2	Build Data Conversion circuits.
CO3	Discuss calibration techniques
CO4	Analyze ADC/DAC Architecture and Performance
CO5	Describes architecture of Sampling Converters
SUBJECT CODE & NAME:	EC6013 ADVANCED MICROPROCESSORS AND MICROCONTROLLERS
COS	**COURSE OUTCOMES**
CO1	Describes Aechitecture, Addressing and Programming in Pentium Processor
CO2	Describes Aechitecture, Addressing and Programming in ARM Processor
CO3	Develop ARM Application
CO4	Know MOTOROLA 68HC11 Microcontroller
CO5	Know PIC Microcontroller
SUBJECT CODE & NAME:	EC6014 COGNITIVE RADIO
COS	**COURSE OUTCOMES**
CO1	Describe the basics of the software defined radios.
CO2	Analyze SDR Architecture
CO3	Fundamentals of cognitive radios

CO4	Design the wireless networks based on the cognitive radios
CO5	Explain the concepts behind the wireless networks and next generation networks
SUBJECT CODE & NAME:	EC6015 RADAR AND NAVIGATIONAL AIDS
COS	**COURSE OUTCOMES**
CO1	Explain principles of navigation, in addition to approach and landing aids as related to navigation
CO2	Explain Tracking concept and Accuracy
CO3	Describes Radar Transmitter and Receiver
CO4	Derive and discuss the Range equation and the nature of detection.
CO5	Describe about the navigation systems using the satellite
SUBJECT CODE & NAME:	EC6016 OPTO ELECTRONIC DEVICES
COS	**COURSE OUTCOMES**
CO1	Differentiate the solid state physics
CO2	Design display devices
CO3	Design optoelectronic detection devices and modulators
CO4	Design optoelectronic integrated circuits
CO5	Analyze and choose the desired device for their applications
REGULATION & SEMESTER:	**2013 - VIII ELECTIVE - V**
SUBJECT CODE & NAME:	EC6017 RF SYSTEM DESIGN
COS	**COURSE OUTCOMES**
CO1	Design RF transceiver systems
CO2	Explain Impedance Matching and Amplifier
CO3	Design Consideration of Power Amplifier
CO4	Analyze Digital Frequency Synthesizers
CO5	Design methods of Mixers and Oscillator
SUBJECT CODE & NAME:	CS6003 AD HOC AND SENSOR NETWORKS
COS	**COURSE OUTCOMES**
CO1	Explain the concepts, network architectures and applications of ad hoc and wireless sensor networks
CO2	Analyze the protocol design issues of ad hoc and sensor networks
CO3	Design routing protocols for ad hoc and wireless sensor networks with respect to some protocol design issues
CO4	Describes Network architecture
CO5	Evaluate the QoS related performance measurements of ad hoc and sensor networks
SUBJECT CODE & NAME:	GE6082 INDIAN CONSTITUTION AND SOCIETY
COS	**COURSE OUTCOMES**
CO1	Understand the functions of the Indian government
CO2	Know the structure and function of Central Government
CO3	Know the structure and function of State Government

CO4	Understand and abide the rules of the Indian constitution.
CO5	Understand and appreciate different culture among the people
SUBJECT CODE & NAME:	EC6018 MULTIMEDIA COMPRESSION AND COMMUNICATION
COS	**COURSE OUTCOMES**
CO1	Describe various multimedia components
CO2	Describe Audio and Video compression
CO3	Describe Image and Text compression
CO4	Explain VOIP Technology
CO5	Apply the compression concepts in multimedia communication
SUBJECT CODE & NAME:	GE6075 PROFESSIONAL ETHICS IN ENGINEERING
COS	**COURSE OUTCOMES**
CO1	Know the Morals, Values and Ethics
CO2	Describes Engineering Ethics
CO3	Explain Engineering as Social Experimentation
CO4	Describes the Safety, Responsibilities and Rights
CO5	Discuss the Ethical issues related to Engineering
SUBJECT CODE & NAME:	GE6083 DISASTER MANAGEMENT
COS	**COURSE OUTCOMES**
CO1	Differentiate the types of disasters, causes and their impact on environment and society
CO2	Assess vulnerability and various methods of risk reduction measures as well as mitigation.
CO3	Discuss Inter relationship between Disasters and Development
CO4	Explain Disaster Risk Management in India
CO5	Draw the hazard and vulnerability profile of India, Scenarious in the Indian context, Disaster damage assessment and management
REGULATION & SEMESTER:	**2013 - VIII ELECTIVE - VI**
SUBJECT CODE & NAME:	EC6019 DATA CONVERTERS
COS	**COURSE OUTCOMES**
CO1	Understand the concept of Sampling and hold circuits
CO2	Understand the concept of switch capacitor circuits and comparators
CO3	Design ADC/DAC circuits
CO4	Analyze ADC/DAC Architecture and Performance
CO5	Discuss calibration techniques
SUBJECT CODE & NAME:	CS6701 CRYPTOGRAPHY AND NETWORK SECURITY
COS	**COURSE OUTCOMES**
CO1	Know OSI security architecture and classical encryption techniques
CO2	Compare various Cryptographic Techniques
CO3	Describes Hash Functions and Digital Signatures

