SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Bachelor of Technology
Department of Civil Engineering

I B. Tech. – I Semester (CE)

(16HS601) FUNCTIONAL ENGLISH

Course Outcomes:

Students will be able to

- Use LSRW skills through the prescribed text and develop their ability to communicate effectively.
- Articulate well among themselves and with Faculty.
- Construct compound sentences using common conjunctions.
- Manage to organize and deliver oral presentations.
- Demonstrate the skills needed to participate in a conversation that builds knowledge collaboratively.

(16HS602) ENGINEERING MATHEMATICS-I

Course Outcomes:

- The students become familiar with the application of ordinary differential equations, multiple integrals, Laplace Transforms and their applications
- The students attain the abilities to use mathematical knowledge to analyze, formulate and solve problems with engineering applications

(16HS603) ENGINEERING PHYSICS

Course Outcomes:

- The different realms of physics and their applications in both scientific and technological systems are achieved through the study of physical optics, lasers and fibre optics.
- The important properties of crystals like the presence of long range order and periodicity, structure determination using X-ray diffraction are focused with defects in crystals & ultrasonic non destructive techniques.
- The discrepancies between the classical estimates & laboratory observations of physical properties exhibited by materials would be lifted through the understanding of quantum picture of subatomic world.
- The electronic and magnetic properties of materials were successfully explained by free electron theory and the bases for the band theory are focused.
- The properties and device applications of semiconducting & magnetic materials are illustrated.

(16CS501) COMPUTER PROGRAMMING

Course Outcomes:

- Able to design the flowchart and algorithm for real world problems
- Able to learn and understand new programming languages
- Able to construct modular and readable programs
- Able to write C programs for real world problems using simple and compound data types

(16HS606) HUMAN VALUES AND PROFESSIONAL ETHICS

Course Outcomes:

Students undergoing this course are able to

- Upon completion of the course, the student should be able to apply ethics in society, discuss the ethical issues related to engineering and realize the responsibilities and rights in the society

(16HS608) ENGINEERING PHYSICS LABORATORY

Course Outcomes:

- Would recognize the importance of optical phenomenon like interference and diffraction.
- Would have acquired the practical application knowledge of optical fibre, semiconductor, dielectric and magnetic materials, crystal structure and lasers by the study of their relative parameters.
- Would recognize the significant importance of nanomaterials in various engineering fields.

(16CS502) COMPUTER PROGRAMMING LAB

Course Outcomes:

At the end of the course, students will be able to

- Apply problem solving techniques of C to find solution.
- Use C language features effectively to implement solutions.
- Use C++ language features effectively to solve problems.
- Identify and develop apt searching and sorting technique for a given problem.
- Identity, design and develop the appropriate data structure for a given problem or application.

(16ME301) ENGINEERING & IT WORK SHOP LAB

Course Outcomes:

ENGINEERING WORKSHOP

After completion of this course, a successful student will be able to :

- Utilize workshop tools for engineering practice.
- Employ skills for the production a component for real time applications.
- Appreciate the hard work and intuitive knowledge of the manual workers.

(16HS610) PROFESSIONAL ENGLISH

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Students will be able to

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- Construct compound sentences using common conjunctions.
- Manage to organize and deliver oral presentations.
- Demonstrate the skills needed to participate in a conversation that builds knowledge collaboratively

(16HS611) ENGINEERING MATHEMATICS-II

Course Outcomes:

- The students become familiar with the application of Matrices, Vector calculus, Fourier series, Fourier transforms and Partial differential equations
- The students attain the abilities to use mathematical knowledge to analyze, formulate and solve problems with engineering applications

(16HS604) ENGINEERING CHEMISTRY

Course Outcomes:

The student is expected to:

- Differentiate between hard and soft water. Understand the disadvantages of using hard water domestically and industrially. Select and apply suitable treatments domestically and industrially.
- Understand the electrochemical sources of energy
- Understand industrially based polymers, various engineering materials.
- Understand characteristics and applications of fuels and Lubricants.

(16ME302) ENGINEERING GRAPHICS

Course Outcomes:

Students undergoing this course are able to

- Frame ideas based on the conceptual modeling and design
- Provide good understanding of the methods involved in preparing various views in engineering drawings
- Can prepare 2D and 3D diagrams of various objects

(16CE101) ENGINEERING MECHANICS

Course Outcomes:

Students undergoing this course are able to

- Construct free body diagrams and develop appropriate equilibrium equations.
- Understand the concepts of friction and to apply in real life problems.
- Determine the centroid and Moment of Inertia for composite sections.
- Understand the dynamic analysis of rigid body motion.

(16HS607) ENGLISH LANGUAGE COMMUNICATION SKILLS LAB

Course outcomes:

- To become active participants in the learning process and acquire proficiency in spoken English.
- To speak with clarity and confidence thereby enhances employability skills.
- To prepare effective job application

(16HS609) ENGNEERING CHEMISTRY LAB

Course Outcomes:

On completion of this course, students will have the knowledge in.

- Handling different types of instruments for analysis of materials using small quantities of materials involved for quick and accurate results.

- Carrying out different types of titrations for estimation of concerned in materials using comparatively more quantities of materials involved for good results.

(16CE102) APPLIED MECHANICS LAB

Course Outcomes:

Students undergoing this course are able to

- Understand different laws of forces.
- Understand concepts of support reaction.
- Fundamentals of applied mechanics.
- Understand concepts of different types of pendulum

II B.Tech. - I Sem. (CE)

(16HS612) ENGINEERING MATHEMATICS-III

Course Outcomes:

At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in group discussions
- Have developed ability in writing in various contexts
- Have acquired a proper level of competence for employability
- Have acquired computational skills to solve real world problems in engineering

(16EE209) ELECTRICAL & MECHANICAL TECHNOLOGY

Course Outcomes:

- After completion of the course the student will be able to
- Understand the fundamentals of electrical circuits.
- Acquire the concept of all types of Electrical Machines like DC, AC, machines and Transformer.
- Know the principle of measuring instruments.

(16CE103) STRENGTH OF MATERIALS – I

Course Outcomes:

Students undergoing this course are able to:

- The students would be able to understand the behaviour of materials under different stress and strain conditions
- The students would be able to draw bending moment, shear force diagram, bending stress and shear stress distribution for beams under the different conditions of loading
- The student would be able to apply knowledge to analyse concept of deflection, bending moment and shear force diagram in beams under various loading conditions
- Determine shear stress in the shaft subjected to torsional moments

(16CE105) SURVEYING

Course Outcomes:

- be in a position to apply the basic principle of surveying and usage of surveying instruments in all civil engineering activities, including the construction of buildings,

bridges, roads and high ways, pipe lines, dams, ports and harbours

- be an expert of demarcation of ownership and / or delimitation of land, property, etc. through surveying process
- surveying techniques to collect data for planning, designing and execution, able to employ green field
- use total station and able to assess the electromagnetic distances

(16CE106) FLUID MECHANICS

Course Outcomes:

On completion of the course, the students will be able to:

- determine the properties of fluid like pressure and their measurement.
- compute forces on immersed plane and curved plates.
- apply continuity equation and energy equation in solving problems on flow through conduits.
- compute the frictional loss in laminar and turbulent flows.

(16CE107) BUILDING MATERIALS & CONSTRUCTION

Course Outcomes:

On completion of the course, the students will be able to:

- understand properties of various construction materials and their manufacturingprocess.
- access the quality of construction materials.
- supervise the construction activities.

(16CE107) SURVEYING LAB-I

Course Outcomes:

After completion of the course the student will be able to:

- gain knowledge and expertise in operation of various survey instruments for computation of area of a land.
- successfully carry out survey work in all civil Engineering projects, including the construction of buildings, roads and highways, rail track laying with curves, pipe lines, dams, ports and harbor as well as delimitation of land and property, etc.

(16CE109) STRENGTH OF MATERIALS LAB

Course Outcomes:

After completion of the course the student will be able to:

- estimate Young‟s modulus, tensional rigidity of mild steel rods
- know the hardness of mild steel and HYSD specimens
- analyze the strength of wood, concrete, stone and bricks
- assess the quality of wood, concrete, stone and bricks

(16CS503) DATA STRUCTURES THROUGH C

Course Outcomes:

- At the end of the course, students will be able to:
- Design algorithms to implement various data structures.
- Understand and program stacks and list data structures.
- Write programs to implement different types of queues.

- Understand and make use of hash tables in applications like dictionary, spell checker etc.,
- Understand why height balanced trees are advantageous over other data structures.

II B.Tech. - II Sem. (CE)

(16HS613) PROBABILITY &STATISTICS

Course Outcomes:

At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in group discussions
- Have developed ability in writing in various contextsHave acquired a proper level of competence for employability

(16HS605) ENVIRONMENTAL STUDIES

Course Outcomes:

- Based on this course, the Engineering Student will be able to understand/evaluate/develop technologies on the basis of Ecological principles and environmental regulations along with Legislation, Laws and Policies which in turn help in sustainable development.
- Take preventive measures to reduce air, water, soil pollutions and contaminants in food.
- Effectively carry out waste disposal at individual level.
- Involve in preservation of natural resources.

(16CE110) BUILDING PLANNING & DRAWING

Course Outcomes:

Students undergoing this course are able to

- understand Building Byelaws
- planning a residential & public building
- plot the drawing for approval

(16CE111) STRENGTH OF MATERIALS – II

Course Outcomes:

On completion of the course, the students will be able to:

- determine different stresses developed in thin and thick cylinders.
- visualize the behaviour of column for combined bending and axial loading.
- determine the behaviour of unsymmetrical bending in members.

(16CE113) HYDRAULICS & HYDRAULIC MACHINERY

Course Outcomes:

- analyze fluid flows in open channel hydraulics and devices such as weirs and flumes.
- design open channels for most economical sections like rectangular, trapezoidaland circular sections
- measure velocity through instruments in open channel and pipe flow
- select the type of turbine required with reference to available head of water and discharge

(16CE114) SURVEYING LAB-II

Course Outcomes:

Students undergoing this course are able to

- gains in accurate measurement of horizontal and vertical angles by theodolite and total station
- attains skills in computing the horizontal as well as vertical distance using tangential tachometry and expertise in handling of dumpy level, theodolite and total station for developing contour maps and longer sighting of objective distanceand difference in elevation

(16CE115) COMPUTER AIDED DRAWING LAB

Course Outcomes:

- The students will be able to draft the plan, elevation and sectional views of the buildings, industrial structures, and framed buildings using computer software"s.
- Draw the symbols and plan of a residential building using Auto CAD Software.

(16CE118) FLUID MECHANICS AND HYDRAULIC MACHINERY LAB

Course Outcomes:

Students undergoing this course are able to

- Calibrate Venturimeter & Orifice meter
- Calculate losses in flows
- Estimate the efficiency of different pumps.

Study the performance of different turbines

(16HS614) COMPREHENSIVE SOFT-SKILLS

Course Outcomes:

- To know the importance of Soft Skills.
- To apply Soft Skills in the different environment.
- To enrich the different levels of Soft Skills to develop their personality

III B. Tech - I Sem. (C.E)

(16CE117) Structural Analysis – I

Course Outcomes:

On completion of the course, the students will be able to:

- Understand the application of Castiglione's theorem.
- Analyse continuous beams and portal frames by slope deflection method.
- Analyse continuous beams and portal frames by moment distribution method.
- Analyse continuous beams and portal frames by Kani's method

(16CE118) Concrete Technology

Course Outcome:

- Can understand properties of concrete and its various ingredients
- Can be able to perform test on cement, fine aggregate, coarse aggregate and concrete
- Can understand quality related issues with concrete and measures to overcome poor quality concrete during construction

- Able to access the strength of concrete with the help of non-destructive testing
- Able to design the concrete mix

(16CE119) Design & Drawing of Reinforced Concrete Structures

Course Outcomes:

After completing the course, the student

- Can get an over view of Working Stress Method
- Can understand the concept of Limit State Design
- Can under the IS 456-2000 codal provisions for designing & detailing
- Can design the beams, slabs, stair case, columns & footing for Limit State of Collapseand Limit State of Serviceability

(16CE120) Water Resources Engineering - I

Course Outcomes:

After completing the course, the student

- Can understand surface hydrology
- Can understand ground water hydrology
- Can estimate crop water requirements
- Can learn & design about various irrigation structures

(16CE121) Engineering Geology

Course Outcomes:

- This course helps to know the identification of rocks, minerals, engineering geology problems and also basics of earth science.

(16CE122) Geotechnical Engineering - I

Course Outcomes:

Students who successfully complete this course will be able to:

- Understand the origin of the soil and geological cycle.
- Understand and use IS method for soil classification.
- Understand the basic science of soil compaction.
- Understand basics principles of flow and soil permeability through porous media
- Understand seepage in soil include Laplace equation of continuity

(16CE123) Concrete Technology Lab

Course Outcomes:

- After completion of this lab the student in position to access the quality of cement by conducting following tests:
    - Normal consistency, Initial Setting & Final Setting of Cement
    - Fineness of Cement & Specific Gravity of Cement
    - Soundness of Cement
    - Compressive Strength of Cement
- Also the student can conduct following tests on concrete related to Compressive

Strength and Workability:

- Slump Cone, Vee – Bee & Compaction Factor for Workability of Concrete
- Compressive Strength of Concrete

- Apart from this student can determine the specific gravity and water absorption onfine aggregate and bulking of fine aggregate.
- Some non-destructive test procedures are also demonstrated to student

(16CE124) Engineering Geology Lab

Course Outcomes:

After completion of this lab the student:

- Can conduct macroscopic tests on rack forming minerals to identify
- Can conduct macroscopic tests on rocks to identify
- Can be in position to interpret geological models
- Can perform strike and dip problems

III B. Tech - II Sem. (C.E)

(16CE125) Structural Analysis - II

Course Outcomes:

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

- Analyze the arches with different end conditions
- Analyze the frames by approximate method of analysis
- Analyze the effects of moving loads on simply supported beams.
- Solve statically indeterminate structures using matrix (Stiffness & flexibility) methods.
- find the collapse loads of different structural frames

(16CE126) Design & Drawing of Steel Structures

Course Outcomes:

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

- Design of riveted, welded and bolted connections
- Design of tension members
- Design of compression members, slab base and gusseted base for columns
- Design of laterally supported and unsupported beams
- Design of roof truss

(16CE127) Geotechnical Engineering – II

Course Outcomes:

After completion of the course, the student will be able to

- Apply the knowledge of compaction in selecting the compaction equipment.
- Analyze the stability of earthen slopes
- Evaluate the probable settlements of foundations and SBC of soils.
- Estimate load carrying capacity of piles
- Understand the design principles of a gravity retaining wall.

(16CE128) Water Resources Engineering-II

Course Outcomes:

After completion of the course the student is a position to

- Understand canal regulation systems
- Understand designing of cross drainage works
- Be familiar with river engineering concepts
- Plan the reservoir
- Perform hydraulic design of gravity

(16CE129) Transportation Engineering – I

Course Outcomes:

After completion of the course the student will have:

- To apply the knowledge of highway materials in the design of the pavements.
- To design the various highway pavements.
- To estimate the geometrics for highway pavements.

(16CE130) Geotechnical Engineering Lab

Course outcomes:

After successful completion of this laboratory course the student is in a position to:

- Understand the difference between disturbed and undisturbed soil samples
- Evaluate the consistency limits for fine grained soils
- Find coefficient of permeability for fine and coarse grained soils
- Determine maximum dry density at optimum moisture content
- find shear strength of both cohesive and non-cohesive soils

(16CE131) Transportation Engineering Lab

Course outcomes:

After completion of this labs student:

- Can conduct tests related to road aggregate
- Can conduct tests related to bitumen
- Can perform traffic volume studies
- Can perform vehicle speed studies.

(16HS615) Advanced English Language and Communication Skills Lab

Course Outcomes:

- Flair in Writing and felicity in written expression
- To enhance job prospects
- Improving Effective Speaking Abilities
- To prepare effective Interview techniques

IV B. Tech - I Sem. (C.E)

(16MB750) Managerial Economics and Financial Analysis

Course outcomes:

- The thorough understanding of Managerial Economics and Analysis of Financial

statements facilitates the technocrats –cum- entrepreneurs to take up decisions effectively and efficiently in the challenging Business Environment.

(16CE132) Transportation Engineering-II

Course Outcomes:

After completion of the course the student will have:

- Able to design and construct different construction and maintenance.
- To analyze, design different components of Railway Engineering, Airport Engineering, Dock and Harbor Engineering

(16CE133) Environmental Engineering

Course Outcomes:

Students undergoing this course are able to

- Demonstrate an ability to recognize the type of unit operations and processes involved in water and wastewater treatment plants.
- Recognize that water supply and sanitation is an important professional and ethical responsibility of civil and environmental engineer.
- Demonstrate an ability to choose the appropriate unit operations and processes required for satisfactory treatment of water and wastewater.
- Demonstrate an ability to design individual unit operation or process appropriate to the situation by applying physical, chemical, biological and engineering principles.

(16CE134) Estimation, Costing and Valuation

Course Outcome:

- Explain types of estimate and duties of an Estimator
- Undertake rate analysis of civil engineering works
- Determine the rates of various items of civil works
- Calculate estimated cost of civil construction projects
- Evaluate the actual value of any property.

(16CE135) Finite Element Methods in Civil Engineering

Course Outcomes:

Students undergoing this course are able to

- Obtain an understanding of the fundamental theory of the FEA method
- Develop the ability to generate the governing FE equations for systems governed by partial differential equations
- Understand the use of the basic finite elements for structural applications using truss, beam, frame, and plane elements
- Understand the application and use of the FE method for heat transfer problems.

(16CE136) Remote Sensing & GIS

Course Outcomes:

On completion of the course the students will have knowledge on

- Principles of Remote Sensing and GIS
- Analysis of RS and GIS data and interpreting the data for modeling applications

(16CE137) Air Pollution & Management

Course Outcomes:

- On completion of the course, the students will be able to:
- An understanding of the nature and characteristics of air pollutants, noise pollution and basic concepts of air quality management
- Ability to identify, formulate and solve air and noise pollution problems
- Ability to design stacks and particulate air pollution control devices to meet applicable standards.

(16EE239) Neural Networks & Fuzzy Logic

Course Outcomes:

At the end of the course the student will be able to

- Understand the basic concept of biological neural networks
- Understand the basic concept of artificial neural networks
- Create Neural Network models.
- Understand the basic concepts of fuzzy logic.
- Create Fuzzy models.

(16ME313) Non-Conventional Energy Resources

Course Outcomes:

- Upon completion of this course, the students can able to identify the new methodologies / technologies for effective utilization of renewable energy sources.

(16CS511) Database Management Systems

Course Outcome:

- Students can design the simple database, and can use the SQL instructions in developingthe database applications.
- Can apply the ER concepts to design the databases.
- Advanced concepts like triggers, assertions and constraints can be applied effectively in designing the business applications

(16CE138) Environmental Engineering Lab

Course outcomes:

After successful completion of this laboratory course the student is in a position to:

- Perform common environmental experiments relating to water and wastewater quality, and know which tests are appropriate for given environmental problems.
- Apply the laboratorial results to problem identification, quantification, and basic environmental design and technical solutions.
- Understand and use the water and wastewater sampling procedures and sample preservations.
- Obtain the necessary background for subsequent courses in environmental engineering.

(16CE139) Computer Aided Design Lab

Course Outcomes:

After completion of the course the Students will be able to

- To acquire the skills in using software.
- To analyze and design reinforced concrete structures like frames, slabs andcolumns.
- To analyze and design steel structures like trusses and communication towers etc.
- To analyze and design any given building plan.

IV B. Tech - II Sem. (C.E)

(16CE140) Design and Drawing of Irrigation Structures

Course outcomes:

- After completion of the course the student is in position of perform hydraulic designand drawing of irrigation structures.

(16CE141) Advanced Foundation Engineering

Course outcomes:

- Students will have the ability to select type of foundation required for the soil at a place and able to design shallow, foundation, deep foundation and retaining structures.

(16CE142) Advanced Structural Design

Course Outcomes:

Students undergoing this course are,

- Able to design the advanced structures like Flat slabs, Water tanks, Retaining walls, Plate Girders, Gantry Girders.
- Able to analyse the prestressed Structures

(16CE143) Water Resources Systems Planning & Management

Course outcomes:

- The students will be exposed to the economic aspects and analysis of water resources systems by which they will get an idea of comprehensive and integrated planning of a water resources project.
- The students will develop skills in solving problems in operations research through LP, DP and Simulation techniques

(16CE144) Construction Technology and Project Management

Course Outcomes:

After completion of this course, the student shall be able to

- Implement generic and special Construction Project Management skills to a higherlevel
- Understand the special management skills required in multidisciplinary and global Construction Industry
- Integrate and apply theoretical concepts, ideas, tools and techniques to Construction

practice.

- Can plan, execute, monitor and control construction projects using Construction Project Management Tools such as CPM & PERT

(16CE146) Ground Improvement Techniques

Course Outcomes:

After completion of this course, the student shall be able to

- Identify the problems in Expansive soils
- Implement the stabilization methods
- Apply grouting and dewatering techniques

(16CE147) Prestressed Concrete

Course Outcomes

At the end of this course the student will be able to

- Understand the different methods of prestressing.
- Estimate the effective prestress including the short and long term losses.
- Analyze and design prestressed concrete beams under flexure and shear.
- Understand the relevant IS Codal provisions for prestressed concrete

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- Thepropertiesanddeviceapplicationsofsemiconducting&magneticmaterialsareillustrated.
- Theimportanceofsuperconductingmaterialsandnanomaterialsalongwiththeirengineeringapplications arewellelucidated.

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- AbletowriteCprogramsforrealworld problemsusingsimpleand compounddatatypes

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(16ME301)ENGINEERING&IT WORKSHOPLAB

CourseOutcomes:

ENGINEERINGWORKSHOP

After completion of this course, a successful student will be able to

- :Utilizeworkshop tools forengineeringpractice.
- Employ skills for the production a component for real time
- applications.Appreciatethehardworkandintuitiveknowledgeofthemanualwo rkers

ITWORKSHOP

After completion of this course, a successful student will be able

- to:Caninstall the softwaresin thecomputers
- Utilizeskillsforthedevelopmentofapplicationsoftwares
- Canprotectpersonalcomputerfromvirusandothercyber attacks

IB.Tech.–IISemester(E.E.E)

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(16HS604) ENGINEERING CHEMISTRY

CourseOutcomes:

Thestudentisexpectedto:

- Differentiate between hard and soft water. Understand the disadvantages of using hardwater domestically and industrially. Select and apply suitable treatments domestically andindustrially.
- Understandtheelectrochemicalsources of energy
- Understand industrially based polymers, various engineering
- materials.Understandcharacteristics andapplicationsoffuelsandLubricants.

