

COURSE OUTCOMES FOR R16 REGULATION

II YEAR

MA301BS: MATHEMATICS - IV

1. Analyze the complex functions with reference to their analyticity, integration using Cauchy's integral theorem
2. Find the Taylor's and Laurent's series expansion of complex functions the bilinear transformation
3. Express any periodic function in term of sines and cosines
4. Express a non-periodic function as integral representation
5. Analyze one dimensional wave and heat equation

CS302ES: DATA STRUCTURES THROUGH C++

1. Ability to choose appropriate data structures to represent data items in real world problems. Ability to analyze the time and space complexities of algorithms.
2. Ability to design programs using a variety of data structures such as stacks, queues, hash tables, binary trees, search trees, heaps, graphs, and B-trees.
3. hash tables, binary trees, search trees, heaps, graphs, and B-trees.
4. Able to analyze and implement various kinds of searching and sorting techniques.

CS303ES: MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

1. Ability to apply mathematical logic to solve problems.
2. Understand sets, relations, functions, and discrete structures.
3. Able to use logical notation to define and reason about fundamental mathematical concepts such as sets, relations, and functions.
4. Able to formulate problems and solve recurrence relations.
5. Able to model and solve real-world problems using graphs and trees.

CS304ES: DIGITAL LOGIC DESIGN

1. Able to understand number systems and codes.
2. Able to solve Boolean expressions using Minimization methods.
3. Able to design the sequential and combinational circuits.
4. Able to apply state reduction methods to solve sequential circuits

CS305ES: OBJECT ORIENTED PROGRAMMING THROUGH JAVA

1. Able to solve real world problems using OOP techniques.
2. Able to understand the use of abstract classes.
3. Able to solve problems using java collection framework and I/o classes.
4. Able to develop multithreaded applications with synchronization.
5. Able to develop applets for web applications.
6. Able to design GUI based applications

CS306ES: DATA STRUCTURES THROUGH C++ LAB

1. Able to identify the appropriate data structures and algorithms for solving real world problems.
2. Able to implement various kinds of searching and sorting techniques.
3. Able to implement data structures such as stacks, queues, Search trees, and hash tables to solve various computing problems.

CS307ES: IT WORKSHOP

1. Apply knowledge for computer assembling and software installation.
2. Ability how to solve the trouble shooting problems.
3. Apply the tools for preparation of PPT, Documentation and budget sheet etc

CS308ES: OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB

1. Able to write programs for solving real world problems using java collection frame work.
2. Able to write programs using abstract classes.
3. Able to write multithreaded programs.
4. Able to write GUI programs using swing controls in Java.

MC300ES: ENVIRONMENTAL SCIENCE AND TECHNOLOGY

1. Based on this course, the Engineering graduate will understand /evaluate / develop technologies.
2. on the basis of ecological principles and environmental regulations which in turn helps in sustainable development

CS401ES: COMPUTER ORGANIZATION

1. Able to understand the basic components and the design of CPU, ALU and Control Unit.
2. Ability to understand memory hierarchy and its impact on computer
3. cost/performance.
4. Ability to understand the advantage of instruction level parallelism and pipelining for high performance Processor design.
5. Ability to understand the instruction set, instruction formats and addressing modes of 8086.
6. Ability to write assembly language programs to solve problems.

CS402ES: DATABASE MANAGEMENT SYSTEMS

1. Demonstrate the basic elements of a relational database management system.
2. Ability to identify the data models for relevant problems.
3. Ability to design entity relationship model and convert entity relationship diagrams into RDBMS and formulate SQL queries on the data.
4. Apply normalization for the development of application software.
5. Understand the techniques of database storage access.

CS403ES: OPERATING SYSTEMS

1. Apply optimization techniques for the improvement of system performance.
2. Ability to design and solve synchronization problems.
3. Learn about minimization of turnaround time, waiting time and response time and also maximization of throughput by keeping CPU as busy as possible.
4. Ability to change access controls to protect files.
5. Ability to compare the different operating systems.

CS404ES: FORMAL LANGUAGES AND AUTOMATA THEORY

1. Able to understand the concept of abstract machines and their power to recognize the languages.
2. Able to employ finite state machines for modeling and solving computing problems.
3. Able to design context free grammars for formal languages.
4. Able to distinguish between decidability and undesirability.
5. Able to gain proficiency with mathematical tools and formal methods.