CO4	Design Secure applications
CO5	Inject secure coding in the developed applications
SUBJECT CODE & NAME:	GE6757 TOTAL QUALITY MANAGEMENT
COS	**COURSE OUTCOMES**
CO1	Able to gain basic knowledge in total quality management relevant to both manufacturing and service industry.
CO2	Able to implement the basic principles of TQM in manufacturing and service based organization.
CO3	Able to apply the tools and techniques of quality management to manufacturing and services processes
CO4	Able to understand the concept of Six Sigma, QFD and TPM
CO5	Able to gain the knowledge on various ISO standards and quality systems
SUBJECT CODE & NAME:	MG6071 ENTERPRENEURSHIP DEVELOPMENT
COS	**COURSE OUTCOMES**
CO1	Describes Types of Entrepreneurs
CO2	Value of Motivation and stress management
CO3	Fundamentals of Business and Development
CO4	Analyze the Financing and Accounting
CO5	Knowledge and skills to support Entrepreneurs
SUBJECT CODE & NAME:	MG6088 SOFTWARE PROJECT MANAGEMENT
COS	**COURSE OUTCOMES**
CO1	Evaluate Project Evaluation and Project Planning
CO2	Describes Software Estimation Techniques
CO3	Know Risk Management and Activity Planning
CO4	Analysis of Project Management and Control
CO5	Describes Staffing in software projects
SUBJECT CODE & NAME:	GE6084 HUMAN RIGHTS
COS	**COURSE OUTCOMES**
CO1	Know Political rights
CO2	Describes concept of Human rights
CO3	Theories of UN Laws
CO4	Describes Human rights in India
CO5	Analyze Social movement in India
DEPARTMENT OF MECHANICAL ENGINEERING	
REGULATION & SEMESTER:	**2013 - I**
COURSE CODE & NAME:	HS6151 Technical English – I
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	

CO2	Write cohesively and coherently avoiding grammatical errors, using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Listen and comprehend different spoken discourses in different accents.
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.

COURSE CODE & NAME:	MA6151 Mathematics – I
COS	**COURSE OUTCOMES**
	Student will be able,
CO1	To understand the concept of Eigen values and Eigen vectors, diagonalization of Matrix, symmetric matrices,positive definite matrices and similar matrices
CO2	To familier with limitations of using infinite series approximations for solutions arising in mathematical modeling.
CO3	To understand the concept of functions of several variables
CO4	To apply Differentiation in Maxima and Minima problems
CO5	To compute multiple integrals, area, volume, integrals in polar co ordinates in addition to change of order and change of variables

COURSE CODE & NAME:	PH6151 Engineering Physics – I
COS	**COURSE OUTCOMES**
CO1	Student will be able to analyse the elastic properties of materials.
CO2	Student will be able toUnderstand the properties and applications of wave and fiber optics
CO3	Student will have knowledge to apply thermal properties of the material.
CO4	Student will be able toUnderstand Quantum mechanical behavior of the material.
CO5	Studentscan Understand the crystal structure and growing methods of crystal..

COURSE CODE & NAME:	CY6151 Engineering Chemistry – I
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Knowledge on principles of polymerization, preparation, properties and uses of some industrially important polymers.
CO2	Fundamental knowledge on thermodynamic laws and the interrelationship between various thermodynamic parameters.
CO3	Knowledge on photochemistry and some modern analytical tools for chemical analysis like UV and IR.
CO4	Knowledge about cooling curves, phase diagrams ,alloys and their practical importance.
CO5	Knowledge to recognize and apply the principles of nano and micro structured materials to predict chemical properties ,chemical reactivity and its applications.