(16ME302) ENGINEERING GRAPHICS

CourseOutcomes:

Studentsundergoingthis courseareableto

- Frameideasbasedontheconceptualmodelinganddesign
- Providegoodunderstandingofthemethodsinvolvedinpreparingvariousviewsinengineeringdrawings
- Canprepare2Dand3Ddiagramsofvariousobjects

(16EE201)ELECTRICALCIRCUITS

CourseOutcomes:

- Aftercompleting the course, thestudentshould beable to dothe following:
- Givenanetwork, findtheequivalentimpedancebyusingnetworkreductiontechniques
- Givenacircuitandtheexcitation, determinetherealpower, reactivepower, powerfactoretc,.
- Determinethecurrentthroughanyelementandvoltageacrossanyelement Applythe network theorems suitably

(16HS607)ENGLISHLANGUAGECOMMUNICATIONSKILLSLAB

Courseoutcomes:

- To become active participants in the learning process and acquire proficiency in spokenEnglish.
- To speak withclarityandconfidencetherebyenhancesemployabilityskills.Toprepareeffectivejobapplication

(16HS609) ENGNEERING CHEMISTRY LAB

CourseOutcomes:

Oncompletionofthiscourse, studentswillhavetheknowledgein.

- Handling different types of instruments for analysis of materials using small quantities ofmaterialsinvolvedforquick and accurateresults.
- Carrying out different types of titrations for estimation of concerned in materials usingcomparativelymorequantities of materialsinvolved forgoodresults.

(16EE202)ELECTRICALCIRCUITS LAB

CourseOutcomes:

Aftercompleting thecourse, thestudent shouldbeableto dothe following:

- Applysuitabletheoremsfor circuitanalysis andverifytheresults theoretically

IIB.Tech.-ISem.(E.E.E)

(16HS612)ENGINEERING MATHEMATICS-III

CourseOutcomes:

Atthe endofthecourse,studentswould beexpected to:

- HaveacquiredabilitytoparticipateeffectivelyingroupdiscussionsHave
- developed abilityin writingin various contexts
- Haveacquiredaproperlevelofcompetence foremployability
- Haveacquiredcomputationalskillstosolverealworldproblemsinengineering

(16HS605)ENVIRONMENTALSTUDIES

CourseOutcomes:

- Based on this course, the Engineering Student will be able to understand/evaluate/developtechnologies on the basis of Ecological principles and environmental regulations alongwithLegislation,Laws andPolicieswhich inturnhelp insustainabledevelopment.
- Take preventive measures to reduce air, water, soil pollutions and contaminants in
- food.Effectivelycarryout waste disposal at individuallevel.
- Involveinpreservationofnaturalresources.

(16EC401)BASICELECTRONICDEVICES

CourseOutcomes:

- Uponcompletion of thecourse, studentswill:
- Analyzetheoperatingprinciplesofmajorelectronicdevices,itscharacteristicsandapplicatio ns.
- Designand analyzetheDCbias circuitryof BJTand FET.
- Designandanalyzebasictransistoramplifier circuitsusing BJTandFET.

(16EE210)GENERATION OFELECTRIC POWER

CourseOutcomes:

Aftercompleting the course, thestudent should beable to do the following:

- Estimatethecoalrequirement,costperkWhgenerationandnumberofunitsgeneratedfor thermal power station
- Estimatetherequiredflowofriverwater,costofgenerationandnumberofunitsgeneratedin hydel powergeneration
- Compute various factors like load factor, plant
- factorEvaluatethe tariffs to becharged for the consumers

- Plottheloadcurve,loaddurationcurve andhencedeterminetheloadcapacityoftheplant

(16EE211)ELECTRICALMACHINES–I

CourseOutcomes:

After completing the course, the student should be able to do the

- following:Calculate the e.m.f. generated on open circuit and find terminal
- voltage on loadDiagonisethe failure ofDC generator to build upvoltage
- Compute the load shared by each generator when several generators operate inparallel
- Determinethegross torqueand useful torquedeveloped byDC motor
- Identify suitable method and conditions for obtaining the required speed of DC
- motorCalculatethelosses and efficiencyof DC generators and motors

(16EC405) BASIC ELECTRONIC DEVICES LAB

CourseOutcomes:

- Studentsabletolearnelectricalmodelforvarioussemiconductordevicesandlearnsthe practical applications ofthesemiconductor devices

(16CS503)DATA STRUCTURES THROUGH C(AUDITCOURSE)

CourseOutcomes:

Atthe endofthecourse,studentswill beable to:

- Design algorithms to implement various data structures.
- Understand and program stacks and list data structures.
- Writeprogramstoimplementdifferenttypesofqueues.
- Understand and make use of hash tables in applications like dictionary, spell checker etc.,
- Understandwhyheightbalancedtreesareadvantageous overother datastructures.

IIB.Tech.-IISem.(E.E.E)

(16HS613)PROBABILITY&STATISTICS

CourseOutcomes:

Attheendof thecourse,studentswould beexpected to:

- Have acquired ability to participate effectively in group discussionsHavedeveloped ability in writingin various contexts
- Haveacquireda proper level ofcompetencefor employability

(16CE112)FLUIDMECHANICS&HYDRAULICMACHINERY

CourseOutcomes:

Aftercompletion of this coursethe student willbe ableto,

- How to find frictional losses in a pipe when there is a flow between two places.Knowtypes of flow and its measurementsand applications.
- Identifythesuitablepumprequired fordifferentpurposes.
- Classifythe turbines anddesigncriteria based on water availability.

(16EE214)ELECTROMAGNETICFIELDS

CourseOutcomes:

After going through thiscourse thestudent acquires:

- Knowledge on basic principles, concepts and fundamental laws of electromagneticfields.
- Theknowledgetounderstand3,dimensionalcoordinatesystems,electrostatics,magnetostatics,time,varyingfieldsandinteractionbetweenelectricityandmagnetism.

(16EC411)ANALOGELECTRONIC CIRCUITS

CourseOutcomes:

On completion of this course the student will be able to understand

- theMethodsofbiasingtransistors&Design ofsimple amplifiercircuits.
- Mid – band analysis of amplifier circuits using small- signal equivalentcircuits

  Todetermine gain,input impedanceandoutput impedance.
- Method of calculating cutoff frequencies and to determine
- bandwidth.Designand analysedifferent Oscillator circuits.
- Designofcircuitsfor linearwaveshaping andMulti-vibrators.

(16EE215)ELECTRICALMACHINES-II

CourseOutcomes:

After completing the course, the student should be able to do the

- following:Drawtheequivalent circuit of transformer
- ConductO.C,S.C testsandpredeterminetheregulationand
- efficiencyoftransformerCompute the load shared by each transformer when several transformers operate inparallel
- Drawthe circlediagramofathreephaseInductionmotorandpredeterminetheperformancecharacteristics
- Determinethestartingtorque,maximumtorque,slipatmaximumtorqueusinggivendata

(16EE217)ELECTRICALMACHINES-ILAB

CourseOutcomes:

Thestudent should beable to do the following:

- Conduct experiments to obtain the no, load and load characteristics of D.C.Generators
- Conduct tests on D.C. motors for predetermination of
- efficiencyConducttestson D.C.motorsfor determinationofefficiency

- Control the speed of D.C. motor in a given range using appropriate
- methodIdentifythereason as towhyD.C.Generator is not building up voltage

(16EC414)ANALOGELECTRONIC CIRCUITSLAB

CourseOutcomes:

- Theabilitytoanalyzeanddesignsingleandmultistageamplifiersatlow,midandhigh frequencies.
- Designingandanalyzingthetransistorathighfrequencies
- TounderstandsDifferenttypes oflinearwaveshapingcircuits.
- To understand and processing of Non Linear wave shaping
- circuitsTolearn aboutLimitingand storagecircuits and theirapplications

(16CE116)FLUIDMECHANICSANDHYDRAULICMACHINERY LAB

CourseOutcomes:

Students undergoing this course are able

- toCalibrate Venturimeter& Orifice
- meterCalculatelosses in flows
- Estimate the efficiency of different
- pumps.Studytheperformanceofdifferentturbin es.

(16HS614) COMPREHENSIVE SOFT-SKILLS(AUDITCOURSE)

CourseOutcomes:

- ToknowtheimportanceofSoftSkills.
- ToapplySoftSkillsinthedifferentenvironment.
- ToenrichthedifferentlevelsofSoftSkillstodeveloptheirpersonality.

III B.Tech.-ISem.(EEE)

(16EE216)LinearControlSystems

COURSEOUTCOMES:

Aftercompletingthecourse,thestudentshouldbeabletodothefollowing:EvaluateEvaluate

- theeffectivetransferfunctionofa systemfrominputtooutputusing

  (i)blockdiagramreductiontechniques(ii)Mason'sgain formula.
- Computethesteadystateerrorsandtransientresponsecharacteristicsforagivensystemand excitation.
- Determinetheabsolutestabilityandrelativestabilityofa system
- Drawrootloci.
- Design a compensator to accomplish desired performance.Derivestatespacemodelof

agivenphysicalsystemandsolve the state equation.

(16EE218)Electrical PowerTransmissionSystems

CourseOutcomes:

- Computethe transmission lineparameters.
- Modelagiventransmissionline.
- Estimatetheperformanceofagiventransmissionline.
- Analyzetheeffectofovervoltagesontransmissionlines.
- Explain the construction, types and grading of underground cables and analyze cablePerformance

(16EE219)PowerElectronics

CourseOutcomes:

- Aftergoing through this course,thestudent acquires knowledgeabout:
- Basicoperatingprinciplesofpowersemiconductorswitchingdevices.
- Theoperationofpowerelectronicconvertersandtheircontrol.
- Basicoperatingprinciplesofchoppersandtheircontrol.

(16EE220)ElectricalMachines–III

CourseOutcome:

- student understands the constructional details of synchronous machines, their loadcharacteristics,ableto solvethe problemson regulation,parallel operationof alternation.
- students should be able understand the working principle methods of application ofsynchronousmotor
- student should be able to understand principle operation of AC series motor, universalmotorreluctancemotor,stepper motor, BLDC motor.

(16EC402)SwitchingTheoryandLogicDesign

CourseOutcomes:

- Abilitytodefinedifferent Numbersystemandperform Numberbaseconversions.
- Ableto simplify theBoolean functions&design using Logicgates
- Understandthegate-levelminimizationtechniques.
- Designsequentialandcombinationalcircuits.
- Tounderstandanddesign memorysystemslikeRAM,ROM,PLA,PAL

(16EC417)LinearICApplications

CourseOutcomes:

- Understandthebasicbuildingblocksoflinearintegratedcircuitsanditscharacteristics.
- Analyzethelinear,non-linearandspecialized applicationsofoperationalamplifiers.
- UnderstandthetheoryofADCandDAC.
- RealizetheimportanceofOperationalAmplifier.

(16EE222) Control Systems And Simulation Lab

COURSEOUTCOMES(COs)

At theend of thecourse thestudent should beableto

- Designthecontrollers/compensatorsto achievedesiredspecifications.
- Understandtheeffectof locationofpolesandzerosontransientandsteadystatebehaviorof systems.
- Assess the performance, in terms of time domain specifications, of first and second ordersystems.
- UnderstandtheeffectofP,PD,PI,PID controllersonsecondordersystems.
- UseMATLAB/SIMULINKsoftwarefor controlsystemanalysis anddesign.
- UseMATLAB/SIMULINKsoftwareforstatespacemodel.

III B. Tech. - II Sem. (EEE)

(16EE223)PowerSemiconductorDrives

CourseOutcomes:

Thestudentshould beableto:

- Identifythechoiceof theelectricdrivesystem basedon their applications
- Explaintheoperationofsingleandmultiquadrantelectricdrives
- Analyze single phase and three phase rectifiers fed DC motors as well as chopperfedDC motors
- Explain the speed control methods for AC-AC & DC-AC converters fed to Inductionmotorsand Synchronousmotors with closed loop,andopen loop operation

(16EE224)ElectricalandElectronicMeasurements

CourseOutcome:

Aftersuccessful completion of thecourse, student will be

- Able to develop an understanding of construction and working of different measuringinstruments
- Able to develop an understanding of construction and working of different AC and DCbridgesand its applications
- Familiarwith C.TandP.T andits applications
- Familiar with various measuring instruments used to detect electrical quantities suchaspowerandenergy.

(16EE225)SwitchGear andProtection

CourseOutcomes:

- StudentgainsknowledgeondifferentProtectiveEquipmentsorPower Systems
- Knowaboutvariousprotectivesystems-howitworks andwhereit works?
- Different applications o f the relays, circuit breakers, grounding for different elementsofpower systemis also discussed in thesubject.
- AbilitytoexpressOilcircuitBreaker,AirBlastcircuitBreakers,SF6CircuitBreaker.
- AbilitytoidentifyDMT,IDMTtyperelays

(16EE226) Power System Analysis

CourseOutcomes:

Thestudentshould beableto:

- Understandthemathematical models ofpower systemcomponents
- Understandthe methods for Load flow.
- Understandthefaultcalculationsforvarioustypesoffaults.
- Understandthepowersystemstabilityconcepts.

(16EC423)MicroProcessorsandMicroControllers

CourseOutcomes:

- Aftercompletion of thissubject thestudents willbe ableto:
- Doprogrammingwith8086microprocessors
- UnderstandconceptsofIntelx86seriesofadvancedprocessors
- Ableto understandthebasicconcepts of8051 architecture
- Designandimplementsomespecificrealtime applicationsUsing8051Microcontroller

(16HS615)AdvancedEnglishLanguageandCommunication SkillsLab

Outcomes

- Flairin Writingandfelicityin written expression.
- Toenhancejobprospects.
- ImprovingEffectiveSpeakingAbilities.
- To prepare effectiveInterview techniques.

(16EE227)PowerElectronicsandSimulationLab

CourseOutcomes:

- Testtheturnon–turnoffcharacteristicsofvariouspowerelectronicdevices.Testand analyzefiring circuits for SCRs
- Testdifferenttypesofvoltage controllers, convertersandInverters withRandRLloads

(16EC428)MicroProcessors&MicroControllersLab

LearningOutcome:

- AbletowriteAssemblyLanguageprograms.Abl
- eto develop8051 Programs.
- AbletounderstandPeripheraldevicesinterfacing.

IV B.Tech.-ISem.(EEE)

(16EE228)PowerSystemOperation andControl

CourseOutcomes: Aftercompletionof thecourse, the studentwill ableto:

- Developthemathematicalmodels ofturbinesandgovernors
- AddresstheLoadFrequencyControlproblem
- Explainhowshuntandseriescompensationhelpsinreactivepowercontrol
- Explain the issues concerned with power system operation in competitiveenvironment

(16EE229)ElectricalDistributionSystems

CourseOutcomes:

- Knowdifferenttypesofdistributionssystemsandtheirdesign
- Usageofprotectivedevicesandtheirinstallationwithcoordination.

- Abilitytocalculatecoincidencefactor,contribution factor,Lossfactor
- Abilitytocalculateradialdistributionsubstation

(16EC422)DigitalSignalProcessing

CourseOutcomes:

Attheendofthecourse,the studentshould beableto:

- AbletoobtaindifferentContinuousandDiscretetimesignals.
- Ability to develop Fast Fourier Transform (FFT) algorithms for faster realization ofsignalsand systems.
- AbletodesignDigital IIRfiltersfromAnalogfiltersusingvarioustechniques(Butterworthand Chebyshev).
- Able to design Digital FIR filters using window techniques, Fourier methods andfrequencysamplingtechniques.
- Abilitytodesign differentkindsof interpolatoranddecimator.

(16MB750)ManagerialEconomicsandFinancialAnalysis

Course Outcome: -

- The thorough understanding of Managerial Economics and Analysis ofFinancial statements facilitates the technocrats –cum- entrepreneurs to take up decisionseffectivelyandefficientlyin thechallenging Business Environment.

(16EE230)Principlesof PowerQuality
(ELECTIVE-I)

CourseOutcomes:

- UnderstandthebasicconceptofPower qualityissues.
- Understandthe basicconcept Powerqualityterminology
- Understandthebasicconcepts ofPowerquality Monitoring.
- Understandthebasicconceptsofcustompowerdevices.

(16EE231)HVDCTransmissionSystems
(ELECTIVE-I)

CourseOutcomes:

- CompareHVDCand HVACtransmission systems
- Understand the operation of various converters used in HVDC
- transmissionsystemsDevisemeans to suppress / eliminate harmonics.
- DesignHVDC andAC Filters

(16EE232) Smart Grid Technology
(ELECTIVE-I)

CourseOutcomes:

Thestudentshould havelearntabout:

- Howtomeetthestandardsforinformation exchangeandfor smartmetering
- How to preserve data and Communication security by adopting encryptionanddecryption

procedures.

- Monitoring, operating, and managing the transmission and distribution tasks undersmartgrid environment

(16CE145)ElementsofRoadTrafficSafety
(OpenElective)

CourseOutcomes:

Aftercompletion of thiscoursethe student:

- Canclearlyunderstandtheaccidentscenario,causesandmeasuretobetaken
- Canknowthetrafficregulations
- Canunderstandtheparking problemsand cangivesolutions
- Cangetanawarenessoftrafficsigns,signalsandroadmarkings
- Canunderstandtheneedofstreetlightandtheirproperdispositiononroad

(16ME313)Non-ConventionalEnergyResources
(OpenElective)

CourseOutcomes:

- Uponcompletionofthiscourse,thestudentscanabletoidentifythenewmethodologies/technologiesforeffectiveutilizationofrenewableenergysources.

(16CS511)DATABASEMANAGEMENTSYSTEMS

CourseOutcome:

- Students can design the simple database, and can use the SQL instructions indevelopingthe databaseapplications.
- Canapplythe ER concepts to design the databases.
- Advancedconceptsliketriggers,assertionsandconstraintscanbeappliedeffectivelyindesigningthebusiness applications

(16EE233) Power Systems and Simulation Lab

COURSEOUTCOMES(COs)

Onsuccessfulcompletionofthis course, thestudentwill beableto:

- Experimentaldetermination(inmachineslab)ofsequenceimpedanceandSubtransient reactancesof synchronous machine.
- Conductingexperimentsto analyzeLG, LL,LLG,LLLG faults.
- Theequivalentcircuitofthreewindingtransformer byconductingasuitableexperiment.
- DevelopMATLAB program for formationofY and Zbuses.
- DevelopMATLABprograms forgauss-seidel andfastdecoupled loadflow studies.
- DeveloptheSIMULINKmodelforsinglearealoadfrequency controlproblem.

(16EE234)ElectricalMeasurementsLab

CourseOutcomes:

- Calibratevariouselectricalmeasuring/recordinginstruments.
- Accuratelydetermine thevaluesofinductance andcapacitanceusinga.cbridges
- Accuratelydetermine thevaluesofverylowresistances

- Measurereactivepowerin3-phasecircuitusingsinglewattmeter
- Determineratio errorand phaseangleerror of CT

IV B.Tech.-IISem.(EEE)

(16MB751)EntrepreneurshipDevelopment

Course outcome:

Creates thorough understanding of the entrepreneurship concepts amongtheyoung engineeringstudents toventure into creatingjobs ratherthan seekingjobs.

(16EE235) Advanced Control Theory
(ELECTIVE-II)

CourseOutcomes

- Ableto representmathematical model ofa systemin state space.
- Understandthepropertiesof statetransitionmatrixand itsimportance.
- Abletodesignstatefeedbackcontrollers.
- Understandtherepresentationofnonlinearsystemsandtheircharacteristics.
- Abletoanalyzethestabilityofgivenpracticalsystemthrough Lyapunov,RouthHurwitzcriterio netc.

(16EE236)FACTSControllers
(ELECTIVE-II)

CourseOutcomes:

Aftercompleting this coursethestudent willbe ableto:

- Understandvarious control issues,for thepurposeof identifying the scope
- andforselectionofspecificFACTScontrollers.
- Apply the concepts in solving problems of simple power systems with FACTScontrollers.

(16EE237) Soft computing Techniques
(ELECTIVE-II)

CourseOutcomes:

At theend of thecourse thestudent will be ableto

- Understandthebasicconcept ofbiologicalneuralnetworks
- Understandthebasicconcept ofartificialneural networks
- CreateNeuralNetworkmodelsforelectricalengineering.
- Understandthebasicconcepts offuzzylogic.
- CreateFuzzymodelsforelectricalengineering.

(16EE238)UtilizationofElectricalPower
(Elective-III)

CourseOutcomes:

Aftercompletion ofthiscoursethestudentsareable

- To understand the basic concepts of illumination engineering and design thevariouslightingschemes.

- Tounderstandtheconceptsofelectricheating andweldingequipmentsusedinindustries.
- To study about the various characteristics of electrical drives and to select the particularelectricaldrivefor thegiven application.
- Tounderstandthe basicideaofelectrical tractionsystemsand itscontrol.
- Toevaluatethespecificenergyconsumptionandtractiveeffortofthegiven tractionsystem.

(16EE240)High VoltageEngineering
(Elective-III)

CourseOutcomes:

- UnderstandfundamentalconceptsofhighvoltageAC,DC,andimpulsegeneration.
- Learnthetechniquesemployedinhighvoltagemeasurements.
- Applyanalyticalandnumericaltechniques forelectricfieldcalculations inhigh voltagesystems.
- Learnthefundamentalconceptofelectricbreakdowninliquids,gases,andsolids.
- Becomefamiliarwithnon-destructivetesttechniquesinhighvoltageengineering.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Bachelor of Technology
Department of Mechanical Engineering

I B. Tech. – I Semester (M.E)

(16HS601) FUNCTIONAL ENGLISH

Course Outcomes:

Students will be able to

- Use LSRW skills through the prescribed text and develop their ability to communicate effectively.
- Articulate well among themselves and with Faculty.
- Construct compound sentences using common conjunctions.
- Manage to organize and deliver oral presentations.
- Demonstrate the skills needed to participate in a conversation that builds knowledge collaboratively.

(16HS602) ENGINEERING MATHEMATICS-I

Course Outcomes:

- The students become familiar with the application of ordinary differential equations, multiple integrals, Laplace Transforms and their applications
- The students attain the abilities to use mathematical knowledge to analyze, formulate and solve problems with engineering applications

(16HS603) ENGINEERING PHYSICS

- The different realms of physics and their applications in both scientific and technological systems are achieved through the study of physical optics, lasers and fibre optics.
- The important properties of crystals like the presence of long range order and periodicity, structure determination using X-ray diffraction are focused with defects in crystals & ultrasonic non destructive techniques.
- The discrepancies between the classical estimates & laboratory observations of physical properties exhibited by materials would be lifted through the understanding of quantum picture of subatomic world.
- The electronic and magnetic properties of materials were successfully explained by free electron theory and the bases for the band theory are focused.
- The properties and device applications of semiconducting & magnetic materials are illustrated.
- The importance of superconducting materials and nanomaterials along with their engineering applications are well elucidated.

