COURSE OUTCOMES

GR17A1001-Linear Algebra and Single Variable Calculus-B.Tech I Year I Semester
Course Outcomes
1. Recognize the concepts of matrix rank to analyze linear algebraic systems 2. Compute Eigen values and vectors for engineering applications. 3. Illustrate the concepts of Mean Value Theorems to Describe the Medical Imaging and Industrial Automation. 4. Differentiate various differential equations using elementary techniques (Exact or linear constant coefficient equations) 5. Demonstrate model and solve linear dynamical systems. 6. Apply concepts of higher order differential equations to solve typical problems in Electrical circuits. 7. Identify the physical phenomena of Simple harmonic motion by concepts of Differential equations

GR17A1002-Advanced Calculus-B.Tech I Year I Semester
Course Outcomes
1. Solve problems on function optimization with and without constraints. 2. Apply the knowledge of curve tracing and geometry to precisely estimate areas and volumes. 3. Classify the concepts of applications of integration. 4. Explain the real significance of applications of multiple integrals. 5. Apply the knowledge of multiple integrals in solving problems in vector fields 6. Classify the concepts of differential calculus with physical interpretation. 7. Categorize the verification and evaluation of vector integral theorems geometrically

GR17A1005-English-B.Tech I Year I Semester
Course Outcomes
1. Identify and compare a wide range of text to know the importance of lifelong learning. 2. Relate and develop English language proficiency with an emphasis on LSRW skills. 3. Infer and interrelate academic subjects through English language skills for better understanding of technical intricacies.. 4. Organize ideas appropriately and fluently in social and professional areas. 5. Implement English language skills to meet the corporate needs. 6. Translate and demonstrate self in social and professional situations. 7. Distinguish and construct literary sense through wide range of selections from various genres.

GR17A1007-Engineering Physics-B.Tech I Year I Semester

Course Outcomes

1. Identify and describe various bonds between the atoms and properties of various materials.

2. Explain the behavior of free electrons and how they are responsible for exhibition of various properties.

3. Classify various magnetic materials and apply knowledge gained in various fields.

4. Differentiate different dielectric materials and its utilization.

5. Analyze why Laser light is more powerful than normal light and its applications in various fields.

6. Demonstrate the application of optical fibers in communication.

7. Extend the knowledge of characterization techniques to know the composition of Nano material.

GR17A1009-Computer Programming-B.Tech I Year I Semester

Course Outcomes

1. Comprehend the basic concepts of computers, software, hardware, generations of programming languages, program development steps, algorithms, flowcharts.
2. Comprehend the pre-programming C-concepts such as C-Tokens like keywords, data-types.

3. Comprehend the concepts of operators, evaluation of expressions, I/O statements.

4. Analyze the concepts of decision making such as branching, looping, unconditional jumping.

5. Comprehend the C-language features such as arrays, strings, functions, pointers, structures, files.

6. Design and develop C-Programs for various general problems and their implementation.

7. Design and develop C-Programs for Complex problems independently

GR17A1019-Fundamentals of Electronics Engineering-B.Tech I Year I Semester

Course Outcomes

1. Comprehend the fundamentals of construction of the semiconducting material, fabrication of elements, working principles and operation of semiconductors.

2. Analyze the concept with the working principles of forward and reverse bias characteristics.

3. Demonstrate the basic skills in design and analysis of filter circuits, biasing circuits.

4. Discriminate the principle, construction and operation of BJTs, FETs and MOSFETs.

5. Interpret the different techniques for FET and MOSFET circuit designs.

6. Interpret the performance and analysis-volt amp characteristics of BJT and FET amplifiers.

7. Analyze the small signal low frequency Transistor amplifiers using h-parameters.

GR17A1025-Engineering Workshop-B.Tech I Year I Semester

Course Outcomes

1. Design and model different prototypes in the Carpentry trade such as Cross lap joint, Dove tail joint.
2. Demonstrate straight fit, V-fit by making models.
3. Construct various basic prototypes in the trade of tin smithy such as rectangular tray and open scoop etc.
4. Analyze to make in the trade of Tin Smithy such as Rectangular tray and Open Cylinder.
5. Apply various House Wiring techniques such as connecting one lamp with one switch.
6. Develop various basic house wiring techniques such as two lamps with one switch, connecting a Fluorescent tube, Series Wiring, Go down wiring
7. Demonstrate to develop various basic prototypes in the trade of Welding such as Lap joint, Lap Tee joint, Butt joint and Corner joint.