SM405ES: BUSINESS ECONOMICS AND FINANCIAL ANALYSIS

1. The students will understand the various Forms of Business and the impact of economic variables on the Business.
2. The Demand, Supply, Production, Cost, Market Structure, Pricing aspects are learnt.
3. The Students can study the firm's financial position by analysing the Financial Statements of a Company.
4. The students will understand the Business from the Financial Perspective

CS406ES: COMPUTER ORGANIZATION LAB

1. Understand the basics of instruction sets and their functionality.
2. Demonstrate the functional units of the computer.
3. Design a pipeline for consistent execution of instructions

CS407ES: DATABASE MANAGEMENT SYSTEMS LAB

1. Ability to design and implement a database schema for given problem.
2. Apply the normalization techniques for development of application software to realistic problems.
3. Ability to formulate queries using SQL DML/DDDL/DCL commands.

CS408ES: OPERATING SYSTEMS LAB

1. Ability to develop application programs using system calls in Unix. Ability to implement interprocess communication between two processes.
2. Ability to design and solve synchronization problems.
3. Ability to simulate and implement operating system concepts such as scheduling, deadlock management, file management, and memory management.

MC400HS: GENDER SENSITIZATION LAB

1. Students will have developed a better understanding of important issues related to gender in contemporary India.
2. Students will be sensitized to basic dimensions of the biological, sociological, psychological and legal aspects of gender.

This will be achieved through discussion of materials derived from research, facts, everyday life, literature, and film. Students will attain a finer grasp of how gender discrimination works in our society and how to counter it

CS501PC : DESIGN AND ANALYSIS OF ALGORITHMS

1. Ability to analyze the performance of algorithms.
2. Ability to choose appropriate algorithm design techniques for solving problems.
3. Ability to understand how the choice of data structures and the algorithm design methods impact the performance of programs.

CS502PC: DATA COMMUNICATION AND COMPUTER NETWORKS

1. Students should be understand and explore the basics of Computer Networks and Various Protocols. He/She will be in a position to understand the World Wide Web concepts.
2. Students will be in a position to administrate a network and flow of information further he/she can understand easily the concepts of network security, Mobile and ad hoc networks.
3. Implementation of sub netting and routing mechanisms.
4. Describe the essential transport protocols.
5. Understanding the applications of computer networks

CS503PC: SOFTWARE ENGINEERING

1. Ability to identify the minimum requirements for the development of application.
2. Ability to develop, maintain, efficient, reliable and cost effective software solutions
3. Ability to critically thinking and evaluate assumptions and arguments
4. Construct testing strategies and generate a report.
5. Quantify the metrics for process and products.

SM504MS: FUNDAMENTALS OF MANAGEMENT

1. The students understand the significance of Management in their Profession.
2. The various Management Functions like Planning, Organizing, Staffing, Leading, Motivation and Control aspects are learnt in this course.
3. The students can explore the Management Practices in their domain area.

CS505PC: DESIGN AND ANALYSIS OF ALGORITHMS LAB

1. Ability to write programs in java to solve problems using algorithm design techniques
2. such as Divide and Conquer, Greedy, Dynamic programming, and Backtracking

CS506PC: COMPUTER NETWORKS LAB

1. Ability to understand the encryption and decryption concepts in Linux environment
2. Ability to apply appropriate algorithm for the finding of shortest route.
3. Ability to configure the routing table

CS507PC: SOFTWARE ENGINEERING LAB

1. Translate end-user requirements into system and software requirements a high-level design of the system from the software requirements.
2. Will have experience and/or awareness of testing problems and will be able to develop a simple testing report.

MC500HS: PROFESSIONAL ETHICS

1. The students will understand the importance of Values and Ethics in their personal lives and professional careers.
2. The students will learn the rights and responsibilities as an employee, team member and a global citizen

CS601PC: COMPILER DESIGN

1. Ability to design, develop, and implement a compiler for any language.
2. Able to use lex and yacc tools for developing a scanner and a parser.
3. Able to design and implement LL and LR parsers.
4. Able to design algorithms to perform code optimization in order to improve the performance of a program in terms of space and time complexity.
5. Ability to design algorithms to generate machine code

CS602PC: WEB TECHNOLOGIES

1. Regain knowledge of client side scripting, validation of forms and AJAX programming
2. Have understanding of server side scripting with PHP language
3. Have understanding of what is XML and how to parse and use XML Data with Java
4. To introduce Server side programming with Java Servlets and JSP

CS603PC: CRYPTOGRAPHY AND NETWORK SECURITY

1. Student will be able to understand basic cryptographic algorithms, message and web authentication and security issues.
3. Ability to identify information system requirements for both of them such as client and server.
4. and server.
5. Ability to understand the current legal issues towards information security

CS611PE: MOBILE COMPUTING

1. Able to think and develop new mobile application.
2. Able to take any new technical issue related to this new paradigm and come up with a solution(s).
3. Able to develop new ad hoc network applications and/or algorithms/protocols.
4. Able to understand & develop any existing or new protocol related to mobile Environment

IT612PE: OBJECT ORIENTED ANALYSIS AND DESIGN

1. Graduate can able to take up the case studies and model it in different views with respect user requirement such as use case, logical, component and deployment and etc, and preparation of document of the project for the unified Library application.