(16CS501) COMPUTER PROGRAMMING

Course Outcomes:

- Able to design the flowchart and algorithm for real world problems
- Able to learn and understand new programming languages
- Able to construct modular and readable programs
- Able to write C programs for real world problems using simple and compound data types

(16HS606) HUMAN VALUES AND PROFESSIONAL ETHICS

Course Outcomes:

Students undergoing this course are able to

- Upon completion of the course, the student should be able to apply ethics in society, discuss the ethical issues related to engineering and realize the responsibilities and rights in the society

(16HS608) ENGINEERING PHYSICS LABORATORY

Course Outcomes:

- Would recognize the importance of optical phenomenon like interference and diffraction.
- Would have acquired the practical application knowledge of optical fibre, semiconductor, dielectric and magnetic materials, crystal structure and lasers by the study of their relative parameters.
- Would recognize the significant importance of nano materials in various engineering fields.

(16CS502) COMPUTER PROGRAMMING LAB

Course Outcomes:

At the end of the course, students will be able to

- Apply problem solving techniques of C to find solution.
- Use C language features effectively to implement solutions.
- Use C++ language features effectively to solve problems.
- Identify and develop apt searching and sorting technique for a given problem.
- Identity, design and develop the appropriate data structure for a given problem or application.

(16ME301) ENGINEERING & IT WORK SHOP LAB

Course Outcomes:

After completion of this course, a successful student will be able to :

- Utilize workshop tools for engineering practice.
- Employ skills for the production a component for real time applications.
- Appreciate the hard work and intuitive knowledge of the manual workers.

I B. Tech. – II Sem. (ME)

(16HS610) PROFESSIONAL ENGLISH

Course Outcomes:

Students will be able to

- Use LSRW skills through the prescribed text and develop their ability to communicate effectively.
- Articulate well among themselves and with Faculty.
- Construct compound sentences using common conjunctions.
- Manage to organize and deliver oral presentations.
- Demonstrate the skills needed to participate in a conversation that builds knowledge collaboratively

(16HS611) ENGINEERING MATHEMATICS-II

Course Outcomes:

- The students become familiar with the application of Matrices, Vector calculus, Fourier series, Fourier transforms and Partial differential equations

- The students attain the abilities to use mathematical knowledge to analyze, formulate and solve problems with engineering applications

(16HS604) ENGINEERING CHEMISTRY

Course Outcomes:

The student is expected to:

- Differentiate between hard and soft water. Understand the disadvantages of using hard water domestically and industrially. Select and apply suitable treatments domestically and industrially.
- Understand the electrochemical sources of energy
- Understand industrially based polymers, various engineering materials.
- Understand characteristics and applications of fuels and Lubricants.

(16ME302) ENGINEERING GRAPHICS

Course Outcomes:

Students undergoing this course are able to

- Frame ideas based on the conceptual modeling and design
- Provide good understanding of the methods involved in preparing various views in engineering drawings
- Can prepare 2D and 3D diagrams of various objects

(16CE101) ENGINEERING MECHANICS

Course Outcomes:

Students undergoing this course are able to

- Construct free body diagrams and develop appropriate equilibrium equations.
- Understand the concepts of friction and to apply in real life problems.
- Determine the centroid and Moment of Inertia for composite sections.
- Understand the dynamic analysis of rigid body motion.

(16HS607) ENGLISH LANGUAGE COMMUNICATION SKILLS LAB

Course outcomes:

- To become active participants in the learning process and acquire proficiency in spoken English.
- To speak with clarity and confidence thereby enhances employability skills.
- To prepare effective job application

(16HS609) ENGNEERING CHEMISTRY LAB

Course Outcomes:

On completion of this course, students will have the knowledge in.

- Handling different types of instruments for analysis of materials using small quantities of materials involved for quick and accurate results.
- Carrying out different types of titrations for estimation of concerned in materials using comparatively more quantities of materials involved for good results.

(16CE102) APPLIED MECHANICS LAB

Course Outcomes:

Students undergoing this course are able to

- Understand different laws of forces.
- Understand concepts of support reaction.
- Fundamentals of applied mechanics.
- Understand concepts of different types of pendulum.

II B. Tech. – I Semester (ME)

(16HS612) ENGINEERING MATHEMATICS-III

Course Outcomes:

At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in group discussions
- Have developed ability in writing in various contexts
- Have acquired a proper level of competence for employability
- Have acquired computational skills to solve real world problems in engineering

(16ME303) MATERIAL SCIENCES AND METALLURGY

Course Outcomes:

Students undergoing this course are able to

- Describe fundamental scientific (chemistry, physics) and engineering principles (material science) in materials processes and material systems.
- Students will get knowledge on bonds of solids and knowing the crystallization of metals
- Students can able to understand the equilibrium diagrams and their usage in the production processes.

(16ME304) KINEMATICS OF MACHINERY

Course Outcomes:

Students undergoing this course are able to

- Familiarity with common mechanisms used in machines and everyday life.
- Identify different mechanisms, Inversions of kinematic chains
- Ability to perform analysis of different types of links, position, velocity, acceleration analyses.

(16ME305) MACHINE DRAWING

Course Outcomes:

- Students can understand the working principles of an assembly or subassembly so that he/she will be able to produce the final product by procuring the units from various sources/suppliers and still produce any useful product serving effectively.
- The drawings can be easily prepared and understood by the people in a manufacturing industry.

(16CE104) STRENGTH OF MATERIALS

Course Outcomes:

Students undergoing this course are able to:

- The students would be able to understand the behaviour of materials under different stress and strain conditions.
- The students would be able to draw bending moment, shear force diagram, bending stress and shear stress distribution for beams under the different conditions of loading.
- The student would be able to apply knowledge to analyse concept of deflection, bending moment and shear force diagram in beams under various loading conditions.
- Determine shear stress in the shaft subjected to torsional moments.

(16CE112) FLUID MECHANICS & HYDRAULIC MACHINERY

Course Outcomes:

After completion of this course the student will be able to,

- How to find frictional losses in a pipe when there is a flow between two places.
- Know types of flow and its measurements and applications.
- Identify the suitable pump required for different purposes.
- Classify the turbines and design criteria based on water availability.

(16CE109) STRENGTH OF MATERIALS LAB

Course Outcomes:

After completion of the course the student will be able to,

- Estimate Young's modulus, tensional rigidity of mild steel rods.
- Know the hardness of mild steel and HYSD specimens.
- Analyze the strength of wood, concrete, stone and bricks.
- Assess the quality of wood, concrete, stone and bricks.

(16CE116) FLUID MECHANICS AND HYDRAULIC MACHINERY LAB

Course Outcomes:

Students undergoing this course are able to

- Calibrate Venturi meter & Orifice meter
- Calculate losses in flows
- Estimate the efficiency of different pumps.
- Study the performance of different turbines.

(16CS503) DATA STRUCTURES THROUGH C

Course Outcomes:

- At the end of the course, students will be able to:
- Design algorithms to implement various data structures.
- Understand and program stacks and list data structures.
- Write programs to implement different types of queues.
- Understand and make use of hash tables in applications like dictionary, spell checker etc.,
- Understand why height balanced trees are advantageous over other data structures.

II B. Tech. – II Semester (ME)

(16HS613) PROBABILITY &STATISTICS

Course Outcomes:

At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in group discussions
- Have developed ability in writing in various contexts Have acquired a proper level of competence for employability

(16EE207) BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

Outcomes:

- After going through this course the student gets a thorough knowledge on basics of Network theorems, Two port networks, DC Motors and Transformers with which he/she can able to apply the above conceptual things to real-world problems and applications.

(16ME306) MANUFACTURING TECHNOLOGY

Course Outcomes:

Students undergoing this course are able to

- Demonstrate knowledge of engineering principles (metallurgy, mechanics, and/or material science) in manufacturing processes.
- Use appropriate machine tool equipment, standardized methods and apparatus for manufacturing processes.
- Use finite element software to simulate physical behaviors of mechanical structures or systems.
- Apply FEA principles for component and assembly design.

(16ME307) ENGINEERING THERMODYNAMICS

Course Outcomes:

Students undergoing this course are able to

- Apply the laws of thermodynamics to analyze thermal systems.
- Can understand the energy transformation from one system to other system.
- Can understand the working principles of I.C. Engines.

(16ME308) DYNAMICS OF MACHINERY

Course Outcomes:

Students undergoing this course are able to

- Understand and apply the basic principles of dynamics.
- Relate the motion of parts in a machine using the principles of kinematics.

(16ME309) MANUFACTURING TECHNOLOGY LAB

Course Outcomes:

Students undergoing this course are able to

- Demonstrate knowledge of engineering principles (metallurgy, mechanics, and/or material science) in manufacturing processes.
- Use appropriate machine tool equipment, standardized methods and apparatus for manufacturing processes.

(16ME305) MATERIAL SCIENCES AND METALLURGY LAB

Course Outcomes:

After completion of this course, a successful student will be able to:

- Prepare metallographic samples for microscopic examinations.
- Analyze the microstructure and estimate the amount of porosity and grain size of the casted specimen.
- Apply the knowledge of phase diagrams and testing methods to suit design specification in related areas.
- Use the software for various analyses of microstructures.

(16HS614) COMPREHENSIVE SOFT-SKILLS

Course Outcomes:

- To know the importance of Soft Skills.
- To apply Soft Skills in the different environment.
- To enrich the different levels of Soft Skills to develop their personality.

III B. Tech. – I Semester (M.E)

(16ME311) Industrial Engineering & Management

Course Outcomes:

Students undergoing this course are able to

- Understanding the concepts of production systems, work study and plant layout
- Understanding the concepts of production planning and inventory management systems.

(16ME312)Thermal Engineering

Course Outcomes:

Students undergoing this course are able to

- Apply basic knowledge of the principles of thermal systems.
- To apply the thermodynamic concepts into various thermal application like IC engines, Steam Turbines, Compressors and Refrigeration and Air conditioning systems.

(16ME313) Non- Conventional Energy Resources

Course Outcomes:

- Upon completion of this course, the students can able to identify the new methodologies / technologies for effective utilization of renewable energy sources.

(16ME314) Design Of Machine Elements– I

Course Outcomes:

Students undergoing this course are able to

- Upon completion of this course, the students can able to successfully design machine Components

(16ME315) Automobile Engineering

Course Outcomes:

Students undergoing this course are able to

- Understanding of science and engineering principles relevant to automobile engineering.
- Design and critically evaluate components, processes or systems related to automobile**.**

(16ME316) Machine Tools

Course Outcomes:

Students undergoing this course are able to

- Understanding of concepts and basic mechanics of metal cutting, working of standard machine tools such as lathe, shaping, milling, drilling, grinding and allied machines, and broaching.
- Use appropriate machine tool equipment, standardized methods and apparatus for manufacturing processes.

III B. Tech. – II Semester (M.E)

(16HS605)Environmental Studies

Course Outcomes:

- Based on this course, the Engineering Student will be able to understand/evaluate/develop technologies on the basis of Ecological principles and environmental regulations along with Legislation, Laws and Policies which in turn help in sustainable development.
- Take preventive measures to reduce air, water, soil pollutions and contaminants in food.
- Effectively carry out waste disposal at individual level.
- Involve in preservation of natural resources.

(16MB750) Managerial Economics &Financial Analysis

Course Outcome:

- The thorough understanding of Managerial Economics and Analysis of Financial Statements facilitates the Technocrats – cum – Entrepreneurs to take-up decisions effectively and efficiently in the challenging Business Environment.

(16ME319) Design of Machine Elements-II

Course Outcomes:

Students undergoing this course are able to

- Apply theoretical knowledge to design drive system equipment's including spur and helical gears, alternative drive systems, hydraulic drive systems, etc.
- Correlate theoretical knowledge with practical applications.

(16ME320)Heat Transfer

Course Outcomes:

Students undergoing this course are able to

- Explain the fundamental principles associated with heat transfer phenomena and demonstrate their application in a wide range of application areas.
- Design and analyze heat transfer processes and equipment.

(16ME321) CAD/CAM

Course Outcomes:

Students undergoing this course are able to

- Understanding the need of Group Technology as a means of bringing the benefits of mass production to relatively smaller production.

IV B. Tech. I Semester (M.E)

(16MB751) Entrepreneurship Development

Course Outcomes:

Students undergoing this course are able to

- Upon completion of the course, students will be able to gain knowledge and skills needed to run a business successfully.

(16ME324) Operations Research

Course Outcomes:

Students undergoing this course are able to

- Upon completion of this course, the students can able to use the optimization techniques for use engineering and Business problems

(16ME325) Refrigeration & Air Conditioning

Course Outcomes:

Students undergoing this course are able to

- Upon completion of this course, the students can able to demonstrate the operations in different Refrigeration & Air conditioning systems and also able to design Refrigeration & Air conditioning systems.

(16ME326) Metrology& Measurements

Course Outcomes:

Students undergoing this course are able to

- Understand the Limits, Fits and Tolerance, Know the principle of working of the most commonly used instruments for measuring linear and angular distances.
- Understand working of various instruments used for measuring for displacement, temperature and pressure, speed, stress, strain vibration.

(16ME330) Metrology and Measurements Lab

Course Outcomes:

Students undergoing this course are able to

- Design of measurement experiments to measure various parameters and correlate with theoretical knowledge.
- Ability to report the results of a laboratory experiment in written, oral & graphical manner.

(16ME327) Finite Element Methods

Course Outcomes:

Students undergoing this course are able to

- Use finite element software to stimulate physical behaviors of Mechanical structures.
- Apply FEA principles for components and assembly design

(16ME328) Quality Control and Reliability Engineering

Course Outcomes:

Students undergoing this course are able to

- Upon successful completion of this course, the students can able to apply the concept of SQC in process control for reliable component production

(16ME329) Metal Forming Process

Course Outcomes:

Students undergoing this course are able to

- Upon successful completion of this course, the students can able to know the concept of stress and strain analysis in 2D and 3D, rolling and Forging processes. And also the student must able to understand the Extrusion process, sheet metal working and Process of plastics.

IV B.Tech. – II Semester (M.E)

(16ME332) Mechatronics

Course Outcomes:

Students undergoing this course are able to

- Understanding of mechatronic design principles, instrumentation and interfaces, sensors, actuators and the integration of control systems.
- Knowledge of state-of-the-art developments in mechatronics.

(16ME333) Power Plant Engineering

Course Outcomes:

Students undergoing this course are able to

- After completion of this course students are able to understand the various types of Renewable energy sources and working of Steam power plant. Student also knows the working principle of diesel Power plant and Hydro electric power plant.

(16ME335) Modern Manufacturing Methods

Course Outcomes:

Students undergoing this course are able to

- After completion of this unit students are able to understand and it's the applications of electron beam and laser beam in manufacturing environment, accuracy, machining speed and etc., with respect to all non-traditional machining processes.

(16ME336) Gas Turbine and Jet Propulsion

Course Outcomes:

Students undergoing this course are able to

- Upon completion of this course, the students can able to successfully apply gas dynamics principles in the Jet and Space Propulsion

(16ME337) Automation & Robotics

Course Outcomes:

Students undergoing this course are able to

- After completion of this unit students are able to understand robot programming languages which may adopt in different applications of robot. Student also knows the control motion mechanism in all devices of robot and application of robots in manufacturing sector.

(16ME338) Advanced Welding Processes

Course Outcomes:

At the end of the course student will be able to learn the-

- Weldability and perform different weldability testing for different metals.
- Different dissimilar metal and its cladding.
- Application of preheat and PWHT of weld joints as per codes and standards used in fabrication industry.
- Knowledge about different methods for increasing service life of equipment.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Bachelor of Technology
Department of Electronics and Communication Engineering

I B. Tech. – I Semester (E.C.E)

(16HS601) FUNCTIONAL ENGLISH

Course Outcomes:

Students will be able to

- Use LSRW skills through the prescribed text and develop their ability to communicateeffectively.
- Articulate well among themselves and with Faculty.
- Construct compound sentences using common conjunctions.
- Manage to organize and deliver oral presentations.
- Demonstrate the skills needed to participate in a conversation that builds knowledgecollaboratively.

(16HS602)ENGINEERING MATHEMATICS-I

Course Outcomes:

- The students become familiar with the application of ordinary differential equations, multiple integrals, Laplace Transforms and their applications
- The students attain the abilities to use mathematical knowledge to analyze, formulate and solve problems with engineering applications

(16HS604) ENGINEERING CHEMISTRY

Course Outcomes:

The student is expected to:

- Differentiate between hard and soft water. Understand the disadvantages of using hard water domestically and industrially. Select and apply suitable treatments domestically and industrially.
- Understand the electrochemical sources of energy
- Understand industrially based polymers, various engineering materials.
- Understand characteristics and applications of fuels and Lubricants.

(16CS501) COMPUTER PROGRAMMING

Course Outcomes:

- Able to design the flowchart and algorithm for real world problems
- Able to learn and understand new programming languages
- Able to construct modular and readable programs
- Able to write C programs for real world problems using simple and compound data types

(16ME302) ENGINEERING GRAPHICS

Course Outcomes:

Students undergoing this course are able to

- Frame ideas based on the conceptual modeling and design
- Provide good understanding of the methods involved in preparing various views in engineering drawings

- Can prepare 2D and 3D diagrams of various objects

(16HS607) ENGLISH LANGUAGE COMMUNICATION SKILLS LAB

Course outcomes:

- To become active participants in the learning process and acquire proficiency in spoken English.
- To speak with clarity and confidence thereby enhances employability skills.
- To prepare effective job application

(16HS609) ENGNEERING CHEMISTRY LAB

Course Outcomes:

On completion of this course, students will have the knowledge in.

- Handling different types of instruments for analysis of materials using small quantities of materials involved for quick and accurate results.
- Carrying out different types of titrations for estimation of concerned in materials using comparatively more quantities of materials involved for good results.

(16CS502) COMPUTER PROGRAMMING LAB

Course Outcomes:

At the end of the course, students will be able to

- Apply problem solving techniques of C to find solution.
- Use C language features effectively to implement solutions.
- Use C++ language features effectively to solve problems.
- Identify and develop apt searching and sorting technique for a given problem.
- Identity, design and develop the appropriate data structure for a given problem or application.

I B. Tech. – II Sem. (E.C.E)

(16HS610) PROFESSIONAL ENGLISH

Course Outcomes:

Students will be able to

- Use LSRW skills through the prescribed text and develop their ability to communicateeffectively.
- Articulate well among themselves and with Faculty.
- Construct compound sentences using common conjunctions.
- Manage to organize and deliver oral presentations.
- Demonstrate the skills needed to participate in a conversation that builds knowledgecollaboratively.

(16HS611) ENGINEERING MATHEMATICS-II

Course Outcomes:

- The students become familiar with the application of Matrices, Vector calculus, Fourier series, Fourier transforms and Partial differential equations
- The students attain the abilities to use mathematical knowledge to analyze, formulate and solve problems with engineering applications.

(16HS603) ENGINEERING PHYSICS

Course Outcomes:

- The different realms of physics and their applications in both scientific and technological systems are achieved through the study of physical optics, lasers and fibre optics.
- The important properties of crystals like the presence of long range order and periodicity, structure determination using X-ray diffraction are focused with defects in crystals & ultrasonic non-destructive techniques.
- The discrepancies between the classical estimates & laboratory observations of physical properties exhibited by materials would be lifted through the understanding of quantum picture of subatomic world.
- The electronic and magnetic properties of materials were successfully explained by free electron theory and the bases for the band theory are focused.
- The properties and device applications of semiconducting & magnetic materials are illustrated.
- The importance of superconducting materials and nanomaterials along with their engineering applications are well elucidated.

(16HS606)HUMAN VALUES AND PROFESSIONAL ETHICS

Course Outcomes:

Students undergoing this course are able to

- Upon completion of the course, the student should be able to apply ethics in society, discuss the ethical issues related to engineering and realize the responsibilities and rights in the society.

(16EE205) NETWORK ANALYSIS

Course outcomes:

After completing the course the student should be able to do the following:

- Given a network, find the equivalent impedance by using network reduction techniques
- Determine the current through any element and voltage across any element
- Apply the network theorems suitably

(16HS608) ENGINEERING PHYSICS LABORATORY

Course Outcomes:

- Would recognize the importance of optical phenomenon like interference and diffraction.
- Would have acquired the practical application knowledge of optical fiber, semiconductor, dielectric and magnetic materials, crystal structure and lasers by the study of their relative parameters.
- Would recognize the significant importance of nanomaterials in various engineering fields.

(16ME301) ENGINEERING & IT WORK SHOP LAB

Course Outcomes:

ENGINEERING WORKSHOP

After completion of this course, a successful student will be able to :

- Utilize workshop tools for engineering practice.
- Employ skills for the production a component for real time applications.
- Appreciate the hard work and intuitive knowledge of the manual workers.

IT WORKSHOP

After completion of this course, a successful student will be able to:

- Can install the softwares in the computers
- Utilize skills for the development of application softwares
- Can protect personal computer from virus and other cyber attacks

II B.Tech. - I Sem. (E.C.E)

(16HS612) ENGINEERING MATHEMATICS-III

Course Outcomes:

At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in group discussions
- Have developed ability in writing in various contexts
- Have acquired a proper level of competence for employability
- Have acquired computational skills to solve real world problems in engineering

(16EC401) BASIC ELECTRONIC DEVICES

Course Outcomes:

Upon completion of the course, students will:

- Analyze the operating principles of major electronic devices, its characteristics and applications.
- Design and analyze the DC bias circuitry of BJT and FET.
- Design and analyze basic transistor amplifier circuits using BJT and FET.

(16EC402) SWITCHING THEORY & LOGIC DESIGN

Course Outcomes:

- Ability to define different Number system and perform Number base conversions.
- Able to simplify the Boolean functions & design using Logic gates
- Understand the gate-level minimization techniques.
- Design sequential and combinational circuits.
- To understand and design memory systems like RAM, ROM, PLA, PAL

(16EC403) SIGNALS AND SYSTEMS

Course Outcomes:

- For integral-differential equations, the students will have the knowledge to make use of Laplace transforms.
- For continuous time and Discrete Time signals the students will make use of Fourier transform and Fourier series.
- For discrete time signals the students will make use of Z transforms.
- The concept of convolution and correlation is useful for analysis in the areas of linear systems and communication theory.

(16EC404) RANDOM SIGNAL AND STOCHASTIC PROCESSES

Course Outcomes:

- A student will able to determine the temporal and spectral characteristics of random signal response of a given linear system.

(16HS605) ENVIRONMENTAL STUDIES

Course Outcomes:

- Based on this course, the Engineering Student will be able to understand/evaluate/develop technologies on the basis of Ecological principles and environmental regulations along with Legislation, Laws and Policies which in turn help in sustainable development.
- Take preventive measures to reduce air, water, soil pollutions and contaminants in food.
- Effectively carry out waste disposal at individual level.
- Involve in preservation of natural resources.