COURSE CODE & NAME:	GE6151 Computer Programming
COS	**COURSE OUTCOMES**
	Student will be able to,

CO2	Write and execute C programs for simple applications

COURSE CODE & NAME:	GE6152 Engineering Graphics
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Perform Freehand Sketching Of Basic Geometrical Constructions And Multiple Views Of Objects and conic sections.
CO2	Develop Orthographic Projections Of Lines And Plane Surfaces
CO3	Draw projections of solids
CO4	Draw projections of development of surfaces
CO5	Visualize and to project isometric and perspective sections of simple solids

COURSE CODE & NAME:	GE6161 Computer Practices Laboratory
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Apply good programming design methods for program development.
CO2	Design and implement C programs for simple applications.
CO3	Develop recursive programs.

COURSE CODE & NAME:	GE6162 Engineering Practices Laboratory
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Fabricate carpentry components and pipe connections including plumbing works.
CO2	Use welding equipments to join the structures.
CO3	Carry out the basic machining operations
CO4	Make the sheet metal models
CO5	Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundary and fittings
CO6	Carry out basic home electrical works and appliances
CO7	Measure the electrical quantities
CO8	Elaborate on the components, gates, soldering practices.
COURSE CODE & NAME:	GE6163 Physics and Chemistry Laboratory - I
COS	**COURSE OUTCOMES**
CO1	Student will have knowledge to evaluate the particle size & acceptance angle using laser.
CO2	Student will be able to Apply the principle of ultasonic interferometer

CO4	Students can Analyse the thermal conductivity of a bad conductor
CO5	Student will be able to Apply the elastic behavior of material
REGULATION & SEMESTER:	**2013 - II**
COURSE CODE & NAME:	HS6251 Technical English – II
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Identify the need of technical information and understanding practical credentials related to business situations
CO2	Use the language perfectly evading grammatical errors using a wide vocabulary range, organizing the ideas logically on a topic.
CO3	Read different genres of texts adapting various reading strategies
CO4	Write formal, informal letters and reports effectively
CO5	Speak clearly, confidently and communicate with others using appropriate communicative strategies.

COURSE CODE & NAME:	MA6251 Mathematics – II
COS	**COURSE OUTCOMES**
	Student will be able,
CO1	To evaluate Gradient, Divergence and Curl of a Vector point functions and related identities.
CO2	To solve ordinary differential equations that model engineering problems
CO3	To understand the concept of Laplace Transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficie
CO4	To understand the concept ofAnalytic functions,conformal mapping and Complex integration
CO5	To understanding of the standard techniques of complex variable theory so as to enable the student to apply them with confidence

COURSE CODE & NAME:	PH6251 Engineering Physics – II
COS	**COURSE OUTCOMES**
CO1	Students will be able to Understand the Electrical properties of conducting materials.
CO2	Students can Understand the properties and applications of semiconducting materials .
CO3	students can apply the properties and applications of the magnetic materials and super conducting material
CO4	students Understand the properties and applications of dielectric materials.
CO5	students can analyse the properties and applications of new engineering materials

COURSE CODE & NAME:	CY6251 Engineering Chemistry – II
COS	**COURSE OUTCOMES**
	Student will be able to,

CO2	Apply their knowledge for protection of different metals from corrosion .
CO3	The knowledge of converting solar energy into most needy electrical energy efficiently and economically to reduce the environmental pollution.
CO4	Apply their knowledge for various engineering materials
CO5	Explain about analysis and manufacture of various types of fuel.

COURSE CODE & NAME:	GE6252 Basic Electrical and Electronics Engineering
COS	**COURSE OUTCOMES**
	Student will be,
CO1	Able to discuss the basic concepts of DC electrical circuits and to understand theorems.
CO2	Able to discuss the concepts of AC circuits and different types of wirings.
CO3	Able to explain the construction, principle of operation and performance of electrical machines.
CO4	Able to explain the construction, principle of operation and characteristics of electronic devices and circuits.
CO5	Able to understand different types of measurements and instrumentarions.