CS605PC: WEB TECHNOLOGIES LAB

1. Use LAMP Stack for web applications
2. Use Tomcat Server for Servlets and JSPs
3. Write simple applications with Technologies like HTML, Javascript, AJAX, PHP, Servlets and JSPs
4. Connect to Database and get results
5. Parse XML files using Java (DOM and SAX parsers)

EM606HS: ADVANCED ENGLISH COMMUNICATION SKILLS (AECS) LAB

1. Students will be able to:
2. Acquire vocabulary and use it contextually
3. Listen and speak effectively
4. Develop proficiency in academic reading and writing
5. Increase possibilities of job prospects
6. Communicate confidently in formal and informal contexts

CS701PC: DATA MINING

1. Ability to perform the preprocessing of data and apply mining techniques on it.
2. Ability to identify the association rules, classification and clusters in large data sets.
3. Ability to solve real world problems in business and scientific information using data mining
4. Ability to classify web pages, extracting knowledge from the web

T722PEP: MULTIMEDIA APPLICATION DEVELOPMENT

1. Ability to design a short films and teaching material for better understanding.
2. Ability to apply different multimedia development tools to produce web based and stand-alone user interfaces.

19CS602PC: COMPILER DESIGN

1. Compute tokens and regular expressions for lexical analysis.
2. Implement top-down and bottom-up parsers.
3. Construct intermediate code for procedures.
4. Optimize the code generation.
5. Analyze the data flow.

CE5110E: B.TECH. AUTOMOBILE ENGINEERING DISASTER MANAGEMENT

1. At the end of the course, the student will be able to:
2. Understanding Disasters, man-made Hazards and Vulnerabilities
3. Understanding disaster management mechanism
4. Understanding capacity building concepts and planning of disaster managements

EM614PE/MT6210E: B.TECH. AUTOMOBILE ENGINEERING DATA STRUCTURES Describing Big Data and its usage.

1. Learn how to use data structure concepts for realistic problems.
2. Ability to identify appropriate data structure for solving computing problems in
3. respective language.
4. Ability to solve problems independently and think critically

MT6220E E: B.TECH. AUTOMOBILE ENGINEERING ARTIFICIAL NEURAL NETWORKS

1. After completion of this course, the student will be able to
2. model various systems applying reliability networks
3. evaluate the reliability of simple and complex systems
4. estimate the limiting state probabilities of repairable systems
5. apply various mathematical models for evaluating reliability of irreparable systems

CE5110E : B.TECH. CIVIL ENGINEERING DISASTER MANAGEMENT

1. At the end of the course, the student will be able to:
2. Understanding Disasters, man-made Hazards and Vulnerabilities
3. Understanding disaster management mechanism
4. Understanding capacity building concepts and planning of disaster managements

CE6220E: B.TECH CIVIL ENGINEERING GEOINFORMATICS

1. At the end of the course the student will be able to understand
2. The characteristics of Aerial photographic images ,Remote sensing satellites and Applications of remote sensing.
3. The GIS and its Data models.
4. The Global Navigation Satellite System.

CE5110E: B.TECH. CIVIL AND ENVIRONMENTAL ENGINEERING DISASTER MANAGEMENT

1. At the end of the course, the student will be able to:
2. Understanding Disasters, man-made Hazards and Vulnerabilities
3. Understanding disaster management mechanism
4. Understanding capacity building concepts and planning of disaster managements

CN6210E: B.TECH. CIVIL AND ENVIRONMENTAL ENGINEERING ENVIRONMENTAL IMPACT ASSESSMENT

1. Identify the environmental attributes to be considered for the EIA study.
2. Formulate objectives of the EIA studies.
3. Identify the suitable methodology and prepare Rapid EIA.
4. Identify and incorporate mitigation measures.