(16EC405) BASIC ELECTRONIC DEVICES LAB

Course Outcomes:

- Students able to learn electrical model for various semiconductor devices and learns the practical applications of the semiconductor devices

(16CS503) DATA STRUCTURES THROUGH C (AUDIT COURSE)

Course Outcomes:

- At the end of the course, students will be able to:
- Design algorithms to implement various data structures.
- Understand and program stacks and list data structures.
- Write programs to implement different types of queues.
- Understand and make use of hash tables in applications like dictionary, spell checker etc.,
- Understand why height balanced trees are advantageous over other data structures.

II B. Tech -II Sem. (E.C.E.)

(16EC407) ELECTRONIC CIRCUITS ANALYSIS

Course Outcomes:

Upon completion of this course, student will be able to:

- Analyze the frequency response of the BJT, FET amplifiers at low and high frequencies.
- Analyze and design multistage amplifiers with compound connections, feedback amplifiers, oscillators, power amplifiers and tuned amplifiers.

(16EC408) COMPUTER ORGANIZATION AND ARCHITECTURE

Course Outcomes:

- Ability to use memory and I/O devices effectively
- Able to explore the hardware requirements for cache memory and virtual memory
- Ability to design algorithms to exploit pipelining and multiprocessors

(16EC409)ELECTRO MAGNETIC THEORY AND TRANSMISSION LINES

Course Outcomes:

This course provides the foundational education in static electromagnetic fields, and time varying electromagnetic waves. Through lecture, and out-of-class assignments, students are provided learning

experiences that enable them to:

- Analyze and solve the problems of electric and magnetic fields that vary with three dimensional spatial co-ordinates as well as with time.
- Become proficient with analytical skills for understanding propagation of electromagnetic waves in different media.
- Understand the concept of transmission lines & their applications.

(16EC410) PULSE AND DIGITAL CIRCUITS

Course Outcomes:

- Able to design different pulse circuits based on the above concepts.
- Ability to design different logic gates

(16EE212) ELECTRICAL TECHNOLOGY

Course Outcome:

- After going through this course the student gets a thorough knowledge on DC Motors & Generators, Transformers and Induction motors with which he/she can able to apply the above conceptual things to real-world problems and applications.

(16EC412) ELECTRONIC CIRCUIT ANALYSIS LAB

Course Outcomes:

- The ability to analyze and design single and multistage amplifiers at low, mid and high frequencies.
- Designing and analyzing the transistor at high frequencies.
- Determine the efficiencies of power amplifiers.
- Determine Frequency response and design of tuned amplifiers.
- Able to Analyze all the circuits using simulation software and Hardware.

(16EC413) PULSE & DIGITAL CIRCUITS LAB

Course Outcomes:

- Student understands the various design and analysis to generate various types of signals.
- Student can design various digital circuits based on the application and specifications.

(16HS614) COMPREHENSIVE SOFT-SKILLS
(AUDIT COURSE)

Course Outcomes:

- To know the importance of Soft Skills.
- To apply Soft Skills in the different environment.
- To enrich the different levels of Soft Skills to develop their personality.

III B. Tech –I Sem. (E.C.E.)

(16EC415) Analog Communications

Learning Outcomes:

This course provides the foundational education in Analog Communication systems, and applications. The students are provided the learning experience through class room teaching and solving assignment & tutorial problems. At the end of course, students should be able to:

- Acquire knowledge on the basic concepts of Analog Communication Systems.
- Analyze the analog modulated and demodulated systems.
- Verify the effect of noise on the performance of communication systems.
- Know the fundamental concepts of information and capacity.

(16EC416) Electronic Measurements and Instrumentation

Course Outcomes:

- After the completion of the course the students will be able to understand basic principles involved in the meters for measuring voltage, current, resistance, frequency and so on.
- Employ CRO for measuring voltage, current, resistance, frequency and so on.
- Understand principles of measurements associated with different bridges.
- Get complete knowledge regarding working of advanced instruments such as logic analyzers and spectrum analyzers.

(16EC417) Linear IC Applications

Course Outcomes:

- Understand the basic building blocks of linear integrated circuits and its characteristics.
- Analyze the linear, non-linear and specialized applications of operational amplifiers.
- Understand the theory of ADC and DAC.
- Realize the importance of Operational Amplifier.

(16EC418) Antennas & Wave Propagation

Course Outcomes:

Upon successful completion of the course, students will be able to:

- Approximate parametric equations for the calculation in the far field region.
- Write parametric integral expressions for a given current source.
- Calculate electromagnetic fields for a given vector potential.
- Discover pattern multiplication principle for array antennas.

(16EE216) Linear Control Systems

COURSE OUTCOMES:

After completing the course, the student should be able to do the following:

.• Evaluate the effective transfer function of a system from input to output using (i) block diagram reduction techniques (ii) Mason's gain formula.

• Compute the steady state errors and transient response characteristics for a given system and excitation.

• Determine the absolute stability and relative stability of a system.

• Draw root loci.

• Design a compensator to accomplish desired performance.

• Derive state space model of a given physical system and solve the state equation.

(16MB750) Managerial Economics & Financial Analysis

Course Outcome:

The thorough understanding of Managerial Economics and Analysis of Financial Statements facilitates the Technocrats – cum – Entrepreneurs to take-up decisions effectively and efficiently in the challenging Business Environment.

(16EC419) Analog Communications Lab

Course Outcomes:

After completion of the course the students will be able

- To experience real time behavior of different analog modulation schemes
- Technically visualize spectra of different analog modulation schemes
- Analyze practical behavior of different elements available in analog communication system such as filters, amplifiers etc.
- Measure characteristics of radio receiver measurements.

(16HS616) Aptitude Practice-I

Course Outcomes:

At the end of the course, students would be expected to:

- Have developed the subtle way of approaching in the candidate.
- Have acquired the decision making with in no time.
- Have acquired logical thinking during professional tenure.
- Have obtained quick decision making skills.

III B. Tech –II Sem. (E.C.E.)

(16EC421) Digital Communications

Course Outcomes:

After the completion of the course, student will be able to:

- Understand the elements of DC & the fundamental concepts of sampling theorem along with different coding and modulation techniques
- Understand the basic principles of baseband and pass band digital modulation schemes
- Analyze probability of error performance of digital systems and are able to design digital communications

(16EC422) Digital Signal Processing

Course Outcomes:

At the end of the course, the student should be able to:

- Able to obtain different Continuous and Discrete time signals.
- Ability to develop Fast Fourier Transform (FFT) algorithms for faster realization of signals and systems.
- Able to design Digital IIR filters from Analog filters using various techniques (Butterworth and Chebyshev).
- Able to design Digital FIR filters using window techniques, Fourier methods and frequency sampling techniques.
- Ability to design different kinds of interpolator and decimator.

(16EC423) Microprocessors & Microcontrollers

Course Outcomes:

After completion of this subject the students will be able to:

- Do programming with 8086 microprocessors
- Understand concepts of Intel x86 series of advanced processors
- Able to understand the basic concepts of 8051 architecture
- Design and implement some specific real time applications Using 8051 Microcontroller

(16EC424) Digital IC Applications

Course Outcomes:

- Capable of using Computer-aided design tools to model, simulate, verify, analyze, and synthesize complex digital logic circuits.
- Efficient designing of any Digital System using basic structure ICs .
- Able to design and prototype with standard cell technology and programmable logic.
- Apply design test for digital logic circuits, and design for testability.

(16EC425) Microwave Engineering

Course Outcomes:

- Ability to analyze micro-wave circuits incorporating hollow, dielectric and planar waveguides, transmission lines, filters and other passive components, active devices.
- Ability to Use S-parameter terminology to describe circuits and to explain how microwave devices and circuits are characterized in terms of their "S"- Parameters.
- Ability to understanding of microwave transmission lines and how to Use microwave components such as isolators, Couplers, Circulators, Tees, Gyrators etc.

(16HS615) Advanced English Language and Communication Skills Lab

Course Objectives:

This Lab focuses on using computer-aided multimedia instruction for language development to meet the following targets:

- To improve the students' fluency in English, through a well-developed vocabulary
- To enable them listening spoken English at normal conversational speed by educated English speakers
- To respond appropriately in different social-cultural and professional contexts
- To develop drafting skills among the students.

(16EC426) Digital Communications Lab

Course Outcomes:

After completion of the course the students will be able to experience real time behavior of different digital modulation schemes and technically visualize spectra of different digital modulation schemes.

(16EC427) Digital IC Applications Lab

Course Outcome:

After completion of the course the students will be able to

- Design and draw the internal structure of the various digital integrated circuits
- Develop VHDL/Verilog HDL source code, perform simulation using relevant simulator and analyze the obtained simulation results using necessary synthesizer.
- Verify the logical operations of the digital IC"s (Hardware) in the laboratory

(16HS617) Aptitude Practice-II

Course Outcomes:

At the end of the course, students would be expected to:

- Have developed the subtle way of approaching in the candidate.
- Have acquired the decision making with in no time.
- Have acquired logical thinking during professional tenure.
- Have obtained quick decision-making skills.

IV B. Tech –I Sem. (E.C.E.)

(16MB751) Entrepreneurship Development

Course outcome: Creates thorough understanding of the entrepreneurship concepts among the young engineering students to venture into creating jobs rather than seeking jobs.

(16EC429) Embedded Systems

Course Outcomes:

- Able to understand the fundamental concepts of embedded systems.
- Able to learn the architecture of Advanced AVR microcontrollers.
- Able to learn to program the Advanced AVR microcontrollers.
- Able to understand the basic concepts of Internet of Things (IoT).

(16EC430) Optical Fiber Communication

Course Outcomes:

- To learn the basic elements of optical fiber transmission link, fiber modes configurations and structures.
- To understand the different kind of losses, signal distortion in optical wave guides and other signal degradation factors.
- To learn the various optical source materials and optical receivers such as LED structures, quantum efficiency, Laser diodes, PIN, APD diodes, noise performance in photo detector, receiver operation and configuration.
- Analyze the use of analog and digital links such as the various criteria like power loss wavelength to be considered for point to point link in digital link system.
- To learn the fiber optical network components, variety of networking aspects, and operational principles WDM

(16EC431) VLSI Design

Course Outcomes:

- Complete Knowledge about Fabrication process of ICs
- Able to design VLSI circuits as per specifications given.
- Capable of optimizing the design of Arithmetic / logic building Blocks at all levels of Design/Fabrication.
- Can implement circuit through various design styles (semi- Custom, Full Custom)

(16EC432) Digital Image Processing

Course Outcomes:

- Review the fundamental concepts of a digital image processing system.
- Analyze images in the frequency domain using various transforms.
- Evaluate the techniques for image enhancement and image restoration.

- Categorize various compression techniques.
- Interpret Image compression standards.
- Interpret image segmentation and representation techniques.

(16CE145) Elements of Road Traffic Safety
(OPEN ELECTIVE)

Course Outcomes:

After completion of this course the student:

1. Can clearly understand the accident scenario, causes and measure to be taken
2. Can know the traffic regulations
3. Can understand the parking problems and can give solutions
4. Can get an awareness of traffic signs, signals and road markings
5. Can understand the need of street light and their proper disposition on road

(16EE239) Neural Networks & Fuzzy Logic
(OPEN ELECTIVE)

Course Outcomes:

At the end of the course the student will be able to

- Understand the basic concept of biological neural networks
- Understand the basic concept of artificial neural networks
- Create Neural Network models.
- Understand the basic concepts of fuzzy logic.
- Create Fuzzy models.

(16ME313) Non- Conventional Energy Source
(Open Elective)

Course Outcomes:

Upon completion of this course, the students can able to identify the new methodologies / technologies for effective utilization of renewable energy sources.

(16CS511) DATABASE MANAGEMENT SYSTEMS
(Open Elective)

Course Outcome:

- Students can design the simple database, and can use the SQL instructions in Developing the database applications.
- Can apply the ER concepts to design the databases.
- Advanced concepts like triggers, assertions and constraints can be applied effectively in designing the business applications

(16EC435) Microwave & Optical Communications Lab

Course Outcomes:

- Capable of Applying Microwave Concepts/ Microwave components and test them.
- Able to design and analyze an optical fiber communications link

IV B. Tech –II Sem. (E.C.E.)

(16EC437) Real Time Operating Systems

Course Outcomes:

- After completion of the course students able to
- Know about the basic concepts of embedded systems
- Understand the different architectural features of embedded systems
- Understand the goal embedded systems in real time design applications

(16EC438) Radar & Navigational Aids

Course Outcomes:

- To become familiar with fundamentals of radar.
- To gain in knowledge about the different types of radar and their operation.

(16EC440) Spread Spectrum Communications

Course Outcomes:

At the end of the course the students should be able to:

- Understand the general concepts of spread spectrum techniques.
- Generate spread spectrum signals through hardware and computer simulations.
- Know various applications of spread spectrum techniques and working operation of CDMA systems of 2G and 3G standards.

(16EC441) Wireless Communication & Networks

Course Outcomes:

After completion of this course the student will be able to

- Understand basics of Wireless Communications and its evolution process.
- Know about the mechanism of radio mobile propagation and its effects.
- Apply various types of diversity and equalization techniques to counter balance the effects of Wireless Channel.
- Recognize the importance of Wireless Networking and multiple access techniques in the present day mobile communications
- Analyze and design mobile systems using OFDM technology for mitigating the ISI effects at higher data rates.

(16CS527) Computer Networks

Course Outcome:

- Use appropriate transmission media to connect to a computer network and Internet
- Work on the open issues for their project
- Start using the Internet effectively
- Able to design new protocols for computer network

(16EC442) Cellular & Mobile Communications

Course Outcomes:

- To understand the concept of cellular communication
- To understand the basics of wireless communication
- Knowledge of GSM mobile communication standard, its architecture, logical channels,
- advantages and limitations.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Bachelor of Technology
Department of Computer Science and Engineering

I B. Tech. – I Sem. (CSE)

(16HS601) FUNCTIONAL ENGLISH

Course Outcomes:

Students will be able to

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- Articulate well among themselves and with Faculty.
- Construct compound sentences using common conjunctions.
- Manage to organize and deliver oral presentations.
- Demonstrate the skills needed to participate in a conversation that builds knowledge collaboratively.

(16HS602) ENGINEERING MATHEMATICS-I

Course Outcomes:

- The students become familiar with the application of ordinary differential equations, multiple integrals, Laplace Transforms and their applications
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(16HS604) ENGINEERING CHEMISTRY

Course Outcomes:

The student is expected to:

- Differentiate between hard and soft water. Understand the disadvantages of using hard water domestically and industrially. Select and apply suitable treatments domestically and industrially.
- Understand the electrochemical sources of energy
- Understand industrially based polymers, various engineering materials.
- Understand characteristics and applications of fuels and Lubricants.

(16CS501) COMPUTER PROGRAMMING

Course Outcomes:

- Able to design the flowchart and algorithm for real world problems
- Able to learn and understand new programming languages
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(16ME302) ENGINEERING GRAPHICS

Course Outcomes:

Students undergoing this course are able to

- Frame ideas based on the conceptual modeling and design

- Provide good understanding of the methods involved in preparing various views in engineering drawings
- Can prepare 2D and 3D diagrams of various objects

(16HS607) ENGLISH LANGUAGE COMMUNICATION SKILLS LAB

Course outcomes:

- To become active participants in the learning process and acquire proficiency in spoken English.
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(16HS609) ENGNEERING CHEMISTRY LAB

Course Outcomes:

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(16CS502) COMPUTER PROGRAMMING LAB

Course Outcomes:

At the end of the course, students will be able to

- Apply problem solving techniques of C to find solution.
- Use C language features effectively to implement solutions.
- Use C++ language features effectively to solve problems.
- Identify and develop apt searching and sorting technique for a given problem.
- Identity, design and develop the appropriate data structure for a given problem or application.

I B. Tech. – II Sem. (CSE)

(16HS610) PROFESSIONAL ENGLISH

Course Outcomes:

Students will be able to

- Use LSRW skills through the prescribed text and develop their ability to communicate effectively.
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- Construct compound sentences using common conjunctions.
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Course Outcomes:

- The students become familiar with the application of Matrices, Vector calculus, Fourier series, Fourier transforms and Partial differential equations
- The students attain the abilities to use mathematical knowledge to analyze, formulate and solve problems with engineering applications

(16HS603) ENGINEERING PHYSICS

Course Outcomes:

- The different realms of physics and their applications in both scientific and technological systems are achieved through the study of physical optics, lasers and fibre optics.
- The important properties of crystals like the presence of long range order and periodicity, structure determination using X-ray diffraction are focused with defects in crystals & ultrasonic non destructive techniques.
- The discrepancies between the classical estimates & laboratory observations of physical properties exhibited by materials would be lifted through the understanding of quantum picture of subatomic world.
- The electronic and magnetic properties of materials were successfully explained by free electron theory and the bases for the band theory are focused.
- The properties and device applications of semiconducting & magnetic materials are illustrated.
- The importance of superconducting materials and nanomaterials along with their engineering applications are well elucidated.

(16HS606) HUMAN VALUES AND PROFESSIONAL ETHICS

Course Outcomes:

Students undergoing this course are able to

- Upon completion of the course, the student should be able to apply ethics in society, discuss the ethical issues related to engineering and realize the responsibilities and rights in the society

(16CS503) DATA STRUCTURES THROUGH C

Course Outcome:

At the end of the course, students will be able to:

- Design algorithms to implement various data structures.
- Understand and program stacks and list data structures.
- Write programs to implement different types of queues.
- Understand and make use of hash tables in applications like dictionary, spell checker etc.,
- Understand why height balanced trees are advantageous over other data structures.

(16HS608) ENGINEERING PHYSICS LABORATORY

Course Outcomes:

- Would recognize the importance of optical phenomenon like interference and diffraction.
- Would have acquired the practical application knowledge of optical fibre, semiconductor, dielectric and magnetic materials, crystal structure and lasers by the study of their relative parameters.
- Would recognize the significant importance of nanomaterials in various engineering fields.

(16CS504) DATA STRUCTURES THROUGH C LAB

Course Outcomes:

At the end of the course the student will be able to:

- Implement data structures like array, list, stack, queue, various trees, and graphs.
- Design an appropriate data structure to solve a real world problem.
- Develop various types of Programs in sorting.
- Implement the binary search tree operations.

(16ME301) ENGINEERING & IT WORK SHOP LAB

Course Outcomes:

ENGINEERING WORKSHOP

After completion of this course, a successful student will be able to:

- Utilize workshop tools for engineering practice.
- Employ skills for the production a component for real time applications.
- Appreciate the hard work and intuitive knowledge of the manual workers.

IT WORKSHOP

After completion of this course, a successful student will be able to:

- Can install the software in the computers
- Utilize skills for the development of application software
- Can protect personal computer from virus and other cyber attacks

II B. Tech. – I Semester (CSE)

(16HS612) ENGINEERING MATHEMATICS-III

Course Outcomes:

At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in group discussions
- Have developed ability in writing in various contexts
- Have acquired a proper level of competence for employability
- Have acquired computational skills to solve real world problems in engineering

(16HS605) ENVIRONMENTAL STUDIES

Course Outcomes:

- Based on this course, the Engineering Student will be able to understand/evaluate/develop technologies on the basis of Ecological principles and environmental regulations along with Legislation, Laws and Policies which in turn help in sustainable development.
- Take preventive measures to reduce air, water, soil pollutions and contaminants in food.
- Effectively carry out waste disposal at individual level.
- Involve in preservation of natural resources.

(16CS505) ADVANCED DATA STRUCTURES THROUGH C++

Course Outcomes:

- To develop skills to design and analyze linear and nonlinear data structures.
- Develop algorithms for manipulating linked lists, stacks, queues, trees and graphs.
- Develop recursive algorithms as they apply to trees and graphs

(16CS506) DIGITAL LOGIC DESIGN

COURSE OUTCOMES (COs)

At the end of this course, the student will be able to

- Compare various Number systems and implement Boolean Algebra operations
- Design and implement Combinational and Sequential logic circuits
- Implement Analog to Digital conversion and Digital to Analog conversion
- Design and develop sequential logic circuits
- Understand the working of logic families and logic gates
- Implement the given logical problem using PLDs

(16CS507) MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

Course Outcomes:

At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in group discussions.
- Have developed ability in writing in various contexts.
- Have acquired a proper level of competence for employability

(16EE207) BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE OUTCOMES (COs)

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

- Determine the equivalent impedance of given network by using network reduction techniques.
- Determine the current through any element and voltage across any element
- Apply the network theorems suitably.
- Analyze the operating principles of motor and transformer.
- Analyze the operating principles of major electronic devices, its characteristics and applications.
- Design and analyze the DC bias circuitry of BJT and FE

(16CS508) ADVANCED DATA STRUCTURES THROUGH C++ LAB

Course Outcomes:

- To develop skills to design and analyze linear and nonlinear data structures.
- Develop algorithms for manipulating linked lists, stacks, queues, trees and graphs.
- Develop recursive algorithms as they apply to trees and graphs.

(16EE208) ELECTRICAL AND ELECTRONICS ENGINEERING LAB

Course Outcomes:

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

- Students will understand all the fundamental components about electrical engineering and electronics engineering.
- Make electrical connections by wires of appropriate ratings.
- Understand the usage of common electrical and electronic measuring instruments.
- Understand the basic characteristics of transformers and electrical machines.

(16CS538) ETHICAL HACKING

Course Outcomes:

- To understand how intruders escalate privileges.
- To understand Intrusion Detection, Policy Creation, Social Engineering, Buffer
- Overflows and different types of Attacks and their protection mechanisms.
- To learn about ethical laws and tests.

II B. Tech. – II Semester (CSE)

(16HS615) PROBABILITY & STATISTICS

Course Outcomes:

At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in group discussions
- Have developed ability in writing in various contexts
- Have acquired a proper level of competence for employability

(16CS509) OBJECT ORIENTED PROGRAMMING

Course Outcomes:

- Solve problems using object oriented approach and implement them using Java
- Write efficient programs with multitasking.
- Create own Exceptions and handle Exceptions.
- Develop GUI Components.
- Develop application projects and design Java Application to connect Database

(16CS510) COMPUTER ORGANIZATION

Course Outcomes:

- Use memory and I/O devices effectively
- Understand the CPU design and computer arithmetic
- Understand the design of control unit
- Explain hardware requirements for cache memory and virtual memory
- Design algorithms to exploit pipelining and multiprocessors

(16CS511) DATABASE MANAGEMENT SYSTEMS

Course Outcome:

- Students can design the simple database, and can use the SQL instructions in developing the database applications.
- Can apply the ER concepts to design the databases.
- Advanced concepts like triggers, assertions and constraints can be applied effectively
- in designing the business applications

(16CS512) OPERATING SYSTEMS

Course Outcome:

- Able to use operating systems effectively.
- Write System and application programs to exploit operating system functionality.
- Add functionality to the exiting operating systems

(16CS513) OBJECT ORIENTED PROGRAMMING LAB

Course Outcome:

- Solve problems using object oriented concepts.
- Write efficient programs for string handling and file handling.
- Write efficient programs to perform multitasking and exception handling.
- Develop GUI Components.
- Develop Java applications to connect database.