COURSE CODE & NAME:	GE6253 Engineering Mechanics
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Illustrate the statics of particles in equilibrium
CO2	Analyse the rigid body in equilibrium
CO3	Evaluate the properties of surfaces and solids
CO4	Calculate dynamic forces exerted in rigid body
CO5	Determine the friction and its effects, rigid body dynamics

COURSE CODE & NAME:	GE6261 Computer Aided Drafting and ModelingLaboratory
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Ability to use the software packers for drafting and modeling
CO2	Ability to create 2D and 3D models of Engineering Components

COURSE CODE & NAME:	GE6262 Physics and Chemistry Laboratory - II
COS	**COURSE OUTCOMES**
CO1	students will be able to analyse values of Young's modulus by uniform bending method
CO2	students can apply the principle to Determination of band gap of a semiconductor
CO3	Students will be able to evaluate the Coefficient of viscosity of a liquid by Poiseuille's method

CO5	students can apply the properties of Rigidity modulus using Torsion pendulum

REGULATION & SEMESTER:	**2013 - III**
COURSE CODE & NAME:	MA6351 Transforms and Partial Differential Equations
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understand how to solve the given standard partial differential equations.
CO2	Solve differential equations using Fourier series analysis which plays a vital role in engineering applications.
CO3	Appreciate the physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations.
CO4	Understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of engineering.
CO5	Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems.
COURSE CODE & NAME:	CE6306 Strength of Materials
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Calculate stress and strain, the importance of principal stresses and principal planes
CO2	Analyse the transverse loading on a beam
CO3	Apply basic equation of simple torsion in designing of shaft and helical spring
CO4	Calculate the slope and deflection in beams using different methods
CO5	Analyse and design of thin spheres and thick shells

COURSE CODE & NAME:	ME6301 Engineering Thermodynamics
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Apply the first law of thermodynamics for simple open and closed systems.
CO2	Know second law of thermodynamics and apply to open and closed systems
CO3	Study Rankine cycle to steam power plant and compare few cycle improvement methods
CO4	Derive simple thermodynamic relations of ideal and real gases
CO5	Calculate the properties of gas mixtures and moist air and its use in psychometric processes

COURSE CODE & NAME:	CE6451 Fluid Mechanics and Machinery
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Apply Mathematical knowledge to predict the properties and characteristics of a fluid.

CO3	Mathematically predict the nature of physical quantities
CO4	Critically analyse the performance of pumps
CO5	Critically analyse the performance of turbines

COURSE CODE & NAME:	ME6302 Manufacturing Technology - I
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Explain different metal casting processes, associated defects, merits and demerits
CO2	Compare different metal joining processes.
CO3	Summarize various hot working and cold working methods of metals.
CO4	Work on various sheet metal making processes.
CO5	Distinguish various methods of manufacturing plastic components.

COURSE CODE & NAME:	EE6351 Electrical Drives and Controls
COS	**COURSE OUTCOMES**
	Student will be,
CO1	Able to understand the basics of electric drives and to discuss the thermal considerations.
CO2	Able to analyze characteristics of different types of drive motors.
CO3	Able to explain the different types of starters.
CO4	Able to elucidate the speed control of DC drives.
CO5	Able to elucidate the speed control of AC drives.

COURSE CODE & NAME:	ME6311 Manufacturing Technology Laboratory - I
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Demonstrate and fabricate different types of components using the machine tools

COURSE CODE & NAME:	CE6461 Fluid Mechanics and Machinery Laboratory
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Ability to use the measurement equipments for flow measurement
CO2	Ability to do performance trust on different fluid machinery
COURSE CODE & NAME:	EE6365 Electrical Engineering Laboratory
COS	**COURSE OUTCOMES**

CO1	Perform speed characteristics of different elctrical machines
REGULATION & SEMESTER:	**2013 - IV**
COURSE CODE & NAME:	MA6452 Statistics and Numerical Methods
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Describe the essential aspects of statistical sampling and analysis of experimental data
CO2	Describe the estimation of parameters and hypothesis testing
CO3	solve the system of linear algebraic equations by using Gauss Elimination.
CO4	Understand the concept of numerically integrate ordinary differential equations for initial value problems
CO5	Understand the concept of numerically integrate partial differential equations for initial boundary value problems
COURSE CODE & NAME:	ME6401 Kinematics of Machinery
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Discuss the basics of mechanism
CO2	Analyse the assembly with respect to the displacement, velocity and acceleration
CO3	Develop CAM profiles
CO4	Analyse problems on gears and gear trains
CO5	Determine friction in machine elements

COURSE CODE & NAME:	ME6402 Manufacturing Technology– II
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Explain the mechanism of material removal processes.
CO2	Describe the constructional and operational features of centre lathe and other special purpose lathes.
CO3	Describe the constructional and operational features of shaper, planner, milling, drilling,sawing and broaching machines.
CO4	Explain the types of grinding and other super finishing processes apart from gear manufacturing processes.
CO5	Summarize numerical control of machine tools and write part program.