GR17A1027-Computer Programming Lab-B.Tech I Year I Semester

Course Outcomes

1. Analyze and debug a given program

2. Use basic concepts, decision making and looping and c library functions for program development.

3. Develop programs using arrays and strings.

4. Illustrate recursive and non recursive programming approaches.

5. Apply concepts of pointers and dynamic memory allocation for program development.

6. Apply fundamental, derived or user defined data types for problem solving.

7. Experiment files operations and demonstrates command line arguments.

GR17A1029-Engineering Physics Lab -B.Tech I Year I Semester

Course Outcomes

1. Identify the usage of CRO, digital multi meter to record various physical quantities.

2. Distinguish the characteristics and behavior of dielectric materials in a practical manner.

3. Calculate losses in optical fiber and interpret them to the optical communication systems.

4. Quantify the type of semiconductor and measurement of energy gap in a semiconductor.

5. Investigate the properties of light like interference and diffraction through experimentation.

6. Examine the behavior of magnetic materials with the help of graph.

7. Analyze the characteristics of light emitting diodes for their optimum utilization.

GR17A1003-Transform Calculus and Fourier Series-B. Tech I Year II Semester

Course Outcomes

1. Calculate definite integral values using Beta and Gamma Functions
2. 2. Develop the skill of evaluating Laplace and inverse Laplace transform to solve linear systems   under initial and boundary conditions.
3. Illustrate the concepts of Laplace Transform to find the solutions of physical problems such as Electrical circuits.
4. Interpret the Fourier series and Fourier transform in the context of signals and systems.
5. Solve difference equations by Z-Transform.
6. Formulate Partial differential equations by eliminating arbitrary functions and arbitrary constants.
7. Compile the solution of Boundary value problems (PDE) by Fourier Transform Method.

GR17A1004-Numerical Methods-B.Tech I Year II Semester

Course Outcomes

1. Develop the skill of determining approximate solutions to problems having no analytical solutions in different contexts.
2. Solve problems related to cubic spline fitting and approximation of functions using B- splines and least squares.
3. Develop the skill of finding approximate solutions to problems arising in linear differential equations.
4. Identify how the numerical methods play a vital role in many areas in engineering for example Dynamics, elasticity, heat transfer, electromagnetic theory and quantum mechanics.
5. Interpret the mathematical results in physical or other terms to see what it practically means and implies.
6. Explain the concept of interpolation is useful in predicting future out comes base on the present knowledge.
7. Solve the model by selecting and applying a suitable mathematical method.

GR17A1018-Basic Electrical Engineering-B.Tech I Year II Semester

Course Outcomes

1. Comprehend the basics of Electrical Engineering and practical implementation of Electrical fundamentals.

2. Illustrate applications of commonly used electric machinery.

3. Identify the methods for numerical solutions to fundamental electrical engineering.

4. Apply the basic principles involved in electrical engineering concepts.

5. Analyze the practical methods of basic house wiring.

6. Identify methods to solve AC circuits.

7. Comprehend basics of electric machines like induction motors, generators, transformers etc. used in industries.

GR17A1008-Engineering Chemistry-B.Tech I Year II Semester
Course Outcomes

1. Analyze water for the industry required specifications.

2. Comprehend the fundamental principles of electrochemistry for energy production and corrosion   Prevention.

3. Identify the origin of different types of engineering materials used in modern technology.

4. Identify new materials for novel applications.

5. Develop the skills required for synthesis and analysis of materials.

6. Relate the structure of materials to their properties and applications.

7. Illustrate the processing of fossil fuels for the effective utilization of chemical energy and   the necessity of sustainable, environmentally-friendly energy sources like solar energy

GR17A1023-Engineering Graphics-B.Tech I Year II Semester
Course Outcomes

1. Demonstrate different types of lines, the use of different types of pencils and drafter to represent
2. Illustrate the basic drawing techniques, conic sections, cycloid curves, involutes and engineering
3. Comprehend the basic concept of principle of planes of projections in front view and top view.
4. Implement the orthographic projections of points, lines, planes and solids
5. Analyze the structure which was hypostatically designed ex: development of surfaces
6. Explain the logic to convert pictorial views to orthographic projections and orthographic projections.
7. Evaluate conversions of isometric views to orthographic views helps in inventing new machinery.

GR17A1010-Data Structures-B.Tech I Year II Semester
Course Outcomes

1. Classify and infer various data structures.

2. Demonstrate operations like insert, delete, search and display of various data structures.

3. Exemplify and experiment applications of various data structures.

4. List applications of data structures in real time environments.

5. Compare and contrast static and dynamic data structure implementations.

6. Demonstrate different methods of traversing trees and construct trees from traversals.

7. Implement searching and sorting techniques and analyze their performance.

GR17A1026-IT Workshop-B.Tech I Year II Semester

Course Outcomes

1. Recognize different peripherals and install different system and application software.

2. Analyze and use of web browsers and related tools.

3. Create different documents, presentations and spreadsheet applications.

4. Recognize different network devices and their usage and identify and use different cables.

5. Explore the internet for information extraction and other innovative applications.

6. Design a static webpage.

7. Design and develop database.

GR17A1030-Engineering Chemistry Lab-B.Tech I Year II Semester

Course Outcomes

1. Perform analysis of water to the required industrial standards.

2. Apply the redox and acid-base titrations for analyzing materials used in routine usage like cement, coal, acid in lead acid battery, etc.,

3. Develop the skills required for assessing the quality of materials used in industries.

4. Identify novel ways of instrumental methods of analysis.

5. Identify the correlation between the measured property and the corresponding application.

6. Comprehend scientific method of designing experiment and learn the skill necessary to perform it.

7. Illustrate how to innovate to design alternative energy sources utilizing chemistry for sustainable environment for future generations