(16CS514) DATABASE MANAGEMENT SYSTEMS LAB

Course Outcome:

- Apply ER concepts to design databases.

- Design simple database using a tool and implement it using SQL.
- Access normalization relations of relational model using normal forms
- Apply all constrains to develop a business application using cursors, triggers and
- Stored

(16CS515) OPERATING SYSTEMS LAB

Course Outcomes:

Upon completion of this course the students should:

- Understand process management, concurrent processes and threads, memory
- management, virtual memory concepts, deadlocks
- Compare performance of processor scheduling algorithms
- Produce algorithmic solutions to process synchronization problems

(16HS614) COMPREHENSIVE SOFT-SKILLS

Course Objectives:

The main objectives of this course are:

- To help the students understand interpersonal skills.
- To support them in building interpersonal skills.
- To enhance the ability to work with others

III B. Tech. – I Sem. (CSE)

(16CS516) UNIX & SHELL PROGRAMMING

Course Outcomes:

Upon completion of the course, students shall be able to

- Understand UNIX architecture and get familiar with UNIX environment.
- Work with UNIX utilities and to develop shell scripts.
- The fundamental skills required to write simple and complex Shell scripts to automate jobs and processes in the UNIX environment.

(16CS517) FORMAL LANGUAGES AND AUTOMATA THEORY

Course Outcome:

At the end of the course, students will be ableto

- Construct finite state diagrams while solving problems of computer science
- Find solutions to the problems using Turing machines
- Design of new grammar and language

(16CS518) SOFTWARE ENGINEERING & ARCHITECTURE

Course Outcome:

At the end of the course, students can able to

- Define and develop a software project from requirement gathering to implementation.
- Ability to code and test the software
- Ability to plan, Estimate and Maintain software systems

(16CS519) WEB TECHNOLOGIES

Course Outcome:

At the end of the course, students can able to

- Familiarity with WWW technical concepts: IP addressing, routing, client-server interaction.
- Exposure to basic Web Technologies.
- Exposure to database Technologies using java

(16CS521) DESIGN AND ANALYSIS OF ALGORITHMS

Course Outcomes:

At the end of the course, students can able to

- Able to explain good principles of algorithm design.
- Analyze the Time & Space complexity of the algorithms and estimate their worst-case, average-case, Best case running times of algorithms using asymptotic notations.
- Use techniques divide and conquer, greedy, dynamic programming, backtracking, branch and bound to solve the problems.
- Identify and analyze criteria and specifications appropriate to new problems and choose the appropriate algorithmic design technique for their solution.
- Able to prove that a certain problem is NP-Complete

III B. Tech.- II Sem. (CSE)

(16EC423) MICROPROCESSORS & MICRO CONTROLLERS

Course Outcomes:

After completion of this subject the students will be able to:

- Do programming with 8086 microprocessors
- Understand concepts of Intel x86 series of advanced processors
- Able to understand the basic concepts of 8051 architecture
- Design and implement some specific real time applications Using 8051 Microcontroller

(16CS524) COMPILER DESIGN

COURSE OUTCOMES (COs)

On successful completion of the course students will be able to

- Specify and analyze the lexical, syntactic and semantic structures of advanced languagefeatures
- Separate the lexical, syntactic and semantic analysis into meaningful phases for acompiler to undertake language translation
- Write a scanner, parser, and semantic analyzer without the aid of automatic generators
- Turn fully processed source code for a novel language into machine code for a novel computer
- Implement techniques for intermediate code and machine code optimization
- Design the structures and support required for compiling advanced language features.

(16CS525) SOFTWARE TESTING

Course Outcomes:

After completion of this subject the students will be able to:

- Understand the basic testing procedures.
- Generating test cases and test suites.
- Test the applications manually and by automation using different testing methods

(16CS526) OBJECT ORIENTED ANALYSIS AND DESIGN

Course Outcomes:

After completion of this subject the students will be able to:

- Show the importance of systems analysis and design in solving complex problems.
- Explain the importance of modeling and how the Unified Modeling Language (UML) represents an object-oriented system using a number of modeling views.
- Construct various UML models using the appropriate notation.
- Compare the difference between various object relationships.

(16CS527) COMPUTER NETWORKS

Course Outcomes:

After completion of this subject the students will be able to:

- Use appropriate transmission media to connect to a computer network and Internet
- Work on the open issues for their project
- Start using the Internet effectively
- Able to design new protocols for computer network

(16CS529) COMPUTER NETWORKS & MICROPROCESSOR AND MICROCONTROLLER LABORATORY

Course Outcomes:

- Able to design routing protocols in networks.
- Able to write coding for networking applications.
- Implement the data link layer farming methods such as character stuffing and bit stuffing.
- To write a program for implementing on a data set characters the three CRC polynomials – CRC 12, CRC16 and CRC CCIP
- Implement Dijkstra‘s algorithm to compute the shortest path through graph.
- Take an example subnet graph with weights indicating delay between nodes. Now obtain Routing table art each node using distance vector routing algorithm.
- Take an example subnet of hosts. Obtain broadcast tree for it.
- Write a program for Hamming Code generation for error detection and correction.
- Write a program for congestion control using Leaky bucket algorithm.

IV B. Tech. - I Sem. (CSE)

(16MB750) MANAGERIAL ECONOMICS & FINANCIAL ANALYSIS

Course Outcomes:

- The thorough understanding of Managerial Economics and Analysis of Financial statements facilitates the technocrats –cum- entrepreneurs to take up decisions effectively and efficiently in the challenging Business Environment.

(16CS530) CYBER SECURITY

Course Outcomes:

After completion of this subject the students will be able to:

- Able to recognize crime signatures
- Able to identify the virus signature
- Able to implement Investigation

- Abe to Implement Forensics
- Able to implement Cyber Laws

(16CS531) DATA WAREHOUSING AND DATA MINING

Course Outcomes:

After completion of this subject the students will be able to:

- Applying preprocessing methods for any given raw data.
- Utilizing Data mining algorithms to build analytical applications.
- Developing practical work of Data Mining techniques and design hypotheses based
- on the analysis to conceptualize a Data Mining Solution to practical problem

(16CS532) MOBILE APPLICATION DEVELOPMENT

Course Outcome:

At the end of the course students will be assessed to determine whether they are able to

- Describe the limitations and challenges of working in a mobile and wireless environment as well as the commercial and research opportunities presented by these technologies
- Describe and apply the different types of application models/architectures used to develop mobile software applications
- Describe the components and structure of a mobile development frameworks (Android SDK and Eclipse Android Development Tools (ADT)) and learn how and when to apply the different components to develop a working system

(16CS533) SYSTEM APPLICATIONS & PRODUCT (SAP)

Course Outcomes:

- Adopt and apply an integrated perspective to business processes.
- Effectively use SAP® ERP to execute the key steps in the procurement process.
- Ability to use SAP ERP to extract meaningful information about the production process.
- Extract and evaluate meaningful information about the material planning process using the SAP ERP system.

(16CS534) SOFTWARE PROJECT MANAGEMENT

Course Outcomes:

At the end of course student should be able to:

- Actively participate or successfully manage a software development project by applying project management concepts
- Demonstrate knowledge of project management terms and techniques
- Work on Microsoft project, IBM RUP &open source software project management tools

(16CS535) HUMAN COMPUTER INTERACTION

Course Outcomes:

At the end of the course students will be assessed to determine whether they are able to:

- Find innovative ways of interacting with computers
- Help the disabled by designing non-traditional ways of interacting
- Use cognitive psychology in the design of devices for interaction

(16CE145) ELEMENTS OF ROAD TRAFFIC SAFETY

Course Outcomes:

After completion of this course the student:

- Can clearly understand the accident scenario, causes and measure to be taken
- Can know the traffic regulations
- Can understand the parking problems and can give solutions
- Can get an awareness of traffic signs, signals and road markings
- Can understand the need of street light and their proper disposition on road

(16EE239) NEURAL NETWORKS & FUZZY LOGIC

Course Outcomes:

At the end of the course the student will be able to

- Understand the basic concept of biological neural networks
- Understand the basic concept of artificial neural networks
- Create Neural Network models.
- Understand the basic concepts of fuzzy logic.
- Create Fuzzy models.

(16ME313) NON- CONVENTIONAL ENERGY SOURCE

Course Outcomes:

- Upon completion of this course, the students can able to
- Identify the new methodologies / technologies for effective utilization of renewableenergy sources.

(16CS540) MOBILE APPLICATION DEVELOPMENT LAB

Course Outcomes:

At the end of the course, the student should be able to:

- Design and implement various mobile applications using emulators.
- Deploy applications to hand-held devices

IV B. Tech. – II Sem. (CSE)

(16MB751) ENTREPRENEURSHIP DEVELOPMENT

Course Outcomes:

- Creates thorough understanding of the entrepreneurship concepts among the young engineering students to venture into creating jobs rather than seeking jobs.

(16CS536) DATA SCIENCE & ANALYTICS

Course Outcome:

Upon successful completion of this course, participants should be able:

- To understand the fundamental concepts of database management. These concepts include aspects of database design, database languages, and database-systemimplementation.
- To learn a powerful, flexible and scalable general purpose database to handle big data.
- To Deploy the Data Analytics Lifecycle to address big data analytics projects
- To Apply appropriate analytic techniques and tools to analyze big data, create statistical models, and identify insights that can lead to actionable results

- To Select appropriate data visualizations to clearly communicate analytic insights to business sponsors and analytic audience

(16CS537) ARTIFICIAL INTELLIGENCE

Course Outcomes:

- Possess the ability to formulate an efficient problem space for a problem expressed inEnglish.
- Possess the ability to select a search algorithm for a problem and characterize its time and space complexities.
- Possess the skill for representing knowledge using the appropriate technique.
- Possess the ability to apply Al techniques to solve problems of Game Playing, Expert
- Systems, Machine Learning and Natural Language Processing.

(16CS538) CLOUD COMPUTING

Course Outcomes:

At the end of course student will be able to:

- Understanding the systems, protocols and mechanisms to support cloud computing.
- Develop applications for cloud computing.
- Understanding the hardware necessary for cloud computing.
- Design and implement a novel cloud computing applications

(16CS541) MOBILE COMPUTING

Course Outcomes:

At the end of the course the student will be able to

- Students able to use mobile computing more effectively.
- Students gain understanding of the current topics in MANETs and WSNs, both from an industry and research point of views.
- Acquire skills to design and implement a basic mobile ad hoc or wireless sensor network via simulations.

(16CS542) REAL TIME SYSTEMS

Course Outcomes:

- Understand the basics of an embedded system Program an embedded system
- Design, implement and test an embedded system.
- Identify the unique characteristics of real-time systems
- Explain the general structure of a real-time system
- Define the unique design problems and challenges of real-time systems

(16CS543) PYTHON PROGRAMMING

Course Outcomes:

At the end of the course the student will be able to

- Making Software easily right out of the box.
- Experience with an interpreted Language.
- To build software for real needs.
- Prior Introduction to testing software

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Bachelor of Technology
AGRICULTURE ENGINEERING

B. Tech I Year I Semester

(16HS601) FUNCTIONAL ENGLISH

Course Outcomes:

Students undergoing this course are able to

- Use LSRW skills through the prescribed text and develop their ability to communicate effectively.
- Articulate well among themselves and with Faculty.
- Construct compound sentences using common conjunctions.

(16HS602) ENGINEERING MATHEMATICS-I

(Common to all Branches)

Course Outcomes:

- The students become familiar with the application of ordinary differential equations, multiple integrals, Laplace Transforms and their applications
- The students attain the abilities to use mathematical knowledge to analyze, formulate and solve problems with engineering applications

(16HS603) ENGINEERING PHYSICS

(Common to CIVIL, AG, EEE & ME)

COURSE OUTCOMES:

- The different realms of physics and their applications in both scientific and technological systems are achieved through the study of physical optics, lasers and fiber optics.
- The important properties of crystals like the presence of long range order and periodicity, structure determination using X-ray diffraction are focused with defects in crystals & ultrasonic nondestructive techniques.
- The discrepancies between the classical estimates & laboratory observations of physical properties exhibited by materials would be lifted through the understanding of quantum picture of subatomic world.
- The electronic and magnetic properties of materials were successfully explained by free electron theory and the bases for the band theory are focused.
- The properties and device applications of semiconducting & magnetic materials are illustrated.
- The importance of superconducting materials and nano material's along with their engineering applications are well elucidated.

(16CS501) COMPUTER PROGRAMMING

(Common to All Branches)

Course Outcome:

- Able to design the flowchart and algorithm for real worldproblems.
- Able to learn and understand new programminglanguages.
- Able to construct modular and readableprograms.
- Able to write C programs for real world problems using simple and compound datatypes.

(16HS606) HUMAN VALUES AND PROFESSIONAL ETHICS

Course Outcomes:

Students undergoing this course are able to

- Upon completion of the course, the student should be able to apply ethics in society, discuss the ethical issues related to engineering and realize the responsibilities and rights in thesociety

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(16HS608) ENGINEERING PHYSICS LAB

(Common to CIVIL, EEE & ME)

Course Outcomes:

- Would recognize the importance of optical phenomenon like interference anddiffraction.
- Would have acquired the practical application knowledge of optical fibre, semiconductor, dielectric and magnetic materials, crystal structure and lasers by the study of their relativeparameters.
- Would recognize the significant importance of nanomaterials in various engineering fields.

(16CS502) COMPUTER PROGRAMMING LAB

Course Outcome:

At the end of the course, students will be able to

- Apply problem solving techniques of C to findsolution.
- Use C language features effectively to implement solutions.
- Use C++ language features effectively to solveproblems.
- Identify and develop apt searching and sorting technique for a givenproblem.
- Identity, design and develop the appropriate data structure for a given problem or application.

(16ME301) ENGINEERING & IT WORK SHOP LAB

Course Outcomes:

ENGINEERING WORKSHOP:

After completion of this course, a successful student will be able to:

- Utilize workshop tools for engineeringpractice.
- Employ skills for the production a component for real timeapplications.
- Appreciate the hard work and intuitive knowledge of the manualworkers.

IT WORKSHOP:

After completion of this course, a successful student will be able to:

- Can install the software's in thecomputers.
- Utilize skills for the development of applicationsoftware.
- Can protect personal computer from virus and othercyber-attacks.

B.Tech I Year II Semester

(16HS610) PROFESSIONAL ENGLISH

Course Outcomes:

Students undergoing this course are able to

- Use LSRW skills through the prescribed text and develop their ability to communicate effectively.
- Articulate well among themselves and withFaculty.

(16HS611) ENGINEERING MATHEMATICS-II

Course Outcomes:

- The students become familiar with the application of Matrices, Vector calculus, Fourier series, Fourier transforms and Partial differentialequations.
- The students attain the abilities to use mathematical knowledge to analyze, formulate and solve problems with engineeringapplications.

(16HS604) ENGINEERING CHEMISTRY

Course Outcomes:

The student is expected to:

- Differentiate between hard and soft water. Understand the disadvantages of using hard water domestically and industrially. Select and apply suitable treatments domestically andindustrially.
- Understand the electrochemical sources ofenergy
- Understand industrially based polymers, various engineeringmaterials.
- Understand characteristics and applications of fuels andLubricants.

(16ME302) ENGINEERING GRAPHICS

Course Outcomes:

Students undergoing this course are able to

- Frame ideas based on the conceptual modeling anddesign
- Provide good understanding of the methods involved in preparing various views in engineeringdrawings
- Can prepare 2D and 3D diagrams of variousobjects.

(16CE101) ENGINEERING MECHANICS

(Common to Civil, AG and ME)

Course Outcomes:

Students undergoing this course are able to

- Construct free body diagrams and develop appropriate equilibriumequations.
- Understand the concepts of friction and to apply in real lifeproblems.
- Determine the centroid and Moment of Inertia for compositesections.
- Understand the dynamic analysis of rigid bodymotion.

(16HS607) ENGLISH LANGUAGE AND COMMUNICATION SKILLS (ELCS) LAB

Course outcomes:

- To become active participants in the learning process and acquire proficiency in spoken English.
- To speak with clarity and confidence thereby enhances employabilityskills.
- To prepare effective jobapplication

(16HS609) ENGINEERING CHEMISTRY LAB

Course Outcomes:

On completion of this course, students will have the knowledge in.

- Handling different types of instruments for analysis of materials using small quantities of materials involved for quick and accurate results,and
- Carrying out different types of titrations for estimation of concerned in materials using comparatively more quantities of materials involved for goodresults.

(16CE102) APPLIED MECHANICS LAB

Course Outcomes:

Students undergoing this course are able to

- Understand different laws offorces.
- Understand concepts of supportreaction.
- Fundamentals of appliedmechanics.
- Understand concepts of different types ofpendulum.

B.Tech II Year I Semester

(16HS612) ENGINEERING MATHEMATICS-III

Course Outcomes:

At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in groupdiscussions

- Have developed ability in writing in variouscontexts
- Have acquired a proper level of competence foremployability
- Have acquired computational skills to solve real world problems inengineering

(16AG701) ENGINEERING PROPERTIES OF BIOLOGICAL MATERIALS

Course Outcomes:

After completion of the course the student will be able to:

- Measure the physical, thermal, optical and rheological properties of the biological materials
- Use the properties data in design of the equipment andprocess.

(16CE104) STRENGTH OF MATERIALS

Course Outcomes:

Students undergoing this course are able to:

- The students would be able to understand the behaviour of materials under different stress and strain conditions.
- The students would be able to draw bending moment, shear force diagram, bending stress and shear stress distribution for beams under the different conditions ofloading.
- The student would be able to apply knowledge to analyse concept of deflection, bending moment and shear force diagram in beams under various loadingconditions.
- Determine shear stress in the shaft subjected to torsionalmoments.

(16CE112) FLUID MECHANICS & HYDRAULIC MACHINERY

Course Outcomes:

After completion of this course the student will be able to,

- How to find frictional losses in a pipe when there is a flow between twoplaces.
- Know types of flow and its measurements andapplications.
- Identify the suitable pump required for differentpurposes.
- Classify the turbines and design criteria based on wateravailability.

(16EE207) BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

PART – A

BASIC ELECTRICAL ENGINEERING

Course Outcomes:

- After going through this course, the student gets a thorough knowledge on basics of Network theorems, two port networks, DC Motors and Transformers with which he/she can able to apply the above conceptual things to real-world problems andapplications.

(16CE155) SOIL SCIENCE & SOIL MECHANICS

Course Outcomes:

At the end of the course, students would be expected to:

- Fundamental knowledge of soil physicalparameters.
- The procedures involved in soil survey, soilclassification.
- The phase relationship and soilcompaction.
- Concepts of bearing capacity and slopestability.

(16CE158) STRENGTH OF MATERIALS / SOIL MECHANICS LAB

Course Outcomes:

After completion of the course the student will be able to,

- Estimate Young's modulus, tensional rigidity of mild steelrods.
- Know the hardness of mild steel and HYSDspecimens.
- Analyze the strength of wood, concrete, stone andbricks.
- Assess the quality of wood, concrete, stone andbricks.

(16CE116) FLUID MECHANICS & HYDRAULIC MACHINERY LAB

Course Outcomes:

Students undergoing this course are able to

- Calibrate Venturimeter& Orificemeter
- Calculate losses in flows
- Estimate the efficiency of differentpumps.
- Study the performance of differentturbines.

(16CS503) DATA STRUCTURES THROUGH C

Course Outcome:

At the end of the course, students will be able to:

- Design algorithms to implement various datastructures.
- Understand and program stacks and list datastructures.
- Write programs to implement different types ofqueues.
- Understand and make use of hash tables in applications like dictionary, spell checkeretc.,
- Understand why height balanced trees are advantageous over other datastructures.

B. Tech II Year II Semester

(16HS613) PROBABILITY &STATISTICS

(Common to CE, AG, ME & CSE)

Course Outcomes:

At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in groupdiscussions.
- Have developed ability in writing in various contexts.
- Have acquired a proper level of competence foremployability.

(16AG702) PRINCIPLES OF AGRONOMY AND SOIL SCIENCE

Course Outcomes:

After completion of the course the student will be able to:

- Different crops and croppingtechniques
- Know the techniques to determine index properties and engineering properties such as shear strength, compressibility and permeability by conducting appropriatetests.

(16CE156) HYDROLOGY

Course Outcomes:

At the end of the course, students would be expected to:

- an understanding of the key drivers on water resources, hydrological processes and their integrated behavior incatchments,
- ability to construct and apply a range of hydrological models to surface water and groundwater problems including Hydrograph, Flood/Drought management, artificial recharge
- ability to conduct Spatial analysis of rainfall data and design water storagereservoirs

(16CE105) SURVEYING

Course Outcomes:

- be in a position to apply the basic principle of surveying and usage of surveying instruments in all civil engineering activities, including the construction of buildings, bridges, roads and high ways, pipe lines, dams, ports and harbors
- be an expert of demarcation of ownership and / or delimitation of land, property, etc. through surveyingprocess.
- surveying techniques to collect data for planning, designing and execution, able to employ greenfield.
- use total station and able to assess the electromagneticdistances.

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(16ME344) THEORY OF MACHINES

Course Outcomes:

Students undergoing this course are able to

- Familiarity with common mechanisms used in machines and everydaylife.
- Identify different mechanisms, Inversions of kinematicchains
- Ability to perform analysis of different types of links, position, velocity, acceleration analyses.

(16ME345) TRACTOR AND AUTOMOTIVE ENGINES

Course Outcomes:

After completion of the course the student will be able to:

- Know the working principles of IC engines, auxiliary systems, the combustion aspects of SI and CI engines in addition to the methods of improvingperformance.
- Know the thermodynamic concepts in ICengines.

(16CE157) SURVEYING LAB

Course Outcomes:

After completion of the course the student will be able to:

- Gain knowledge and expertise in operation of various survey instruments for computation of area of aland.
- Gains in accurate measurement of horizontal and vertical angles by theodolite and total station.
- Attains skills in computing the horizontal as well as vertical distance using tangential

tachometry and expertise in handling of dumpy level, theodolite and total station for developing contour maps and longer sighting of objective distance and difference in elevation.

(16AG703) AGRONOMY AND SOIL SCIENCELAB

Course Outcomes:

After completion of the course the student will be able to:

- Different crops and croppingtechniques
- Know the techniques to determine index properties and engineering properties such as shear strength, compressibility and permeability by conducting appropriatetests.