COURSE CODE & NAME:	ME6403 Engineering Materials and Metallurgy
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Explain alloys and phase diagram, Iron-Iron carbon diagram and steel classification.
CO2	Explain isothermal transformation, continuous cooling diagrams and different heat treatment processes.
CO3	Clarify the effect of alloying elements on ferrous and non-ferrous metals

CO5	Explain the testing of mechanical properties.

COURSE CODE & NAME:	GE6351 Environmental Science and Engineering
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Explain scope and importance of Environmental Science, Ecosystem and Biodiversity.
CO2	Identify the Environmental Pollution and address the complexities in the day today life.
CO3	Obtain knowledge about various Natural Resources and equitable use of resources for sustainable life style.
CO4	To know about Social issues and Possible Solution of various Environmental problem related to energy.
CO5	Acquire knowledge on impacts of Human Population, over the environment and demonstrate the role of Information Technology in Environment and Human Health.

COURSE CODE & NAME:	ME6404 Thermal Engineering
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Apply thermodynamic concepts to different air standard cycles and solve problems
CO2	Explain the functioning,features
CO3	Apply the thermodynamic concepts to steam power cycles
CO4	Solve problems in single stage and multistage air compressors
CO5	Summerise the thermodynamic effects on refrigeration and air conditioning

COURSE CODE & NAME:	ME6411 Manufacturing Technology Laboratory–II
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Use different machine tools to manufacturing gears
CO2	Use different machine tools for finishing operations
CO3	Manufacture tools using cutter grinder
CO4	Develop CNC part programming

COURSE CODE & NAME:	ME6412 Thermal Engineering Laboratory - I
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Conduct experiment on IC engine to study the characteristic and performance of IC design/ steam turbines
COURSE CODE & NAME:	CE6315 Strength of Materials Laboratory

	Student will be able to,
CO1	Perform different destructive testing
CO2	Characteristic materials
REGULATION & SEMESTER:	**2013- V**
COURSE CODE & NAME:	ME6501 Computer Aided Design
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Explain the 2D and 3D transformations, clipping algorithm.
CO2	Explain the fundamentals of parametric curves, surfaces and Solid modeling techniques
CO3	Summarize the different types of Standard systems used in CAD
CO4	Assembly modelling for different components.
CO5	Use Standards for computer graphics, Data exchange
COURSE CODE & NAME:	ME6502 Heat and Mass Transfer
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Apply heat conduction equations to different surface configurations under steady state and transient conditions to solve problems
CO2	Apply convective heat transfer correlations to internal and external flows through various surface configurations and solve problems
CO3	Explain the phenomena of boiling and condensation and thermal analysis of different types of heat exchanger configurations and solve problems
CO4	Explain basic laws for Radiation and apply principles to different types of surfaces to solve problems
CO5	Apply diffusive and convective mass transfer equations and correlations to solve problems for different applications

COURSE CODE & NAME:	ME6503 Design of Machine Elements
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Explain the influence of steady and variable stresses in machine component design.
CO2	Apply the concepts of design to shafts, keys and couplings.
CO3	Apply the concepts of design to temporary and permanent joints.
CO4	Apply the concepts of design to energy absorbing members, connecting rod and crank shaft.
CO5	Apply the concepts of design to bearings.