CE8330E: B.TECH. CIVIL AND ENVIRONMENTAL ENGINEERING ENTREPRENEURSHIP AND SMALL BUSINESS ENTERPRISES

1. It enables students to learn the basics of Entrepreneurship and entrepreneurial development which will help them to provide vision for their own Start-up

CS5110E: B.TECH COMPUTER SCIENCE AND ENGINEERING/B.TECH INFORMATION TECHNOLOGY OPERATING SYSTEMS

1. Apply optimization techniques for the improvement of system performance.
2. Ability to design and solve synchronization problems.
3. Learn about minimization of turnaround time, waiting time and response time and also maximization of throughput by keeping CPU as busy as possible.
4. Ability to change access controls to protect files.
5. Ability to compare the different operating systems

CS5120E: B.TECH COMPUTER SCIENCE AND ENGINEERING/B.TECH INFORMATION TECHNOLOGY DATABASE MANAGEMENT SYSTEMS

1. Demonstrate the basic elements of a relational database management system.
2. Ability to identify the data models for relevant problems.
3. Ability to design entity relationship model and convert entity relationship diagrams into RDBMS and formulate SQL queries on the data.
4. Apply normalization for the development of application software

20CS633PE: B.TECH COMPUTER SCIENCE AND ENGINEERING/B.TECH INFORMATION TECHNOLOGY JAVA PROGRAMMING

1. Understanding of OOP concepts and basics of java programming (Console and GUI based).
2. The skills to apply OOP and Java programming in problem solving.
3. Should have the ability to extend his/her knowledge of Java programming further on his/her own. Understand the differences between Scripting languages and programming languages
4. Apply the programming in Ruby, Perl, TCL

CS6220E: B.TECH COMPUTER SCIENCE AND ENGINEERING/B.TECH INFORMATION TECHNOLOGY SOFTWARE TESTING METHODOLOGIES

1. Ability to apply the process of testing and various methodologies in testing for developed software.
2. Ability to write test cases for given software to test it before delivery to the customer

EC5110E: B.TECH. ELECTRONICS AND COMMUNICATION ENGINEERING / B.TECH ELECTRONICS AND TELEMATICS ENGINEERING PRINCIPLES OF ELECTRONIC COMMUNICATIONS

1. By completing this subject, the student can
2. Work on various types of modulations.
3. Should be able to use these communication modules in implementation.
4. Will have a basic understanding of various wireless and cellular, mobile and
5. telephone communication systems.

EC6210E: B.TECH. ELECTRONICS AND COMMUNICATION ENGINEERING / B.TECH ELECTRONICS AND TELEMATICS ENGINEERING PRINCIPLES OF COMPUTER COMMUNICATIONS AND NETWORKS

1. The student can get the knowledge of networking of computers, data transmission between computers.
2. Will have the exposure about the various communication concepts.
3. Will get awareness about the structure and equipment of computer network structures.

EM5110E: B.TECH. ELECTRONICS AND COMPUTER ENGINEERING SCRIPTING LANGUAGES

1. Upon learning the course, the student will have the:
2. Ability to create and run scripts using PERL/TCL/Python in IC design flow.
3. Ability to use Linux environment and write programs for automation of scripts in VLSI tool design flow. By completing this subject, the student can

EC6210E: B.TECH. ELECTRONICS AND COMPUTER ENGINEERING SOFT COMPUTING TECHNIQUES

1. On completion of this course the students will be able to
2. Identify and employ suitable soft computing techniques in classification and optimization problems.
3. Design hybrid systems to suit a given real - life problem. By completing this subject, the student can

EE5110E: B.TECH ELECTRICAL AND ELECTRONICS ENGINEERING NON-CONVENTIONAL POWER GENERATION

Ability to apply the process of testing and various methodologies in testing for

1. After completion of this course, the student will be able to
2. Analyze solar thermal and photovoltaic systems and related technologies for energy conversion.
3. Understand Wind energy conversion and devices available for it.
4. Understand Biomass conversion technologies, Geo thermal resources and energy conversion principles and technologies.
5. Realize Power from oceans (thermal, wave, tidal) and conversion devices.
6. Understand fundamentals of fuel cells and commercial batteries developed software.

EE5120E B.TECH ELECTRICAL AND ELECTRONICS ENGINEERING ELECTRICAL ENGINEERING MATERIALS

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

2. Understand various types of dielectric materials, their properties in various conditions. 3. Evaluate magnetic materials and their behavior.

4. Evaluate semiconductor materials and technologies.

5. Acquire Knowledge on Materials used in electrical engineering and APPLICATION

EE5130E: B.TECH. ELECTRICAL AND ELECTRONICS ENGINEERING NANOTECHNOLOGY

1. The present syllabus of “Introduction to Nano Technology” will give insight into many aspects of Nanoscience, technology and their applications in the prospective of materials science.