(16HS614) COMPREHENSIVE SOFT-SKILLS

Course Outcomes:

- To know the importance of SoftSkills.
- To apply Soft Skills in the differentenvironment.
- To enrich the different levels of Soft Skills to develop theirpersonality.

B. Tech III Year I Semester

(16AG704) AGRICULTURAL PROCESS ENGINEERING

Course outcomes:

Studies will be familiar with

- Be proficient in the use of processing machinery and scope of the processengineering.
- Be proficient in an ability to identify, formulate and solve engineeringproblems.
- Various basic terms related to machine designaspects.
- Some of the basic concepts related to food processing cleaning and grading ofcereals.

(16AG705) SOIL AND WATER CONSERVATION ENGINEERING

Course outcomes:

Studies will be familiar with

- Various basic terms related to Soil Erosions, Rainfall-Runoffrelationships.
- Some of the basic concepts related to soilconservation.
- Simple terms related to soil loss estimationmodels.
- Recognize importance of various soil conservation structures and theirdesigns.
- Understand the importance ofhydrometry.

(16AG706) IRRIGATION AND DRAINAGE ENGINEERING

Course outcomes:

Studies will be familiar with

- Various basic terms related to development of irrigation in India and AP and classification if irrigationprojects.
- Some of the basic concepts related to waterconservation.
- Simple terms related to soil loss estimationmodels.
- Recognize importance of various micro irrigation systems anddesigns.

- Understand the importance of drainage system, drainageproblems.

(16AG707) FARM MACHINERY AND EQUIPMENT –I

Course outcomes:

Studies will be familiar with

- Apply basic knowledge of the Farm Mechanizationimportance.
- To apply the transplanting concepts into variousfields
- Various basic terms related to seed meteringmechanisms.
- Some of the basic concepts related to forces acting on tillagetools.
- Simple terms related to soil andmachine.

(16ME307) ENGINEERING THERMODYNAMICS

Course Outcomes:

Students undergoing this course are able to

- Apply the laws of thermodynamics to analyze thermalsystems.
- Can understand the energy transformation from one system to othersystem.
- Can understand the working principles of I.C.Engines.

(16AG708) DESIGN OF AGRICULTURAL MACHINERY

Course outcomes:

Studies will be familiar with

- Be proficient in the use of software for analysis anddesign.
- Be proficient in an ability to identify, formulate and solve engineeringproblems.
- Various basic terms related to machine designaspects.
- Some of the basic concepts related to Fundamental units, Mass and Weight, inertia, Laws of motion, force, moment of force, couple mass density, torque, work, power andenergy.

(16AG709) SOIL AND WATER CONSERVATION ENGINEERING (LAB)

Course outcomes:

Studies will be familiar with

- Various basic terms related to Soil Erosions, Rainfall-Runoffrelationships.
- Some of the basic concepts related to soilconservation.
- Simple terms related to soil loss estimationmodels.
- Recognize importance of various soil conservation structures and theirdesigns.
- Understand the importance ofhydrometry.

(16AG710) IRRIGATION AND DRAINAGE ENGINEERING (LAB)

Course outcomes:

Studies will be familiar with

- Various basic terms related to development of irrigation in India and AP and classification if irrigation projects.
- Some of the basic concepts related to waterconservation.
- Simple terms related to soil loss estimationmodels.
- Recognize importance of various micro irrigation systems anddesigns.
- Understand the importance of drainage system, drainageproblems.

(16HS616) APTITUDE PRACTICE-I

Course Outcomes:

At the end of the course, students would be expected to:

- Have developed the subtle way of approaching in thecandidate.
- Have acquired the decision making with in notime.
- Have acquired logical thinking during professionaltenure.
- Have obtained quick decision-makingskills.

B. Tech III Year II Semester

(16HS605) ENVIRONMENTAL STUDIES

Course Outcomes:

- Based on this course, the Engineering Student will be able to understand/evaluate/develop technologies on the basis of Ecological principles and environmental regulations along with Legislation, Laws and Policies which in turn help in sustainabledevelopment.
- Take preventive measures to reduce air, water, soil pollutions and contaminants infood.
- Effectively carry out waste disposal at individuallevel.
- Involve in preservation of naturalresources.

(16AG711) AGRO INDUSTRIES AND BI-PRODUCT UTILIZATION

Course outcomes:

Studies will be familiar with

- Familiar about byproducts utilization and energysaving.
- Be familiar about oil production frombyproducts.
- Production of paper and wax from agril.Wastes.
- Familiar about Planning waste managementsystems

(16AG712) FARM MACHINERY AND RENEWABLE ENERGY RESOURCES

Courseoutcomes:

Studies will be familiar with

- Apply basic knowledge of the Farm Mechanizationimportance.
- To apply the transplanting concepts into variousfields
- Various basic terms related to seed meteringmechanisms.
- Some of the basic concepts related to forces acting on tillagetools.
- Simple terms related to soil andmachine.
- Apply knowledge about renewable energy sources and their importance infeature.
- Knowledge about biogas and gas production in simpleways.

(16ME343) HEAT & MASS TRANSFER

Course outcomes:

- Understand the basic laws of heattransfer.
- Account for the consequence of heat transfer in thermal analyses of engineeringsystems.
- Analyze problems involving steady state heat conduction in simplegeometries.
- Develop solutions for transient heat conduction in simplegeometries.
- Obtain numerical solutions for conduction and radiation heat transferproblems.
- Understand the fundamentals of convective heat transferprocess.

(16AG713) TRACTOR SYSTEM AND CONTROLS

Course outcomes:

- Knowledge on systems like transmission system, types of clutch, types of gears, tractor power outlets like P.T.O., tractor stability testing tractor and ergonomicsetc.,
- To impart knowledge about different systems intractor.
- Identify different systems.

(16AG714) FARM MACHINERY AND RENEWABLE ENERGY RESOURCES (LAB)

Course outcomes:

Studies will be familiar with

- Apply basic knowledge of the Farm Mechanizationimportance.
- To apply the transplanting concepts into variousfields
- Various basic terms related to seed meteringmechanisms.
- Some of the basic concepts related to forces acting on tillagetools.
- Simple terms related to soil andmachine.
- Apply knowledge about renewable energy sources and their importance infeature.
- Knowledge about biogas and gas production in simpleways.

(16AG715) WORKSHOP TECHNOLOGY (LAB)

Course outcomes:

Studies will be familiar with

- Utilize workshop tools for engineeringpractice.
- Employ skills for the production a component for real timeapplications.
- Appreciate the hard work and intuitive knowledge of the manualworkers.

(16ME331) COMPUTER AIDED ENGINEERING (LAB)

Course Outcomes:

Students undergoing this course are able to

- Understanding the need of Group Technology as a means of bringing the benefits of mass production to relatively smallerproduction.

(16HS617) APTITUDE PRACTICE-II

(Common to All Branches)

Course Outcomes:

At the end of the course, students would be expected to:

- Have developed the subtle way of approaching in thecandidate.
- Have acquired the decision making with in notime.
- Have acquired logical thinking during professionaltenure.
- Have obtained quick decision-makingskills.

B. Tech IV Year I Semester

(16MB750) MANAGERIAL ECONOMICS &FINANCIAL ANALYSIS

Course outcomes:

- The thorough understanding of Managerial Economics and Analysis of Financial Statements facilitates the Technocrats – cum – Entrepreneurs to take-updecisions effectively and efficiently in the challenging Business Environment.

(16AG716) DAIRY AND FOOD ENGINEERING

Course outcomes:

- Knowledge on milk and food processing unit operations offer strength to students to handle pasteurization, sterilization, packaging, etc. of dairy products and control spoilage of food through process operations such as evaporation, freezing, membrane processingetc.,

(16AG717) GREENHOUSE TECHNOLOGY

Course outcomes:

Studies will be familiar with

- Be proficient about identify the types and structures of existinggreenhouse.
- Students will learn the different systems for climate control in greenhouse and their management.
- Familiar with the techniques of light management and CO_2 enrichment used for increasing and control cropproduction.

(16ME325) REFRIGERATION & AIR CONDITIONING

Course Outcomes:

Students undergoing this course are able to

- Upon completion of this course, the students can able to demonstrate the operations in different Refrigeration & Air conditioning systems and also able to design Refrigeration & Air conditioningsystems.

(16AG718) MICRO IRRIGATION ENGINEERING

Course outcomes:

Studies will be familiar with

- Recognize importance of various micro irrigation systems anddesigns.
- Various basic terms related to development of irrigation in India and AP and classification if irrigationprojects.
- Be proficient about planning and design of micro irrigationsystems
- Various basic terms related to microirrigation.
- Proficient about water savingtechniques.

(16AG719) TRACTOR DESIGN AND TESTING (DEPARTMENT ELECTIVE-I)

Course outcomes:

Studies will be familiar with

- Be proficient in the use of software for analysis anddesign.
- Be proficient in an ability to identify, formulate and solve engineeringproblems.
- Various basic terms related to machine designaspects.

(16AG721) REMOTE SENSING & GIS APPLICATION (DEPARTMENT ELECTIVE-I)

Course outcomes:

On completion of the course the students will have knowledge on

- Principles of Remote Sensing andGIS
- Analysis of RS and GIS data and interpreting the data for modelingapplications

(16CE145) ELEMENTS OF ROAD TRAFFIC SAFETY

(OPEN ELECTIVE)

Course Outcomes:

After completion of this course the student:

- Can clearly understand the accident scenario, causes and measure to betaken
- Can know the trafficregulations
- Can understand the parking problems and can give solutions
- Can get an awareness of traffic signs, signals and roadmarkings
- Can understand the need of street light and their proper disposition onroad

(16EE239) NEURAL NETWORKS & FUZZY LOGIC

(OPEN ELECTIVE)

Course Outcomes:

At the end of the course the student will be able to

- Understand the basic concept of biological neuralnetworks
- Understand the basic concept of artificial neuralnetworks
- Create Neural Networkmodels.
- Understand the basic concepts of fuzzylogic.
- Create Fuzzymodels.

(16EC443) MATLABPROGRAMMING

Course Objectives:

- Understand the MATLAB Desktop, Command window and the Graph Window Be able to do simple and complex calculation using MATLAB Be able to carry out numerical computations and analyses Understand the mathematical concepts upon which numerical methods Ensure you can competently use the MATLAB programming environment Understand the tools that are essential in solving engineeringproblems

(16CS511) DATABASE MANAGEMENT SYSTEMS (OPEN ELECTIVE)

Course Outcome:

- Students can design the simple database, and can use the SQL instructions in developing the databaseapplications.
- Can apply the ER concepts to design thedatabases.
- Advanced concepts like triggers, assertions and constraints can be applied effectively in designing the businessapplications

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Master of Business Administration

I MBA – I Semester

(16MB701) MANAGEMENT & ORGANIZATIONAL BEHAVIOUR

Course Outcomes:

After the completion of course Students will be able to:

- Able to describe the basic principles, levels, skills of management and management theories and apply the concepts in real world.
- Analyze the various managerial functions to be performed and decision making in different contexts.
- Recognize, differentiate and assess for an individual, the concept of perception, values, attitudes and personality.
- Comprehend the various theories of motivation, leadership, and explore group dynamics for the benefit of the organizations.
- Apply leadership skills in different organizational contexts and lead the people.

(16MB702) FINANCIAL ACCOUNTING& ANALYSIS

Course Outcomes:

After the completion of course Students will be able to:

- Develop and understand the nature and purpose of financial statements in relationship to decision making.
- Determine the useful life and value of the depreciable assets.
- Recognize the relationship between the financing, investing and dividend decisions of the firm during the given point of time.
- Explain how cost volume profit analysis is to be applied by managers to answer various operating decisions, such as what level sales required to break even, how many units of Products are to be sold in order to earn a target level of profit.
- Gain an insight to a broad range of cost accounting concepts and their terminology

(16MB704) STATISTICS FOR MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Implement managerial applications of statistical methods in business problems
- Measure a central value of an observation and variation of an observation with its central value

- Gain better numerical understanding and its key applications to make valid findings and conclusions of data that has collected through different sources.
- Relate all possible kinds of relationships of dependent variables with independent variables
- Formulate hypothesis and test the same with tools of hypothesis testing to draw a proper conclusions about population.

(16MB705) MANAGERIAL ECONOMICS

Course Outcomes:

After the completion of course Students will be able to:

- Assess the importance of micro economics in business management
- Assess the roles of managers as economists in firms
- Analyze the internal and external decisions to be made by managers
- Analyze the demand and supply conditions and assess the position of a company
- Design competitive strategies, including costing, pricing, product differentiation, according to the natures of products and the structures of the markets.

(16HS610) PROFESSIONAL ENGLISH

Course Outcomes:

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

- Remember and understand the different aspects of the English language proficiency with emphasis on LSRW skills.
- Apply communication skills through various language learning activities.
- Analyze the English speech sounds, stress, rhythm, intonation and syllable division for better listening and speaking comprehension.
- Evaluate and exhibit acceptable etiquette essential in social and professional Settings.
- Create awareness on mother tongue influence and neutralize it in order to improve fluency in spoken English.
- Use effective communicative approaches by preparing job application, report and other kinds of writing correspondences.

(16MC849) FUNDAMENTALS OF COMPUTER AND INFORMATION SYSTEM

Course Outcomes:

After the completion of course Students will be able to:

- Demonstrate ability to create documents and Excel sheets for information storage
- Develop the documentation of using MS-Word.
- Sort the data and apply the mathematical calculation using MS-Excel.
- Develop the business presentation using MS-PowerPoint
- Gain an understanding of techniques of Google search engine.

(16HS607) ENGLISH LANGUAGE AND COMMUNICATION SKILLS LAB

Course Outcomes:

- Remember and understand the different aspects of the English language proficiency with emphasis on LSRW skills.
- Apply communication skills through various language learning activities.
- Analyse the English speech sounds, stress, rhythm, intonation and syllable division for better listening and speaking comprehension.
- Evaluate and exhibit acceptable etiquette essential in social and professional Settings.
- Create awareness on mother tongue influence and neutralize it in order to improve fluency in spoken English.

(16MC850) FUNDAMENTALS OF COMPUTER AND INFORMATION SYSTEM LAB

Course Outcomes:

After the completion of course Students will be able to:

- Demonstrate ability to create documents and Excel sheets for information storage
- Develop the documentation of using MS-Word.
- Sort the data and apply the mathematical calculation using MS-Excel.
- Develop the business presentation using MS-PowerPoint
- Gain an understanding of techniques of Google search engine.

I MBA. – II Sem.

(16MB706) HUMAN RESOURCE MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding of the concept of human resource management and its relevance in organizations.
- Explain the current theory and practice of recruitment and selection. This includes but is not limited to the supply of human resource and the advantages and disadvantages of external and internal recruiting.
- Assess the relevant recruitment and selection, and performance appraisal methods to be used in different contexts.
- Develop, implement, and evaluate compensation, employee orientation, training, and development programs.
- Demonstrate the significance of contemporary issues such as diversity management, talent management and so on to both employers and employees

(16MB707) FINANCIAL MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Demonstrate the applicability of the concept of Financial Management; understand its objectives and role of a Financial Manager.
- Analyze and evaluate the investment decisions.
- Manage the working capital requirements of a firm
- Apply the Leverage and EBIT EPS Analysis associated with financial data of the firm
- Demonstrate an understanding of the Cost of capital.

(16MB709) MARKETING MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Demonstrate strong conceptual knowledge in the functional area of marketing management.
- Develop an understanding of various facets of Marketing management
- Demonstrate the ability to take decisions and plan, develop, execute and control marketing strategies
- Ensure various marketing programs for the attainment of organizational marketing goals.
- Demonstrate analytical skills in identification and resolution of problems pertaining to marketing management.

(16MB710) BUSINESS RESEARCH METHODS

Course Outcomes:

After the completion of course Students will be able to:

- Develop understanding on various kinds of business research concepts.
- Gain knowledge on Research process and hypothesis development with different research design.
- Demonstrate adequate knowledge on sampling procedure and data collection methods.
- Apply knowledge of measurement & scaling techniques as well as the quantitative data analysis for research problems.
- Assess the importance of Research Report writing in systematic way.

(16MB711) OPERATIONS MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Identify the elements of operations management and various transformation processes to enhance productivity and competitiveness.
- Analyze and evaluate various facility alternatives and their capacity decisions.

- Develop a balanced line of production & scheduling and sequencing techniques in operation environments
- Develop aggregate capacity plans and MPS in operation environments.
- Plan and implement suitable materials handling principles and practices in the operations.

(16MB712) MANAGEMENT INFORMATION SYSTEMS

Course Outcomes:

After the completion of course Students will be able to:

- Explain the importance of information system in decision making.
- Determine information system requirements for all management levels by describing the differences between various types of information systems.
- Apply probability theory in decision making situations.
- Apply an ERP system to manage a company.
- Implement and evaluate all aspects management information systems

(16MB713) WORLD TRADE ORGANIZATION & INTELLECTUAL PROPERTY RIGHTS

Course Outcomes:

After the completion of course Students will be able to:

- Identify different types of Intellectual Properties (IPs), the right of ownership, scope of protection as well as the ways to create and to extract value from IP
- Recognize the crucial role of IP in organizations of different industrial sectors for the purposes of product and technology development
- Identify activities and constitute IP infringements and the remedies available to the IP owner
- Describe the precautious steps to be taken to prevent infringement of proprietary rights in products and technology development.
- Be familiar with the processes of Intellectual Property Management (IPM) and various approaches for IPM and conducting IP and IPM auditing and explain how IP can be managed as a strategic resource and suggest IPM strategy.
- Be able to anticipate and subject to critical analysis arguments relating to the development and reform of intellectual property right institutions and their likely impact on creativity and innovation.

(16MB714) CROSS CULTURAL MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Appreciate the critical role of culture in international business and the importance of managing cultural differences

- Analyze the interacting spheres of culture including organizational culture, professional culture, national culture, and industry culture.
- Discern the influence of culture on different functions of management including communication, negotiation, marketing, leadership, motivation, human resource management and teams.
- Display an understanding of cultural difference in interactions with different nationalities and an awareness of and sensitivity to cross-cultural issues.
- Understand and explain issues of cultural awareness when conducting international business
- Build mind-set and skill-set of a competent leader who appreciates and leverages diversity in talents and organizations s/he works with

(16MB715) BUSINESS COMMUNICATION LAB

Course Outcomes:

- Remember and understand the different aspects of the English language proficiency with emphasis on LSRW skills.
- Apply communication skills through various language learning activities.
- Analyse the English speech sounds, stress, rhythm, intonation and syllable division for better listening and speaking comprehension.
- Evaluate and exhibit acceptable etiquette essential in social and professional Settings.
- Create awareness on mother tongue influence and neutralize it in order to improve fluency in spoken English.

(16MB716) INDUSTRY ANALYSIS REPORT

Course Outcomes:

After the completion of course Students will be able to:

- Gain an understanding of the dynamics of a specific industry.
- Compare various issues particular to an industry.
- Develop cross-functional perspective of the functioning of a business enterprise and an industry.
- Develop awareness about the future prospective problems based on secondary source of data.
- Learn and examine the trends of growth or decline in industry.
- Analyze the issues of an industry and an enterprise with respect to set basic parameters

(COE-II) COMPREHENSIVE ONLINE EXAMINATION-II

Course Outcomes:

- 1 Identify some of the traps to avoid when setting up a new business
- 2 Engage with like-minded professionals online

- 3 Prepare a business plan for the bank
- 4 Analyse your online competition
- 5 Demonstrate how to pin a photo on Pinterest

(16HS619) HUMAN VALUES AND PROFESSIONAL ETHICS FOR MANAGER

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about the moral issues in a society to live in harmony in the society
- Maintain professional, personal ethics and avoid discriminatory practices.
- Handle ethical dilemmas in various functional disciplines and live in balance with environment
- Realize the significance of mutual trust and abiding by the code of conduct in the organizations and as well in the society.
- Gain an insight into ethics, responsibilities, code of conduct in organizations.

II MBA. – I Sem.

(16MB717) BUSINESS ETHICS AND CORPORATE GOVERNANCE

Course Outcomes:

After the completion of course Students will be able to:

- Apply various ethical principles in business and corporate social responsibility practices
- Recognize how personal ethics can influence behavior and apply in decision making
- Explain the ethical challenges facing the various functional departments
- Identify the organizational and cultural variables that impact ethical judgment
- Analyze various ethical codes in corporate governance
- Identify organizational policies and systems that employ ethical conduct

(16MB718) ENTREPRENEURSHIP DEVELOPMENT.

Course Outcomes:

After the completion of course Students will be able to:

- Discern distinct entrepreneurial traits and identify the successful elements of successful entrepreneurial ventures
- Consider the legal and financial conditions for starting a venture and to assess the opportunities and constraints for new ventures
- Design strategies for the successful implementation of ideas
- Comprehend the evaluation of business opportunity from the prospective of an investor
- Identify the most suitable sources of finance for start-ups

- Write and execute their own business plan

(16MB719) BUSINESS LAWS

Course Outcomes:

After the completion of course Students will be able to:

- Gain an insight into various laws in the country to regulate business aspects
- Identify the legal principles in making contractual agreements.
- Recognize the importance of business law in economic, political and on social context.
- Analyze the legal issues involved in the formation and winding up of a company.
- Explain to compute Income Tax and various forms of Taxes.

(16MB720) SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about investment management and trading securities
- Examine and value the major investment vehicles and strategies to allocate funds
- Make decisions of allocation and selection of assets based on trade-off between risk and return, risk mitigating tools and investment avenues.
- Define the objectives in constructing and managing a portfolio and learn to create an investment policy statement.
- Develop knowledge of modern portfolio theory and effect of diversification on investment portfolios
- Gain knowledge to measure and evaluate portfolio performance and to manage the risk.
-

(16MB721) SALES AND DISTRIBUTION MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Gain an understanding about the roles and responsibilities of the Sales Managers
- Manage and enhance the sales force productivity and performance.
- Get an insight towards distribution channels, their organization structures and to make value addition to channels.
- Plan and implement an effective sales strategy for their organizations.
- Design and implement distribution channel strategy.
- Manage the Channels efficiency and effectiveness across countries

(16MB722) PERFORMANCE MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Gain an insight towards performance management and performance appraisal.

- Compare and contrast various organizational performance management programs and best practices and define attributes of effective performance management systems.
- Assess how increased employee involvement can contribute to effective performance and coach employees to identify career paths and resources available to support individual development.
- Practically experience a number of tools which are critical to the new performance management systems.
- Realize the value of and drawbacks of modern performance management systems such as 360, MBO conducted in the organizations.
- Develop an understanding towards the issues involved in effective performance management

(16MB723) ENTERPRISE RESOURCE PLANNING

Course Outcomes:

After the completion of course Students will be able to:

- Make basic use of Enterprise software, and its role in integrating business functions
- Analyze the strategic options for ERP identification and adoption.
- Develop and design the modules used in ERP systems
- Create reengineered business processes for successful ERP implementation.
- Customize the existing modules of ERP systems.
- Examine the places where formal development approaches of ERP systems can be fruitful and where they may not be so helpful.