COURSE CODE & NAME:	ME6504 Metrology and Measurements
COS	**COURSE OUTCOMES**
	Student will be able to,

CO2	Explain the principles of linear and angular measurement tools used in industrial applications
CO3	Explain the procedure for conducting computer aided inspection
CO4	Demonstrate the techniques of form measurement used for industrial components
CO5	Discuss various measuring techniques of mechanical properties in industrial applications

COURSE CODE & NAME:	ME6505 Dynamics of Machines
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Find static and dynamic forces of mechanisms
CO2	Calculate the balancing masses and their locations of reciprocating and rotating masses
CO3	Determine the frequency of free vibration and damping
CO4	Compute the frequency of forced vibration and damping coefficient
CO5	Calculate the governor variables and estimate the gyroscopic effect on automobiles, ships and airplanes

COURSE CODE & NAME:	GE6075 Professional Ethics in Engineering
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Outline the principles of human values
CO2	Demonstrate the techniques and theories of Engineering Ethics
CO3	Explain the procedure for Engineering As Social Experimentation
CO4	Summarize the concept of Safety, Responsibilities And Rights
CO5	Recapitulate the different Global Issues

COURSE CODE & NAME:	ME6511 Dynamics Laboratory
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Demonstrate the principles of kinematics and dynamics of machinery
CO2	Use the measuring devices for dynamic testing

COURSE CODE & NAME:	ME6512 Thermal Engineering Laboratory-II
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Conduct tests on heat conduction apparatus and evaluate thermal conductivity of materials
CO2	Conduct tests on natural and forced convective heat transfer apparatus and evaluate heat transfer coefficient

CO4	Conduct tests to evaluate the performance of parallel/counter flow heat exchanger apparatus and reciprocating air compressor
CO5	Conduct tests to evaluate the performance of refrigeration and airconditioning test rigs
COURSE CODE & NAME:	ME6513 Metrology and Measurements Laboratory
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Measure the gear tooth dimensions, angle using sine bar, straightness and flatness,thread parameters, temperature using thermocouple, force, displacement, torque and vibration
CO2	Calibrate the vernier, micrometer and slip gauges and setting up the comparator for the inspection
REGULATION & SEMESTER:	**2013 - VI**
COURSE CODE & NAME:	ME6601 Design of Transmission Systems
COS	
	Student will be able to,
CO1	Apply the design concepts to belts, chains and rope drives
CO2	Design spur, helical gears
CO3	Design worm and bevel gears
CO4	Design gear boxes
CO5	Apply the concepts of design to cams, clutches and brakes
COURSE CODE & NAME:	MG6851 Principles of Management
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understand managerial functions and organization
CO2	Understand of planning techniques
CO3	Understanding of organizing an organization
CO4	Demonstrate the concepts of directing
CO5	Understanding of controlling

COURSE CODE & NAME:	ME6602 Automobile Engineering
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understand the vehicle structure and engines
CO2	Explain the concepts of engine auxiliary systems
CO3	Knowing the concepts of transmission systems

CO5	Understanding alternative energy sources

COURSE CODE & NAME:	ME6603 Finite Element Analysis
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Summarize the basics of finite element formulation
CO2	Apply finite element formulations to solve one dimensional Problems
CO3	Apply finite element formulations to solve two dimensional scalar Problems
CO4	Apply finite element method to solve two dimensional Vector problems
CO5	Apply finite element method to solve problems on iso parametric element and dynamic Problems

COURSE CODE & NAME:	ME6604 Gas Dynamics and Jet Propulsion
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Apply the concept of compressible fluid flow in variable area ducts, nozzles and diffusers
CO2	Apply the concept of compressible fluid flow in constant area ducts
CO3	Examine the effect shock waves in compressible flow
CO4	Demonstrate the concept of gas dynamics in Jet Propulsion
CO5	Apply the concepts of gas dynamics in Space Propulsion

COURSE CODE & NAME:	ME6004 Unconventional Machining Processes
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Explain the classification of unconventional machining processes and its
CO2	Demonstrate the mechanical energy base unconventional machining processes
CO3	Discuss the electrical energy based unconventional machining processes
CO4	Summarize various chemical and electrochemical energy based process
CO5	Explain various thermal energy based unconventional machining processes

COURSE CODE & NAME:	ME6611 C.A.D. / C.A.M. Laboratory
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Draw 3D and Assembly drawing using CAD software
CO2	Demonstrate manual part programming with G and M codes using CAM software

COURSE CODE & NAME:	ME6612 Design and Fabrication Project
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Design and Fabricate the machine elements or the mechanical product
CO2	Demonstrate the working model of the machine element or the mechanical product