CS701PC: DATA MINING

1. Ability to perform the preprocessing of data and apply mining techniques on it.
2. Ability to identify the association rules, classification and clusters in large data sets.
3. Ability to solve real world problems in business and scientific information using data mining
4. Ability to classify web pages, extracting knowledge from the web

IT702PC: ANDROID APPLICATION DEVELOPMENT

1. To demonstrate their understanding of the fundamentals of Android operating systems
2. To demonstrate their skills of using Android software development tools
3. To demonstrate their ability to develop software with reasonable complexity on mobile platform
4. To demonstrate their ability to deploy software to mobile devices
5. To demonstrate their ability to debug programs running on mobile devices

IT722PE: MULTIMEDIA APPLICATION DEVELOPMENT

1. Ability to design a short films and teaching material for better understanding.
2. Ability to apply different multimedia development tools to produce web based and stand-alone user interfaces.

EM702PC/CS723PE: LINUX PROGRAMMING

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

CS724PE: R PROGRAMMING

1. be able to use and program in the programming language R
2. be able to use R to solve statistical problems
3. be able to implement and describe Monte Carlo the technology
4. be able to minimize and maximize functions using R

CS732PE: MACHINE LEARNING

1. Student should be able to understand the basic concepts such as decision trees and neural networks.
2. Ability to formulate machine learning techniques to respective problems.
3. Apply machine learning algorithms to solve problems of moderate complexity

CS745PE: AD-CLOUD COMPUTING

1. Understand the Ad Hoc and Wireless Sensor Networks.
2. Explore the knowledge of routing protocols.
3. Design the solutions for TCP over Ad-hoc sensor networks.
4. Solve the issues in real-time application development based on ASN.
5. Conduct the applications in the domain of ASN.

CS733PE: REAL-TIME SYSTEMS

1. Ability to understand the virtualization and cloud computing concepts.

CS734PE: INFORMATION SECURITY ASSESSMENT AND AUDIT

- 1.To introduce the terminology, technology and its applications
- 2.To introduce the concept of Security Analyst
- 3.To introduce the tools, technologies & programming languages which is used in day to day security analyst job role

CS735PE: BIG DATA ANALYTICS (ASSOCIATE ANALYTICS-2)

- 1.To introduce the terminology, technology and its applications
- 2.To introduce the concept of Analytics for Business
- 3.To introduce the tools, technologies & programming languages which is used in day-to-day analytics cycle

CS741PE: COMPUTER GRAPHICS

- 1.Students can animate scenes entertainment.
- 2.Will be able work in computer aided design for content presentation.
3. Better analogy data with pictorial representation

IT742PE: STORAGE AREA NETWORKS

- 1.Ability to demonstrate the storage area networks and their products
2. Ability to provide the mechanisms for the backup/recovery.

CS743PE: E-COMMERCE

- 1.Ability to identify the business relationships between the organizations and their customers
- 2.Ability to perform various transactions like payment, data transfer and etc.

T744PE: INFORMATION RETRIEVAL SYSTEM

- 1.Possess the ability to store and retrieve textual documents using appropriate models
2. Possess the ability to use the various retrieval utilities for improving search
3. Possess an understanding of indexing and compressing documents to improve space and time efficiency
4. Possess the skill to formulate SQL like queries for unstructured data
- 5.Understand issues in web search

CS745PE: WEB SERVICES AND SERVICE ORIENTED ARCHITECTURE

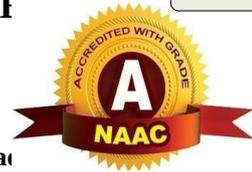
- 1.Basic details of WSDL, UDDI, SOAP
- 2.Implement WS client and server with interoperable systems

CS751PC: PYTHON PROGRAMMING LAB

1. student should be able to understand the basic concepts scripting and the contributions of scripting language •
2. Ability to explore python especially the object oriented concepts, and the built in objects of Python.
3. Ability to create practical and contemporary applications such as TCP/IP network programming, Web applications, discrete event simulations

EM704PC/CS753PC: LINUX PROGRAMMING LAB

- 1.Ability to understand the Linux environment



2. Ability to perform the file management and multiple tasks using shell scripts in Linux environment

CS851PE: NATURAL LANGUAGE PROCESSING

1. how sensitivity to linguistic phenomena and an ability to model them with formal grammars.
2. Understand and carry out proper experimental methodology for training and evaluating empirical NLP systems.
3. Able to manipulate probabilities, construct statistical models over strings and trees, and estimate parameters using supervised and unsupervised training methods.
4. Able to design, implement, and analyze NLP algorithms.
5. Able to design different language modeling Techniques.