(16MB724) RISK MANAGEMENT AND INSURANCE

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about the Principles, essential features and objectives of risk management.
- Gain knowledge of the range of financial and financial related risks facing organizations.
- Examine the role of public policy including social insurance in personal financial planning and risk management.
- Determine approach to risk management through risk identification, risk measurement and risk management (or mitigation)
- Identify, understand operational risk and how to manage it.
- Assess significance of insurance policies and calculation of insurance premiums for living and non – living objects.

(16MB725) ADVERTISING AND SALES PROMOTION MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about various types of advertising and its forms.
- Realize the significance of advertising agency and the client agency relationship through selection of media
- Handle advertising budget and measure the effectiveness of advertising.
- Comprehend the values and ethics in advertising and apply in practice
- Identify various suitable sales promotion tools and techniques for various groups
- Organize and measure the effectiveness of sales promotion campaigns.

(16MB726) KNOWLEDGE MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Explain the key theories and models that inform knowledge management
- Critically apply theory to organisations in order to identify and justify effective knowledge management strategies and activities
- Access and evaluate essentials relating to knowledge management
- Communicate clearly and implement effectively varying formats and technologies
- Design problem solutions based upon research findings and critical assessment of current theory and practice
- Develop an insight towards the future of knowledge management from industry perspective

(16MB727) DATA WAREHOUSING AND MINING

Course Outcomes:

After the completion of course Students will be able to:

- Gain an understanding towards Data Warehouse fundamentals, Data Mining Principles
- Design data warehouse with dimensional modeling and apply OLAP operations.
- Identify appropriate data mining algorithms to solve real world problems
- Compare and evaluate different data mining techniques like classification, prediction, clustering and association rule mining
- Describe complex data types with respect to spatial and web mining.
- Apply and select suitable methods for data analysis.

(16MB728) FINANCIAL INSTITUTIONS, MARKETS AND SERVICES

Course Outcomes:

After the completion of course Students will be able to:

- Demonstrate an awareness of the current structure and regulation of the Indian financial services sector.

- Apply concepts relevant to financial markets and financial institutions, such as the flow of funds, levels of interest rates and interest rate differentials
- Identify the functions of financial markets and institutions and examine their impact on the level of interest rates and interest differentials.
- Describe the instruments, participants and operation of the money market and role of intermediaries in the primary market
- Explore the integration of international financial markets and analyze the implications for financial managers.
- Evaluate and create strategies to promote financial products and services

(16MB729) CUSTOMER RELATIONSHIP MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Demonstrate how knowledge of consumer behaviour can be applied to marketing.
- Identify and explain factors which influence consumer behaviour.
- Relate internal dynamics such as personality, perception, learning motivation and attitude to the choices consumers make.
- Realize the principal factors that influence consumers as individuals and decision makers with an application to the buying decision process.
- Develop marketing strategies that are consumer based and create and enhance customer
- Discern the concept of Consumerism and legislative responses to consumerism, and marketer responses to consumer issues

(16MB730) TRAINING AND DEVELOPMENT

Course Outcomes:

After the completion of course Students will be able to:

- Explain the role of training and development in human resources management.
- Describe the psychology of the learning process on which training is based.
- Analyze the training needs of an organization.
- Assess, design, access and implement various methods, techniques and sources of training.
- Evaluate the value of the training once completed from the individual employee and the organization's viewpoint.
- Develop an appropriate training strategy for today's organization

(16MB731) SUPPLY CHAIN MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Appreciate the evolution and identify the role of supply chain management in the economy
- Identify and evaluate the drivers of supply chain management
- Analyze the importance of make or buy decisions and identify appropriate suppliers
- Appraise the importance of supply chain networks
- Assess the risk associated with supply chain practices and take better decisions
- Familiarize with and apply various computer based supply chain optimization tools

(16MB732) MANAGEMENT CONTROL SYSTEMS

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about the role of cost accounting in the business management of manufacturing and non- manufacturing companies.
- Apply accounting methods of cost calculation and interpret cost accounting statements.
- Analyze and evaluate information for cost ascertainment, planning, control and decision making
- To know the various stock valuation methods adopted by various business organisations.
- Gain an understanding between the relationship between cost accounting, financial accounting and management accounting role in decision making.
- Prepare a budget and use budgets for performance evaluation after flexing the budget.

(16MB733) PRODUCT AND BRAND MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Gain an insight into the fundamental concepts of product and brand development
- Use the brand positioning framework to develop a brand, keep it relevant, expand a brand internationally, and reposition a brand
- Use tools and metrics to measure branding and interpret brand performance
- Recognize the importance of using branding strategies in an organization.
- Develop an understanding about the differences in branding to various sectors
- Assess and apply branding strategies to various products across different sectors.

(16MB734) HUMAN RESOURCE PLANNING

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about how to plan for human resources and implement techniques of man power forecasting and inventorying

- Analyze the role of recruitment and selection in relation to the organization‟s business
- Competency to recruit, select and appraise the performance of the employees
- Handle employee issues such as employee separation and evaluate new trends in managing the staff in organizations
- Appraise succession plans and critical staffing objectives and evaluate the complexities of downsizing issues and the role of HR planning in the process of downsizing
- Develop appropriate technologies and management patterns to improve business

(16MB735) E – BUSINESS

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about the E- Markets and E- business infrastructure and trends
- Identify various procurement methods, their benefits and risks and assess different options for integration of organizations‟ information systems with e-procurement suppliers.
- Analyze different types of portal technologies and deployment methodologies commonly used in the industry for security and reliability of E- business.
- Analyze the effectiveness of network computing and cloud computing policies in a multi-location organization.
- Analyze real business cases regarding their e-business strategies and transformation processes and choices.
- Integrate theoretical frameworks with business strategies.

(16MB736) BUSINESS SIMULATION LAB

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about the EXCEL lessons
- Get familiarize with basic to intermediate skills for using Excel in the classroom vis-à-vis Business Applications
- Hands on experience on MS Excel Utilities
- Create solutions for Data Management and Reporting
- Gain an understanding about the SPSS and experts in handling data files and carry out basic statistical analysis
- Test basic hypothesis using t tests, Chi Square tests and ANOVA.

(COE-III) COMPREHENSIVE ONLINE EXAMINATION-III

Course Outcomes:

- 1 Identify some of the traps to avoid when setting up a new business
- 2 Engage with like-minded professionals online

- 3 Prepare a business plan for the bank
- 4 Analyse your online competition
- 5 Demonstrate how to pin a photo on Pinterest

(16HS616) APTITUDE TEST-I

Course Outcomes:

- Plan, and engage in, an independent and sustained critical investigation and evaluation of a chosen research topic relevant to environment and society
- Systematically identify relevant theory and concepts, relate these to appropriate methodologies and evidence, apply appropriate techniques and draw appropriate conclusions
- Engage in systematic discovery and critical review of appropriate and relevant information sources
- Appropriately apply qualitative and/or quantitative evaluation processes to original data
- Understand and apply ethical standards of conduct in the collection and evaluation of data and other resources
- Communicate research concepts and contexts clearly and effectively both in writing and orally

II MBA – II Sem.

(16MB737) STRATEGIC MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Describe major theoretical concepts, background work and research output in the field of strategic management.
- Develop an understanding of the strategic management process and the functional strategies
- Conduct analysis using various tools and frameworks to make strategic decisions
- Explain the basic concepts, principles and practices associated with strategy formulation and implementation
- Analyze various strategies and explore appropriate strategic implementation at business and corporate levels
- Analyze and evaluate critically real life company situations and develop creative solutions, using a strategic management perspective

(16MB738) ENVIRONMENTAL BUSINESS MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Demonstrate an understanding of comprehensive systemic analysis across both physical and behavioural dimensions involving society, the environment, and the economy.
- Analyze the role of environmental sustainability in the promotion of comprehensive justice and equity.
- Gain an insight towards the basic sustainability concepts of evolutionary processes, inter-generational debt, socio-political adaptation, climate change, ecosystem services, and environmental justice
- Articulate a comprehensive world view that integrates diverse approaches to sustainability.
- Realize the significance of environmental reporting and green product management
- Identify how globalized processes impact socio ecological systems. Develop appropriate technologies and management patterns to create harmony with the environment

(16MB739) FINANCIAL DERIVATIVES

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about the various financial derivative securities (Futures, Forwards and Options).
- Describe standard derivative contracts, their properties and functionality.
- Analyze the role and relationship between forward and futures prices.
- Apply scientific methods for valuation of options and other derivatives, in continuous and discrete time.
- Interpret and apply risk measures that are commonly used in risk management.
- Describe how swaps can reduce market risks and use a simulation to assess a risk hedging strategy based on interest rate swaps

(16MB740) SERVICES MARKETING

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding understand the characteristics of services, understand consumer behavior in services, align service design and standards, delivering service, managing services promises
- To segment markets for services and create value in the market for new services
- Implement pricing and promotion strategies for services
- Focus on the role of marketing communication and set communication strategies for service marketing
- Plan and execute the delivery of services based on the requirement.
- Develop appropriate strategies for marketing of the services

(16MB741) ORGANIZATIONAL DEVELOPMENT

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding and appreciation of the various concepts of organizational development
- Learn how to apply some of the key concepts and tools organizational development and change leadership and management.
- Discuss and analyze diagnostic tools used to assess organizational effectiveness.
- Identify major types of organizational development interventions.
- Demonstrate how to evaluate organizational development interventions
- Apply human resource intervention techniques in different management scenarios.

(16MB742) DATA COMMUNICATION AND NETWORK ANALYSIS

Course Outcomes:

After the completion of course Students will be able to:

- Explain the concept of Data communication and networks, layered architecture and their applications
- Evaluate data communication link considering elementary concepts of data link layer protocols for error detection and correction.
- Analyse and Set up protocol designing issues for Communication networks.
- Apply various network layer techniques for designing subnets and supernets and analyse packet flow on basis of routing protocols.
- Estimate the congestion control mechanism to improve quality of service of networking application
- Understand and design application layer protocols and internet applications such as network security

(16MB743) INTERNATIONAL FINANCIAL MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Analyse, apply and evaluate information within the global financial environment of foreign exchange to solve problems and make informed decisions.
- Review the problems of dealing in foreign currency and the advantages and disadvantages of overseas funding
- Demonstrate the use of foreign exchange derivatives and other methods to manage foreign exchange exposure and risk
- Describe the issues pertaining to cross-border investment decisions and financing MNCs

- Analyse the complexities associated with management of cost of funds in the capital Structure in MNCs
- Analyse, evaluate and synthesize both quantitative and qualitative financial information to influence problem solving and decision making

(16MB744) INTERNATIONAL MARKETING

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about the major issues related to international marketing
- To assess an organization‟s ability to enter and analyse various strategies to enter and compete in international markets
- Identify and analyse opportunities within international marketing environments
- Handle new product development and branding in international markets
- Realize the factors that affect the distribution channels and structures in international markets and take appropriate decisions
- Develop an understanding towards the procedures and documentation in the export and import process in the country and apply in practice

(16MB745) GOLBAL HUMAN RESOURCE MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about importance of Human resource at international level and also identify the differences between domestic and international human resource management
- To understand and assess the various cultural and human variables that influence in the workplace.
- Understand the nature, sources and different methods for recruiting people at international level and apply them along with compensation of human resources based on their skills.
- Perform the functional roles of HRM in International context especially in recruitment and selection, performance management, training, learning and development and repatriation.
- Apply different appraisal methods and trainings that are available for International staffing.
- Assess about the industrial relations in other nations and also to manage people in different locations.

(16MB746) CORPORATE INFORMATION MANAGEMENT

Course Outcomes:

After the completion of course Students will be able to:

- Define an information system from both a technical and business perspective and distinguish between computer literacy and information systems literacy
- Identify the major management challenges to building and using information systems in organizations
- Identify managerial risks related to information system organization processing and utilizing
- Explain how enterprise systems and industrial networks create new efficiencies for businesses
- Apply outsourcing of business activities and manage the risk and relationship with outsourcing agencies
- Highlight the role of projects in modern day business organizations and sensitize the complexities of project management.

(16MB747) SEMINAR (CONTEMPORARY ISSUES ON BUSINESS)

Course Outcomes:

After the completion of course Students will be able to:

- Develop an understanding about the issues in the business enterprises across various industrial sectors
- Practice and maintain communication, logical and analytical skills learnt in the MBA program
- Construct new ability to practice new problem solving skills and use these skills in personal life.
- Demonstrate necessary skills to handle day-to-day managerial responsibilities, such as making speeches, giving effective presentations and maintaining one's poise in private and public
- Develop proactive thinking to perform effectively in the dynamic socio economic business systems
- Learn the etiquette essentials to perform in various communication roles as business managers

(16MB748) PROJECT WORK

Course Outcomes:

- Plan, and engage in, an independent and sustained critical investigation and evaluation of a chosen research topic relevant to environment and society
- Systematically identify relevant theory and concepts, relate these to appropriate methodologies and evidence, apply appropriate techniques and draw appropriate conclusions

- Engage in systematic discovery and critical review of appropriate and relevant information sources
- Appropriately apply qualitative and/or quantitative evaluation processes to original data
- Understand and apply ethical standards of conduct in the collection and evaluation of data and other resources
- Communicate research concepts and contexts clearly and effectively both in writing and orally

(COE-IV) COMPREHENSIVE ONLINE EXAMINATION-IV

Course Outcomes:

- 1 Identify some of the traps to avoid when setting up a new business
- 2 Engage with like-minded professionals online
- 3 Prepare a business plan for the bank
- 4 Analyse your online competition
- 5 Demonstrate how to pin a photo on Pinterest

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Master of Computer Applications

I MCA – I Semester

(16HS601) FUNCTIONAL ENGLISH

Course Outcomes:
Students will be able to

- Use LSRW skills through the prescribed text and develop their ability to communicate effectively.
- Articulate well among themselves and with Faculty.
- Construct compound sentences using common conjunctions.
- Manage to organize and deliver oral presentations.
- Demonstrate the skills needed to participate in a conversation that builds knowledge collaboratively.

(16HS613) PROBABILITY & STATISTICS

Course Outcomes:
At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in group discussions
- Have developed ability in writing in various contexts
- Have acquired a proper level of competence for employability

(16HS618) MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

Course Outcomes:
At the end of the course, students would be expected to:

- Have acquired ability to participate effectively in group discussions
- Have developed ability in writing in various contexts
- Have acquired a proper level of competence for employability

(16MC801) COMPUTER PROGRAMMING AND PROBLEM SOLVING

Course Outcomes:
Upon completion of the subject, students will be able to

- Student can effectively apply problem solving techniques in designing the solutions for a wide range of problems.
- Write, compile and debug programs in C language.
- Design programs involving decision structures, loops and functions.
- Explain the difference between call by value and call by reference
- Understand the dynamics of memory by the use of pointers.

(16MC802) COMPUTER ORGANIZATION

Course Outcomes:

- Able to design digital circuits by simplifying the Boolean functions
- Able to understand the organization and working principle of computer hardware components
- Able to understand mapping between virtual and physical memory
- Acquire knowledge about multiprocessor organization and parallel processing
- Able to trace the execution sequence of an instruction through the processor

(16HS607) ENGLISH LANGUAGE AND COMMUNICATION SKILLS LAB

Course outcomes:

- To become active participants in the learning process and acquire proficiency in spoken English.
- To speak with clarity and confidence thereby enhances employability skills.
- To prepare effective job application

(16MC803) P. C. SOFTWARE LAB

Course Outcomes:

- Able to disassemble and assemble the PC back to working condition.
- Able to know installation of softwares.
- Able to understand mapping between virtual and physical memory.
- Able to know Software troubleshooting and Hardware Troubleshooting.
- Able to work on MS Office tools

(16MC804) C PROGRAMMING LAB

Course Outcomes:

Upon completion of the subject, students will be able to

- Write, compile and debug programs in C language.
- Apply Problem solving techniques to find solutions to problems.
- Ale to use C language features effectively and implement solutions using C language.
- Able to improve logical skills.
- Design programs involving decision structures, loops and functions.
- Explain the difference between call by value and call by reference
- Understand the dynamics of memory by the use of pointers.
- Design programs involving files.

I MCA – II Semester

(16HS610) PROFESSIONAL ENGLISH

Course Outcomes:

Students will be able to

- Use LSRW skills through the prescribed text and develop their ability to communicateeffectively

- Articulate well among themselves and with Faculty.
- Construct compound sentences using common conjunctions.
- Manage to organize and deliver oral presentations.
- Demonstrate the skills needed to participate in a conversation that builds knowledgeCollaboratively

(16MB749) ACCOUNTING & FINANCIAL MANAGEMENT

Course Outcomes:

- This course is designed to introduce students to the principles, concepts, and applicationsof financial accounting and management.

(16MC805) OOPS THROUGH JAVA

Course Outcomes:

Students who have completed this course able to:

- Understand fundamentals of programming such as variables, conditional and iterativeexecution, methods, etc.
- Understand fundamentals of object-oriented programming in Java, including definingclasses, invoking methods, using class libraries, etc.
- Have the ability to write a computer program to solve specified problems.
- Able to do the java collection framework programs.
- Work with GUI, Event handling mechanism.

(16MC806) DATA STRUCTURES

Course Outcomes:

- Learn how to use data structure concepts for realistic problems.
- Ability to identify appropriate data structure for solving computing problems inC language.
- Ability to solve problems independently and think critically.

(16MC807) DATABASE MANAGEMENT SYSTEMS

Course Outcomes:

- Understand the basic concepts of the database and data models.
- Design a database using ER diagrams and map ER into Relations and normalize the relations.
- Acquire the knowledge of query evaluation to monitor the performance of the DBMS.
- Develop a simple database applications using normalization.
- Acquire the knowledge about different special purpose databases and to critique how theydiffer from traditional database systems.

(16MC808) JAVA PROGRAMMING LAB

Course Outcomes:

After completion of this course, the students would be able to

- Understand programming language concepts, particularly Java and object-orientedconcepts.
- Write, debug, and document well-structured Java applications
- Implement Java classes from specifications
- Effectively create and use objects from predefined class libraries
- Understand the behavior of primitive data types, object references, and arrays
- Apply decision and iteration control structures to implement algorithms
- Write simple recursive algorithms
- Implement interfaces, inheritance, and polymorphism as programming techniques.
- Implement Java collection frame work as programming techniques.

(16MC809) DATA STRUCTURES THROUGH C LAB

Course Outcomes:

At the end of this lab session, the student will

- Be able to design and analyze the time and space efficiency of the data structure ·
- Be capable to identity the appropriate data structure for given problem · Have practical knowledge on the applications of data structures

(16MC810) DATABASE MANAGEMENT SYSTEMS LAB

Course Outcomes:

- Able to master the basic concepts and understand the applications of database systems.
- Able to construct an Entity-Relationship (E-R) model from specifications and totransform to relational model.
- Able to construct unary/binary/set/aggregate queries in Relational Algebra.
- Understand and apply database normalization principles.
- Able to construct SQL queries to perform CRUD operations on database. (Create,Retrieve, Update, Delete)
- Understand principles of database transaction management, database recovery, security.

(16HS616) APTITUDE PRACTICE-I

Course Outcomes:

At the end of the course, students would be expected to:

- Have developed the subtle way of approaching in the candidate.
- Have acquired the decision making with in no time.
- Have acquired logical thinking during professional tenure.
- Have obtained quick decision making skills.

II MCA – I Semester

(16MC811) COMPUTER NETWORKS

Course Outcomes:

- Able to trace the flow of information from one node to another node in the network
- Able to Identify the components required to build different types of networks
- Able to understand the functionalities needed for data communication into layers
- Able to choose the required functionality at each layer for given application
- Able to understand the working principles of various application protocols
- Acquire knowledge about security issues and services available

(16MC812) OBJECT ORIENTED ANALYSIS AND DESIGN (USING UML)

Course Outcomes:

- Understand the basic concepts to identify state & behavior of real world objects
- Able to learn the various object oriented methodologies and choose the appropriate one forsolving the problem with the help of various case studies
- Understand the concept of analysis, design & testing to develop a document for the project
- Able to implement analysis, design & testing phases in developing a software project

(16MC813) OPERATING SYSTEMS

Course Outcomes:

- Able to understand the operating system components and its services
- Implement the algorithms in process management and solving the issues of IPC
- Able to demonstrate the mapping between the physical memory and virtual memory
- Able to understand file handling concepts in OS perspective
- Able to understand the operating system components and services with the recent OS

(16MC814) LINUX PROGRAMMING

Course Outcomes:

- Work confidently in Linux environment.
- Work with shell script to automate different tasks as Linux administration

(16MC815) DATA WAREHOUSING AND MINING

Course Outcomes:

Upon Completion of the course, the students will be able to

- Store voluminous data for online processing
- Preprocess the data for mining applications
- Apply the association rules for mining the data
- Design and deploy appropriate classification techniques
- Cluster the high dimensional data for better organization of the data
- Discover the knowledge imbibed in the high dimensional system

- Evolve Multidimensional Intelligent model from typical system
- Evaluate various mining techniques on complex data objects

(16MC816) UML LAB

(16MC817) OPERATING SYSTEMS AND LINUX PROGRAMMING LAB

Course Outcomes:

Upon completion of this course the students should:

- Understand process management, concurrent processes and threads, memory
- management, virtual memory concepts, deadlocks
- Compare performance of processor scheduling algorithms
- Produce algorithmic solutions to process synchronization problems

(16MC818) DATA WAREHOUSING AND MINING LAB

Course Outcomes:

After undergoing the course students will be able to

- Synthesize the data mining fundamental concepts and techniques from multiple perspectives.
- Develop skills and apply data mining tools for solving practical problems
- Advance relevant programming skills.
- Gain experience and develop research skills by reading the data mining literature.

AUDIT COURSE

(16HS614) COMPREHENSIVE SOFT SKILLS

Course Outcomes:

- To know the importance of Soft Skills.
- To apply Soft Skills in the different environment.
- To enrich the different levels of Soft Skills to develop their personality.

II MCA – II Semester

(16MC819) SOFTWARE ENGINEERING

Course Outcomes:

- Get an insight into the processes of software development
- Able to understand the problem domain for developing SRS and various models ofsoftware engineering
- Able to Model software projects into high level design using DFD diagrams
- Able to Measure the product and process performance using various metrics
- Able to Evaluate the system with various testing techniques and strategies

(16MC820) WEB TECHNOLOGIES

Course Outcomes

Student be able to:

- Do the server side programming, maintain sessions.
- Establish the DB connections and access the data.
- Design pages using PHP and AJAX.