COURSE CODE & NAME:	GE6563 Communication Skills - Laboratory Based
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Take international examination such as IELTS and TOEFL
CO2	Make presentations and Participate in Group Discussions
CO3	Successfully answer questions in interviews
REGULATION & SEMESTER:	2013 - VII
COURSE CODE & NAME:	ME6701 Power Plant Engineering
COS	
	Student will be able to,
CO1	Explain about coal based thermal power plant
CO2	Summarize about Diesel,Gas and Combined cycle power plants
CO3	Explain the concepts of nuclear power plants
CO4	Demonstrate Renewable energy power plants
CO5	Explain the power plant economics and environmental hazards
COURSE CODE & NAME:	ME6702 Mechatronics
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Discuss the mechatronics Systems and sensor technology
CO2	Summarize the architecture of Microprocessor and Microcontroller
CO3	Discuss Programmable Peripheral Interface, Architecture of 8255
CO4	Explain the programmable logic controllers to problems in the areas of Mechatronics engineering
CO5	Demonstrate various actuators and to design Mechatronics systems

COURSE CODE & NAME:	ME6703 Computer Integrated Manufacturing Systems
COS	COURSE OUTCOMES

CO1	Understand the computer applications in the various aspects of manufacturing
CO2	Understand the production planning and control and computerized Process planning
CO3	Explain the Cellular Manufacturing
CO4	Discuss the Flexible Manufacturing System
CO5	Understand the Industrial Robotics.

COURSE CODE & NAME:	GE6757 Total Quality Management
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Summarize of Total quality management basics relevant to both Manufacturing and service industry
CO2	Discuss the principles of TQM
CO3	Apply the tools and techniques of quality management to Manufacturing and services processes
CO4	Apply the TQM tools and techniques to Manufacturing processes
CO5	Explain various ISO standards and quality systems

COURSE CODE & NAME:	ME6008 Welding Technology
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understand the principles of gas and arc welding processes
CO2	Explain the principles of resistance welding processes
CO3	Compare principles of various solid state welding processes
CO4	Understand the principles of various newer welding processes
CO5	Explain the concepts on weld joint design, weldability and testing of weldments

COURSE CODE & NAME:	ME6012 Maintenance Engineering
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understand the principles and practices of maintenance planning
CO2	Explain the maintenance policies,preventive maintenance
CO3	Summarize condition monitoring
CO4	Discuss the repair methods for basic machine elements
CO5	Understand the repair methods for material handling equipment

COURSE CODE & NAME:	ME6711 Simulation and Analysis Laboratory

	Student will be able to,
CO1	Simulate the working principle of air conditioning system, hydraulic and pneumatic cylinder and cam follower mechanisms using MATLAB
CO2	Analyze the stresses and strains induced in plates, brackets and beams and heat transfer problems
CO3	Calculate the natural frequency and mode shape analysis of 2D components and beams

COURSE CODE & NAME:	ME6712 Mechatronics Laboratory
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Demonstrate the functioning of mechatronics system with various pneumatic, hydraulic and electrical systems
CO2	Demonstrate the functioning of control systems with the help of PLC and microcontrollers

COURSE CODE & NAME:	ME6713 Comprehension
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understand and comprehend any given problem related to mechanical engineering field.
REGULATION & SEMESTER:	**2013 - VIII**
COURSE CODE & NAME:	MG6863 Engineering Economics
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Acquire the basics of economic concepts applicable to engineering.
CO2	Demonstrate about Value Engineering
CO3	Summarize about the Cash Flow
CO4	Explain replacement and maintenance analysis
CO5	Apply Depreciation concepts
COURSE CODE & NAME:	ME6018 Additive Manufacturing
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Discuss the effects of the additive manufacturing technologies
CO2	Demonstrate the functioning of CAD & reverse engineering
CO3	Compare the liquid based and solid based additive manufacturing Methods
CO4	Summarize about the powder based additive manufacturing systems
CO5	Understand the principles of medical and bio-additive manufacturing

COURSE CODE & NAME:	ME6016 Advanced I.C. Engines
COS	**COURSE OUTCOMES**
	Student will be able to,
CO1	Understand the principle of spark ignition engine components
CO2	Explain the principle of compression ignition engine components
CO3	Evaluate the pollutant formation and control
CO4	Summarize various alternative fuels for automobile engines
CO5	Discuss the recent trends I automobile engines

COURSE CODE & NAME:	ME6811 Project Work
COS	**COURSE OUTCOMES**
CO1	Students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology

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olutions arising in mathematical modeling.

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out field marking for various engineering projects and curves setting.

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