CS852PE: MIDDLEWARE TECHNOLOGIES

1. Ability to design the integrated system with different software's.
2. Ability to create simple interface between the software and hardware. student should be able to understand the basic concepts scripting and the contributions of scripting language •
3. Ability to explore python especially the object-oriented concepts, and the built-in objects of Python.
4. Ability to create practical and contemporary applications such as TCP/IP network programming, Web applications, discrete event simulations

CS745PE: WEB SERVICES AND SERVICE ORIENTED ARCHITECTURE

1. Ability to apply the process of testing and various methodologies in testing for developed software.
2. Ability to write test cases for given software to test it before delivery to the customer

CS862PE: SEMANTIC WEB AND SOCIAL NETWORKING

1. Ability to understand and knowledge representation for the semantic web.
2. Ability to create ontology.
3. Ability to build a blogs and social networks

IT863PE: ARTIFICIAL INTELLIGENCE

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

M614PE/MT621OE: B.TECH. AUTOMOBILE ENGINEERING

1. Learn how to use data structure concepts for realistic problems.
2. Ability to identify appropriate data structure for solving computing problems in respective language.
3. Ability to solve problems independently and think critically.

AM831OE: B.TECH. AUTOMOBILE ENGINEERING INTRODUCTION TO MECHATRONICS

1. At the end of the course, the student will be able to, Model, analyze and control engineering systems. Identify sensors, transducers and actuators to monitor and

control the behavior of a process or product. Develop PLC programs for a given task.
Evaluate the performance of mechatronic systems.

CS861PE: SOFTWARE TESTING METHODOLOGIES

1.Ability to apply the process of testing and various methodologies in testing for developed software.

2. Ability to write test cases for given software to test it before delivery to the customer

CS862PE: SEMANTIC WEB AND SOCIAL NETWORKING

1. Ability to understand and knowledge representation for the semantic web.
2. Ability to create ontology.
3. Ability to build a blogs and social networks

CS865PE: CYBER SECURITY

1. Ability to apply HCI and principles to interaction design.
2. Ability to design certain tools for blind or PH people

BM832OE: B.TECH. BIOMEDICAL ENGINEERING ELECTROMAGNETIC INTERFERENCE AND COMPATIBILIT

1. Upon completion of this course, the student will be able to
2. Gain basic knowledge of problems associated with EMI and EMC from electronic circuits and systems.
3. Analyze various sources of EMI and various possibilities to provide EMC.
4. Understand and analyze possible EMI prevention techniques such as grounding, shielding, filtering, and use of proper coupling mechanisms to improve compatibility of electronic circuits and systems in a given electromagnetic environment.

CE621OE: B.TECH. CIVIL ENGINEERING REMOTE SENSING AND GIS

- 1.: At the end of the course, the student will be able to:
2. Retrieve the information content of remotely sensed data
3. Analyze the energy interactions in the atmosphere and earth surface features
4. Interpret the images for preparation of thematic maps
5. Apply problem specific remote sensing data for engineering applications
6. Analyze spatial and attribute data for solving spatial problems
7. Create GIS and cartographic outputs for presentation

CE831OE: B.TECH CIVIL ENGINEERING ENVIRONMENTAL IMPACT ASSESSMENT

1. Identify the environmental attributes to be considered for the EIA study.
2. Formulate objectives of the EIA studies.
3. Identify the suitable methodology and prepare Rapid EIA.
4. Identify and incorporate mitigation measures.

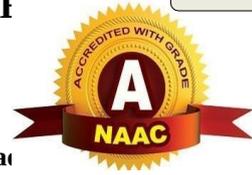
CE832OE: B.TECH. CIVIL ENGINEERING OPTIMIZATION TECHNIQUES IN ENGINEERING

1. For a given system, as per customer requirement it is required to
2. Formulate optimization problem.
3. Solve the problem by using a appropriate optimization techniques.

CE833OE: B.TECH. CIVIL ENGINEERING ENTREPRENEURSHIP AND SMALL BUSINESS ENTERPRISES

1. It enables students to learn the basics of Entrepreneurship and entrepreneurial development which will help them to provide vision for their own Start-up.