(16MC821) COMPUTER GRAPHICS

Course Outcomes:

- Gain proficiency in 3D computer graphics API programming
- Enhance the perspective of modern computer system with modeling, analysis andinterpretation of 2D and 3D visual information

(16MC822) BIG DATA ANALYTICS
DEPARTMENT ELECTIVE – I

Course Outcomes:

The students will be able to:

- Work with big data platform
- Analyze the big data analytic techniques for useful business applications.
- Design efficient algorithms for mining the data from large volumes.
- Analyze the HADOOP and Map Reduce technologies associated with big dataanalytics
- Explore on Big Data applications Using Pig and Hive
- Understand the fundamentals of various bigdata analysis techniques

(16MC823) NEURAL NETWORKS& FUZZY LOGIC

Course Outcomes:

- Understand basic knowledge of fuzzy sets and fuzzy logic.
- Apply basic fuzzy inference and approximate reasoning.
- Understand principles of neural networks.
- Apply basic fuzzy system modelling methods.

(16MC824) DISTRIBUTED SYSTEMS

Course Outcomes:

After completion of this course, the student is:

- Able to explain what a distributed system is, why you would design a system as a distributed system, and what the desired properties of such systems are;
- Able to list the principles underlying the functioning of distributed systems, describe the problems and challenges associated with these principles, and evaluate the

effectiveness and shortcomings of their solutions;

- Able to recognize how the principles are applied in contemporary distributed systems, explain how they affect the software design, and be able to identify features and design decisions that may cause problems;
- Able to design a distributed system that fulfills requirements with regards to key distributed systems properties (such as scalability, transparency, etc.), be able to recognize when this is not possible

(16MC825) SERVICE ORIENTED ARCHITECTURE (DEPARTMENT ELECTIVE – I)

Course Outcomes:

- Known about the basic principles of service oriented architecture , its components andtechniques
- Understand the architecture of web services
- Able to design and develop web services using protocol
- Understand technology underlying the service design
- Acquire the fundamental knowledge of cloud computing

(16MC826) INFORMATION SECURITY (DEPARTMENT ELECTIVE-II)

Course Outcomes:

- Apply cryptographic algorithms for encrypting and decryption for secure data transmission
- Understand the importance of Digital signature for secure e-documents exchange
- Understand the program threats and apply good programming practice
- Get the knowledge about the security services available for internet and web applications
- Gain the knowledge of security models and published standards

(16MC827) SOCIAL NETWORKS AND SEMANTIC WEB (DEPARTMENT ELECTIVE – II)

Course Outcomes:

- Understand semantic web basics, architecture and technologies
- Able to represent data from a chosen problem in XML with appropriate semantic tagsobtained or derived from the ontology
- Able to understand the semantic relationships among these data elements using ResourceDescription Framework (RDF)
- Able to design and implement a web services application that “discovers” the data

and/orother web services via the semantic web

- Able to discover the capabilities and limitations of semantic web technology for socialnetworks

(16MC828) GEOLOGICAL INFORMATION SYSTEMS (DEPARTMENT ELECTIVE – II)

Course Outcomes:

- Understand GIS concepts and spatial data representation
- Able to design spatial data input in raster form as well as vector form
- Understand vector data analysis and output functions
- Understand raster data geo processing
- Able to design a GIS model for real world problem

(16MC829) .NET TECHNOLOGIES (DEPARTMENT ELECTIVE – II)

Course Outcomes:

- Aware of .net framework components.
- Creating simple data binding applications in VB using ADO.Net connectivity.
- Able to create a web form application using c#.
- Performing Database operations for windows form.
- Able to create a web applications.
- Creating user interactive web pages.

(16MC830) SOFTWARE ENGINEERING LAB

Course Outcomes:

- Able to prepare various phases of Spiral model.
- Able to draw E-R diagram, DFD, UML diagrams for the project
- Able to develop PERT and CPM project schedule methods.
- Able to analyze and prepare RMMM plan.

(16MC831) WEB TECHNOLOGIES LAB

Course Outcomes

Student is able to:

- Design and work with HTML5 and CSS applications.
- Usage of javascript functions and objects.
- Do the server side programming, maintain sessions.
- Establish the DB connections and access the data.
- Ability to work on Java Server Page
- Design pages using PHP and AJAX.

(16MC832) COMPUTER GRAPHICS LAB

Course Outcomes:

- Able to analyze the basic concepts of computer graphics.
- Able to design scans conversion problems using C programming.
- Able to implement Line, circle and ellipse algorithms
- Able to implement clipping and filling techniques for modifying an object.
- Able to analyze and implement the concepts of different typeof geometric transformationoperations on objects in 2D and 3D.
- Able to implement the practical programs of modeling, viewing of objects in 2D

AUDIT COURSE
(16HS617) APTITUDE PRACTICE – II

Course Outcomes:

At the end of the course, students would be expected to:

- Have developed the subtle way of approaching in the candidate.
- Have acquired the decision making with in no time.
- Have acquired logical thinking during professional tenure.
- Have obtained quick decision making skills.

III MCA – I Semester

(16MC833) SOFTWARE TESTING

Course Outcomes:

- Test the software by applying testing techniques to deliver a product free from bugs
- Evaluate the web applications using bug tracking tools.
- Investigate the scenario and the able to select the proper testing technique
- Explore the test automation concepts and tools
- Deliver quality product to the clients by way of applying standards such as TQM, SixSigma
- Evaluate the estimation of cost, schedule based on standard metrics

(16MC834) MOBILE APPLICATION DEVELOPMENT

Course Outcomes:

- Students understood the aspects of mobile programming that make it unique from programming for other platforms
- Students program mobile applications for the Android operating system by use basic andadvanced phone features
- Also deploy applications to the Android marketplace for distribution

(16MC835) SOFTWARE PROJECT MANAGEMENT

Course Outcomes:

- Understand the activities during the project scheduling of any software application.
- Learn the risk management activities and the resource allocation for the projects.
- Can apply the software estimation and recent quality standards for evaluation of the software projects.
- Acquire knowledge and skills needed for the construction of highly reliable software project.
- Able to create reliable, replicable cost estimation that links to the requirements of projectplanning and managing

(16MC836) CYBER SECURITY
(DEPARTMENT ELECTIVE – III)

Course Outcomes:

After learning the course the students should be able to:

- Understand cyber-attack, types of cybercrimes, cyber laws and also how to protect themself and ultimately society from such attacks

(16MC837) IMAGE PROCESSING
(DEPARTMENT ELECTIVE – III)

Course Outcomes:

- Able to enhance images using enhancement techniques.
- Able to restore images using restoration techniques and methods used in digital imageprocessing
- Able to compress images using compression techniques used in digital image processing

(16MC838) ARTIFICIAL INTELLIGENCE
(DEPARTMENT ELECTIVE – III)

Course Outcomes:

At the end of this course:

- Student should have a knowledge and understanding of the basic conepts of AI including Search.
- Student can able to solve optimization problems.
- Student can solve the Game Playing problems.
- Student can able to use to planning and learning techniques
- Student should be able to use this knowledge and understanding of appropriate principles and guidelines to synthesise solutions to tasks in AI and to critically evaluate alternatives.
- Student can have ability to use the expert system.

(16MC839) INFORMATION RETRIEVAL SYSTEMS
(DEPARTMENT ELECTIVE – III)

Course Outcomes:

- Use different information retrieval techniques in various application areas
- Apply IR principles to locate relevant information large collections of data
- Analyse performance of retrieval systems when dealing with unmanaged data sources
- Implement retrieval systems for web search tasks.

(16MC840) M-COMMERCE
(DEPARTMENT ELECTIVE – IV)

Course Outcomes:

- Able to apply E – commerce principles in market place.
- Able to apply M – commerce principles to various business domains
- Understand the theory and applications of M-commerce in business domain
- Get an exposure to current technological advancements in M-commerce

(16MC841) CLOUD COMPUTING
(DEPARTMENT ELECTIVE – IV)

Course Outcomes:

- Compare the strengths and limitations of cloud computing
- Identify the architecture, infrastructure and delivery models of cloud computing
- Apply suitable virtualization concept.
- Choose the appropriate cloud player, Programming Models and approach.
- Address the core issues of cloud computing such as security, privacy and Interoperability
- Design Cloud Services and Set a private cloud

(16MC842) DESIGN PATTERNS
(DEPARTMENT ELECTIVE – IV)

Course Outcomes:

- Students demonstrate a thorough understanding of patterns and their underlying principles
- Students know what design pattern to apply to a specific problem
- Students demonstrate what tradeoffs need to be made when implementing a design pattern
- Students will be able to use design patterns when developing software

(16MC843) COGNITIVE COMPUTING
(DEPARTMENT ELECTIVE – IV)

Course Outcomes:

- Understand the broad perceptive of Cognitive Computing
- Understand the concept of Analytics in Cognitive computing
- Using the IBMs Watson
- Designing the applications in Cognitive computing

(16MC844) SOFTWARE TESTING LAB

Course Outcomes:

By the end of the course, you should:

- Have an ability to apply software testing knowledge and engineering methods.
- Have an ability to design and conduct a software test process for a software testing project.
- Have an ability to identify the needs of software test automation, and define and develop a test tool to support test automation.
- Have an ability understand and identify various software testing problems, and solve these problems by designing and selecting software test models, criteria, strategies, and methods.
- Have an ability to use various communication methods and skills to communicate with their teammates to conduct their practice-oriented software testing projects.
- Have basic understanding and knowledge of contemporary issues in software testing, suchas component-based software testing problems
- Have an ability to use software testing methods and modern software testing tools for their testing projects.

(16MC845) MOBILE APPLICATION DEVELOPMENT LAB

Course Outcomes:

At the end of the course, the student should be able to:

- Design and implement various mobile applications using emulators.
- Deploy applications to hand-held devices

(16MC846) SOFTWARE PROJECT MANGEMENT LAB

Course Outcomes

Students will get familiar with HOW TO:

- Start MS Project, Create a Project Plan from a template, Switch to a different view, Viewa report, Create a visual report.
- Create a new project plan & its start date, set working & non-working time, enter properties about a project plan, enter new tasks in the project, set duration for each

task &to create, a milestone task, organizing tasks into phases, link adjacent and non-adjacent tasks, enter a task note, enter a task hyper link, check a Project plan's duration and other statistics, display project's entire duration in Gantt Chart View.

- Setup work (people and equipment) resources, material resources, cost resources, Enter work (people & material) resource pay rates, to make a onetime adjustment to an individual resource's working time, to edit regular work week for an individual resource, to document resources with resource notes.

(16HS615) ADVANCED ENGLISH LANGUAGE AND COMMUNICATION SKILLSLAB

Course Outcomes:

- Flair in Writing and felicity in written expression
- To enhance job prospects
- Improving Effective Speaking Abilities
- To prepare effective Interview techniques

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
DEPARTMENT OF CIVIL ENGINEERING
M.Tech (Structural Engineering)

M.Tech I Year -I Sem

(16CE2001) ADVANCED CONCRETE TECHNOLOGY

Course Outcomes:

Students undergoing this course are able to

- Know the various materials in concrete and admixtures
- Do the Mix design by different methods
- Get a thorough knowledge of various types of cement, aggregates and properties ofspecial concrete
- Know the different procedures for testing concrete

(16CE2002) THEORY OF ELASTICITY

Course Outcomes:

After completion of this course, the student shall understand

- Two dimensional analysis of stress and strain
- Three dimensional analysis of stress and strain

(16CE2003) ADVANCED STRUCTURAL ANALYSIS

Course Outcomes:

- After completion of this course, the student shall understand
- Analysis of continuous beam by stiffness & flexibility matrix methods
- Analysis of Rigid Jointed frames by Stiffness & flexibility matrix methods
- Analysis of Pin Jointed Structures by Stiffness & Flexibility matrix methods
- Formation global & element stiffness matrix, direct stiffness method
- Equation solution Techniques

(16CE2004) STRUCTURAL DYNAMICS

Course Outcomes:

After completion of this course, the student shall understand

- Structural dynamics-single and multi-degree of freedom systems
- Free and Forced vibrations
- Practical Vibration analysis

(16CE2005) ADVANCED PRESTRESSED CONCRETE

Course Outcomes:

After completion of this course, the student shall understand

- Concept of pre-stressed concrete
- Losses of Prestress
- Deflections of prestressed concrete elements
- Circular prestressing, Analysis and design of statically indeterminate beams.

(16CE2006) LOW COST HOUSING TECHNIQUES

Course Outcomes:

After completion of this course, the student shall understand

- Housing Scenario and Housing Finance
- Use of Land and Planning for Housing
- Housing the Urban poor
- Development and Adoption of Low Cost Housing Technology
- Alternative building materials for Low Cost Housing
-

(16CE2007) BRIDGE ENGINEERING

Course Outcomes:

After completion of this course, the student shall be able to

- Design Box Culverts, Deck Slab Bridges,
- Design T-Beam Bridges,
- Design post tensioned Prestressed Concrete slab bridge decks and Bridge Bearings.

(16CE2008) PRE-FABRICATED CONCRETE STRUCTURES

Course Outcomes:

After completion of this course, the student shall understand

- Functional Design Principles of Pre-Fabricated Structures
- Design of Floors, Stairs, Roofs and Walls
- Design of Industrial buildings

M.Tech I Year -II Sem

(16CE2009) STRUCTURAL ENGINEERING LABORATORY

Course Outcomes:

Students undergoing this course are able to,

- Determine the water/cement ratio on workability and strength of concrete.
- Determine the mechanical properties of hardened concrete.
- Determine the proportion of the mix design for different grades of concrete
- Perform non-destructive failure analysis for hardened concrete.

(16CE2010) ADVANCED REINFORCED CONCRETE DESIGN

Course Outcomes:

After completion of this course, the student shall able to (as per 13456 2000),

- Estimation of crack width and Redistribution of moments in Reinforced concrete beam.
- Design of deep beams, ribbed (voided) slabs.
- Design of Grid floors, flat slabs.
- Design of plain concrete walls.
- Design of shear walls.

- **(16CE2011) ADVANCED STRUCTURAL STEEL DESIGN**

Course Outcomes:

After completion of this course, the student shall be able to,

- Design light Gauge steel compression and Flexural members
- Analyze and design Transmission towers
- Analyze and design continuous beams and portal frames using plastic theory
- Design steel Tension members and laterally restrained beams using limit state method

(16CE2012) FINITE ELEMENT METHODS

Course Outcomes:

The student shall be able to know

- The history of FEM, methods of functional approximation
- Principles of Elasticity, isoperimetric formulation
- Finite element analysis of plates

(16CE2013) THEORY AND DESIGN OF PLATES AND SHELLS

Course Outcomes:

After completion of this course, the student shall be able to

- Analyze the plates using Navier's and Levy's method
- Analyze the circular, rectangular and square plates by finite difference method
- Design the curved shells and roofs
- Design the various folded plate structures

(16CE2014) STABILITY OF STRUCTURES

Course Outcomes:

The student shall be able to,

- Analyze elastic and inelastic buckling of bars
- Understand the various numerical methods for treatment of stability problems andbuckling of rectangular cross-sectional beams and plates

(16CE2015) EXPERIMENTAL STRESS ANALYSIS

Course Outcomes:

Students will be able to know,

- Fundamental approach to experimental analysis
- Photo elasticity
- Principal stresses and shear stresses using strain rosettes, strain measurements throughstrain gauges and non-destructive techniques

(16CE2016) CONSTRUCTION PROJECT MANAGEMENT

Course Outcomes:

After completion of this course, the student shall understand

- The concept of a project along with Quality & Safety concerns in Construction
- Plan a project using various Networking Techniques and Optimization Techniques
- Prepare budget of a project and construction cost estimates

(16CE2017) EARTHQUAKE RESISTANT STRUCTURES

Course Outcomes:

Analyze the forces acting on structures due to earthquake,

- Computation of design moments and shears for framed structure as per is:1893 and itsdetailing
- Apply the concepts in the design of structures
- Implementing the selection process of materials and construction form of superstructure

(16CE2018) COMPUTING TECHNIQUES LABORATORY

Course Outcomes:

After completion of the course the student will be able to

- Understand the software usages for structural members
- Analyze plane, space frames and dynamic response and natural frequency for beams andframes
- Design, detailing and estimations of RC members
- Design the steel members like truss, beams and columns

SIDDHARTHINSTITUTEOF ENGINEERING& TECHNOLOGY

(AUTONOMOUS)

Control Systems (M .Tech)

Department of Electrical and Electronics Engineering (EEE)

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Master of Technology
Department of Computer Science and Engineering

M.Tech I Year -I Sem. (CSE)

(16CS5801) OBJECT ORIENTED SOFTWARE ENGINEERING

Course Outcomes:

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

- Define and develop a software project from requirement gathering to implementation
- Ability to code and test the software
- Ability to plan, estimate and maintain software systems
- Understand the basic testing procedures
- Able to generate test cases and test suites.
- Test the applications manually by applying different testing methods and automation tools.

(16CS5802) ADVANCED COMPUTER NETWORKS

Course Outcomes:

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

- Explain the terminology and concepts of OSI and TCP/IP Reference models and identify different physical media used for data transmission
- Illustrate and implement the services of Data link layer
- Describe the principles of network layer and categorize routing algorithms used for data transmission
- Identify the essential services of transport layer

- Interpret the functioning of various protocols of Application layer
- Understand the principles of net working

(16CS5803) PROGRAMMING IN PYTHON

Course Outcomes:

At the end of the course the student will be able to

- Making Software easily right out of the box.
- Experience with an interpreted Language.
- To build software for real needs.
- Prior Introduction to testing software

(16CS5804) ADVANCED DATA STRUCTURES AND ALGORITHMS

Course Outcome:

At the end of the course, students will be able to:

- Design algorithms to implement various data structures.
- Understand and program stacks and list data structures.
- Write programs to implement different types of queues.
- Understand and make use of hash tables in applications like dictionary, spell checker etc.,
- Understand why height balanced trees are advantageous over other data structures.

(16CS5805) CYBER CRIME INVESTIGATIONS AND DIGITAL FORENSICS

Course Outcomes:

After completion of this subject the students will be able to:

- Able to recognize crime signatures
- Able to identify the virus signature
- Able to implement Investigation
- Abe to Implement Digital Forensics
- Able to implement Cyber Laws

(16CS5806) ADVANCES IN DATABASES

COURSE OUTCOMES (COs)

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

- Develop relational algebra expressions for queries and optimize them.
- Design the databases using E_R method for a given specification of requirements.
- Apply Normalization techniques on given database.
- Determine the transaction atomicity, consistency, isolation, and durability for a given transaction-processing system.
- Implement the isolation property, including locking, time stamping based on concurrency control and Serializability of scheduling.
- Understand Physical Storage Media and RAID concepts.

(16CS5807) ADVANCED OPERATING SYSTEMS

Course Outcomes:

On successful completion of the course students will be able to

- Discuss the various synchronization, scheduling and memory management issues
- Demonstrate the Mutual exclusion, Deadlock detection and agreement protocols of distributed operating system
- Discuss the various resource management techniques for distributed systems
- Identify the different features of real time and mobile operating systems
- Install and use available open source kernel
- Modify existing open source kernels in terms of functionality or features used

(16CS5808) COMPUTER VISION

Course Outcomes:

After completion of course, students would be able to:

- Developed the practical skills necessary to build computer vision applications.
- To have gained exposure to object and scene recognition and categorization from images.

(16CS5809) SOFTWARE LAB- 1 (COVERING THE EXPERIMENTS: PYTHON)

M.Tech I Year -II Sem. (CSE)

(16CS5810) SOFTWARE ARCHITECTURE AND DESIGN PATTERNS

Course Outcomes:

At the end of the course the student will be able to

- Understand the architecture, creating it and moving from one to any, different structural patterns.
- Analyze the architecture and build the system from the components.
- Design creational and structural patterns.
- Learn about behavioral patterns.
- Do a case study in utilizing architectural structures.

(16CS5811) CLOUD COMPUTING

Course Outcomes:

At the end of course student will be able to:

- Understanding the systems, protocols and mechanisms to support cloud computing.
- Develop applications for cloud computing.
- Understanding the hardware necessary for cloud computing.
- Design and implement a novel cloud computing applications

(16CS5812) DATA ANALYTICS

Course Outcomes:

On successful completion of the course students will be able to

- Understand how to leverage the insights from big data analytics
- Analyze data by utilizing various statistical and data mining approaches
- Perform analytics on real-time streaming data
- Develop Real Time Analytics Platform (RTAP) Applications
- Understand the various NoSql alternative database models
- Able to gain knowledge on Hadoop related tools such as HBase, Cassandra, Pig, and Hive for big data analytics

(16CS5813) JAVA & WEB TECHNOLOGIES

Course Outcomes:

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

- Recognize features of object-oriented design such as encapsulation, polymorphism, inheritance, and composition of systems based on object identity.
- Design and Implementation of Application Programming Interfaces.
- Create dynamic and interactive web sites using HTML, CSS
- Gain knowledge of client side scripting using java sript and DHTML
- Demonstrate understanding of what is XML and how to parse and use XML data
- Able to do server side programming with Java Servelets, JSP and PHP

(16CS5814) OBJECT ORIENTED ANALYSIS AND DESIGN

Course Outcomes:

After completion of this subject the students will be able to:

- Show the importance of systems analysis and design in solving complex problems.
- Explain the importance of modeling and how the Unified Modeling Language (UML) represents an object-oriented system using a number of modeling views.
- Construct various UML models using the appropriate notation.
- Compare the difference between various object relationships.

(16CS5815) MACHINE LEARNING

Course Outcomes:

After completion of course, students would be able to:

- Extract features that can be used for a particular machine learning approach in various IOT applications.
- To compare and contrast pros and cons of various machine learning techniques and to get an insight of when to apply a particular machine learning approach.

- To mathematically analyze various machine learning approaches and paradigms.

(16CS5816) DISTRIBUTED SYSTEMS

Course outcomes:

- Able to demonstrate knowledge of the basic elements and concepts related to distributed system technologies;
- Able to demonstrate knowledge of the core architectural aspects of distributed systems;
- Able to design and implement distributed applications;
- Able to demonstrate knowledge of details the main underlying components of distributed systems (such as RPC, file systems);
- Able to use and apply important methods in distributed systems to support scalability and fault tolerance;
- Able to demonstrate experience in building large-scale distributed applications.

(16CS5817) IMAGE PROCESSING AND PATTERN RECOGNITION

After successful completion of this course, student will be able to

- Understand machine learning concepts and range of problems that can be handled by machine learning.
- Compare and parameterize different learning algorithms.
- Apply the machine learning concepts in real life problems

(16CS5818) SOFTWARE LAB- 2
(COVERING THE EXPERIMENTS: JWT TASKS & UML TASKS)