CN831OE: B.TECH. CIVIL AND ENVIRONMENTAL ENGINEERING REMOTE SENSING & GIS



1. At the end of the course, the student will be able to:
2. Retrieve the information content of remotely sensed data

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3. Analyze the energy interactions in the atmosphere and earth surface features
 4. Interpret the images for preparation of thematic maps
 5. Apply problem specific remote sensing data for engineering applications
 6. Analyze spatial and attribute data for solving spatial problems
 7. Create GIS and cartographic outputs for presentation

CS8310E: B.TECH COMPUTER SCIENCE AND ENGINEERING/B.TECH INFORMATION TECHNOLOGY LINUX PROGRAMMING

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

CS8320E: B.TECH COMPUTER SCIENCE AND ENGINEERING/B.TECH INFORMATION TECHNOLOGY R PROGRAMMING

1. be able to use and program in the programming language R
2. be able to use R to solve statistical problems
3. be able to implement and describe Monte Carlo the technology
4. be able to minimize and maximize functions using R

CS8330E: B.TECH COMPUTER SCIENCE AND ENGINEERING/B.TECH INFORMATION TECHNOLOGY PHP PROGRAMMING

1. Be able to develop a form containing several fields and be able to process the data provided on the form by a user in a PHP-based script.
2. Understand basic PHP syntax for variable use and standard language constructs, such as conditionals and loops.
3. Understand the syntax and use of PHP object-oriented classes.
4. Understand the syntax and functions available to deal with file processing for files on the server as well as processing web URLs.
5. Understand the paradigm for dealing with form-based data, both from the syntax of HTML forms, and how they are accessed inside a PHP-based script.

EC8310E: B.TECH. ELECTRONICS AND COMMUNICATION ENGINEERING / B.TECH ELECTRONICS AND TELEMATICS ENGINEERING ELECTRONIC MEASURING INSTRUMENTS

1. On completion of this course student can be able to •
2. Identify the various electronic instruments based on their specifications for carrying out a particular task of measurement.
3. Measure various physical parameters by appropriately selecting the transducers.
4. Use various types of signal generators, signal analyzers for generating and analyzing various real-time signals.

EM8310E: B.TECH. ELECTRONICS AND COMPUTER ENGINEERING DATA ANALYTICS

- 1.: Upon completion of this course the students will be able to
2. Understand Big data fundamentals.
3. Learn various Data Analysis Techniques
4. Implement various Data streams.
5. Understand item sets, Clustering, frame works & Visualizations.

**EE8310E: B.TECH ELECTRICAL AND ELECTRONICS ENGINEERING ENTREPRENEUR
RESOURCE PLANNING**

The student understands the challenges in implementation of ERP system, ERP System Implementation options, and

functional modules of ERP.

1. Introduction to ERP- Foundation for Understanding ERP systems-Business benefits of ERP-The challenges of implementing ERP system-ERP modules and Historical Development.

Case: Response top RFP for ban ERP system (Mary Sumner).

2. ERP system options & Selection methods-Measurement of project Impact information Technology Selection-ERP proposal evaluation-Project Evaluation Technique.(David L. olson).

Case: Atlantic Manufacturing (Mary Sumner).

3. ERP system Installation Options- IS/IT Management results-Risk Identification analysis-System Projects- Demonstration of the system-Failure method-system Architecture & ERP (David L. Olson)

Case: Data Solutions & Technology Knowledge (Mary Sumner).

4. ERP - sales and Marketing- Management control process in sales and marketing - ERP customer relationship management - ERP systems- Accounting & Finance control processes. Financial modules in ERP systems.

Case: Atlantic manufacturing (Mary Sumner).

6. ERP - Production and Material Management-Control process on production and manufacturing - Production module in ERP- supply chain Management & e-market place-e-business & ERP-e supply chain & ERP- Future directions for ERP.

Case: HR in Atlantic manufacturing. (Mary Sumner).

EE832OE: B.TECH ELECTRICAL AND ELECTRONICS ENGINEERING MANAGEMENT INFORMATION SYSTEM (MIS)

1. The completion of the subject, the student will be able to

2. Understand the usage of MIS in organizations and the constituents of the MIS

3. Understand the classifications of MIS, understanding of functional MIS and the different functionalities of these MIS. This would be followed by case study on Knowledge management.

4. Assess the requirement and stage in which the organization is placed. Nolan model is expected to aid such decisions

5. Learn the functions and issues at each stage of system development. Further different ways in which systems can be developed are also learnt

E833OE: B.TECH ELECTRICAL AND ELECTRONICS ENGINEERING ORGANIZATIONAL BEHAVIOUR

1. Upon the completion of the subject, the student will be able to

2. Analyse the behaviour of individuals and groups in organizations in terms of the key factors that influence organizational behaviour.

3. Assess the potential effects of organizational level factors (such as structure, culture and change) on organizational behaviour.

4. Critically evaluate the potential effects of important developments in the external environment (such as globalization and advances in technology) on organizational behaviour.

5. Analyse organizational behavioural issues in the context of organizational behaviour theories, models and concepts.

EI831OE: B.TECH. ELECTRONICS AND INSTRUMENTATION ENGINEERING SENSORS AND TRANSDUCERS

1. Upon completion of this course the student shall be able to understand the working of basic sensors and transducers used in any industries.

ME832OE: B.TECH. MECHANICAL ENGINEERING INDUSTRIAL SAFETY, HEALTH, AND ENVIRONMENTAL ENGINEERING

- 1.To list out important legislations related to Health , Safety and Environment
- 2.To list out requirements mentioned in factories act for the prevention of accidents. To understand the health and

welfare provisions given in factories act.

3. To understand the statutory requirements for an Industry on registration, license and its renewal.
4. To prepare onsite and offsite emergency plan.

ME833OE: B.TECH. MECHANICAL ENGINEERING BASICS OF THERMODYNAMICS

- 1.: At the end of the course, the student should be able to:
2. Understand and differentiate between different thermodynamic systems and processes
3. Understand and apply the laws of Thermodynamics to different types of systems undergoing various processes
4. Understand and analyze the Thermodynamic cycles

ME834OE/AM852PE/EI862PE: B.TECH. MECHANICAL ENGINEERING RELIABILITY ENGINEERING

- 1.: After completion of this course, the student will be able to
2. model various systems applying reliability networks
3. evaluate the reliability of simple and complex systems
4. estimate the limiting state probabilities of repairable systems
5. apply various mathematical models for evaluating reliability of irreparable systems

NT831OE: B.TECH. MECHANICAL ENGINEERING (MATERIAL SCIENCE AND NANOTECHNOLOGY) CONCEPTS OF NANO SCIENCE AND TECHNOLOGY

1. The intended course covers the whole spectrum of nanomaterials ranging from introduction, classification, synthesis, properties, and characterization tools of nanophase materials to application including some new developments in various aspects.

NT832OE: B.TECH. MECHANICAL ENGINEERING (MATERIAL SCIENCE AND NANOTECHNOLOGY) SYNTHESIS OF NANOMATERIALS

1. To provide abundant knowledge on various synthesis methods of nanomaterials.

MT831OE/ME853PE: B.TECH. MECHANICAL ENGINEERING (MECHATRONICS) RENEWABLE ENERGY SOURCES

1. Understanding of renewable energy sources
2. Knowledge of working principle of various energy systems
3. Capability to carry out basic design of renewable energy systems

MT832OE/ME854PE: B.TECH. MECHANICAL ENGINEERING (MECHATRONICS) PRODUCTION PLANNING AND CONTROL

1. At the end of the course, the student will be able to, Understand production systems and their characteristics. Evaluate MRP and JIT systems against traditional inventory control systems. Understand basics of variability and its role in the performance of a production system. Analyze aggregate planning strategies. Apply forecasting and scheduling techniques to production systems. Understand theory of constraints for effective management of production systems.

CE833OE: B.TECH. MECHANICAL ENGINEERING (MECHATRONICS) ENTREPRENEURSHIP AND SMALL BUSINESS ENTERPRISES

1. It enables students to learn the basics of Entrepreneurship and entrepreneurial development which will help them to provide vision for their own Start-up.

MM8310E: B.TECH. METALLURGICAL AND MATERIALS ENGINEERING DESIGN AND SELECTION OF ENGINEERING MATERIALS

1. Understand the Relationship between materials selection, processing and applications

MN8310E: B.TECH. MINING ENGINEERING SOLID FUEL TECHNOLOGY

1. Students can understand the fundamentals of Processes of formation of coal, properties and evaluation and coal preparation and washability characteristics of coal

MN8320E: B.TECH. MINING ENGINEERING HEALTH AND SAFETY IN MINES

1. student will gain knowledge and able to understand the importance of health and safety including the role of safety risk assessment in mining industry

PE8320E: B.TECH. PETROLEUM ENGINEERING FUNDAMENTALS OF LIQUEFIED NATURAL GAS

1. Upon successful completion of this course, the student will be able to:
2. Have good knowledge on LNG process.
3. Classify different liquefaction techniques.
4. Understand different units in LNG processing and transportation.
5. Have knowledge associated with safety aspects of LNG

PE8330E: B.TECH. PETROLEUM ENGINEERING HEALTH, SAFETY AND ENVIRONMENT IN PETROLEUM INDUSTRY

1. The student can have the knowledge of various Acts related to safety, Health and environment in petroleum industry.
2. The student can have the knowledge of various drilling fluids handling and safe disposal such toxic products. •
3. Knowledge of disaster management to fight any crisis.
4. Knowledge of Hazard studies and occupational health hazards in the industry
Understanding capacity building concepts and planning of disaster managements