GR17A1024-Business Communication and Soft Skills-B.Tech I Year II Semester

Course Outcomes

1. Interpret and categorize the role and importance of various forms of communication skills.

2. Apply and relate verbal and non-verbal communication with reference to professional contexts.

3. Appraise professional responsibilities in an analytical manner

4. Plan and organize the activity of sequencing ideas in an efficacious style.

5. Evaluate and illustrate a neutral and correct form of English.

6. Distinguish and prioritize behavior in formal situations.

7. Combine business communication skills & soft skills to meet the requirement of corporate communication.

GR17A2011-Probability And Statistics-B.Tech II Year I Semester
Course Outcomes

1. Estimate the chance of occurrence of various uncertain events in different random experiments with strong basics of probability.
2. Evaluate random processes which occur in engineering applications governed by the Binomial, Poisson, Exponential, Normal and Uniform distributions.
3. Apply various sampling techniques.
4. Estimate the models using Regression Analysis.
5. Estimate the system performance measures in different queuing processes.
6. Apply Inferential Statistics to make predictions or judgments about the population from which the sample data is drawn.
7. Develop models for Stochastic Processes.

GR17A2062-Mathematical Foundation Of Computer Science-B.Tech II Year I Semester
Course Outcomes

1. Distinguish between statement logic and predicate logic.
2. Think logically and mathematically on topics like Basis of counting Combinations &amp, Permutations, with repetitions, constrained repetitions, Binomial Coefficients etc.
3. Design and Develop Trees, Graphs and their applications.
4. Develop different Properties of Binary Relations subsequent to the course.
5. Demonstrate in practical applications the use of basic counting principles ofpermutation and combinations.
6. Demonstrate knowledge on the foundations of many mathematical computer related concepts.

GR17A2063-Database Management Systems-B.Tech II Year I Semester
Course Outcomes

1. Recognize the different application of Databases
2. Generate relational model i.e.,tables based on the conceptual ER models.
3. Produce the database schema from relational model.
4. Execute database language for e.g. SQL to manipulate the data in the database.
5. Implement normalization techniques on the created database.
6. Compare the different transactions control mechanisms.
7. Organize file organizations and indexing mechanisms for real time applications.

GR17A2064-Advanced Data structures Through C++-B.Tech II Year I Semester
Course Outcomes

1. Distinguish between procedures and object oriented programming
2. Compare and contrast various data structures and design techniques in terms of their performance
3. Formulate data structure algorithms through C++
4. Illustrate applications of Hash Tables, Trees and Graph Structures
5. Practicing the construction of various data structures using sample data
6. Select and employ various Rotations in balancing trees
7. Apply various Data structure strategies in solving real time problems

GR17A2065-Digital Logic Design-B.Tech II Year I Semester

Course Outcomes

1. Apply knowledge of fundamental Boolean principles and manipulation to design Logic Circuits
2. Apply various techniques of Boolean function simplification to create minimal expressions
3. Create combinational circuits for a specified behaviour with minimal specification
4. Apply state minimization and reduction to synthesize Sequential circuits
5. Realize combinational circuitry using Combinational PLDs
6. Synthesize and simulate combinational and sequential circuits using HDL
7. Test HDL models of combinational and sequential circuits

GR17A2066-Advanced Data Structures Through C++ Lab-B.Tech II Year I Semester

Course Outcomes

1. Develop programs illustrating various concepts of oops
2. Implement various data structures like priority queues, trees, graphs
3. Illustrate collision resolution strategies of hashing
4. Apply the knowledge of balanced tree concepts programmatically
5. Develop solutions for a range of problems using object oriented programming
6. Enhance analytical & logical skills in problem solving
7. Develop real-time projects using C++

GR17A2053-Digital Electronics Lab-B. Tech II Year I Semester

Course Outcomes

1. Study the theory of Boolean algebra and to study representation of switching functions through various experiments.
2. Perform the combinational logic design of various logic and switching devices and validate the outputs
3. Perform the sequential logic circuits design both in synchronous and Asynchronous modes for various complex logic and switching devices and validate the outputs
4. Design and validate the counters and registers for synchronous and asynchronous circuits
5. Design the combinational logic circuits using VHDL programming syntaxes.
6. Design the sequential circuits using VHDL programming syntaxes.
7. Describe the various VHDL programming concepts

GR17A2075-Database Management Systems Lab-B. Tech II Year I Semester

Course Outcomes

1. Adapt strong formal foundation in database concepts and technology
2. Adapt standard query language and its various versions
3. Design a database based on given requirements
4. Design and analyze projects with knowledge of relational model and relational database management system
5. Apply procedures, functions and packages on given database
6. Develop cursors, triggers on given database and implement error handling
7. Relate all these to one or more commercial product environments as they relate to the developer tasks

GR17A2001-Environmental Science-B.Tech II Year I Semester

Course Outcomes

1. Determine the importance of environment, its purpose, design and perspectives.
2. Demonstrate environmental issues related to the exploration of natural resources and development of mankind
3. Predict the role of professionals in protecting the environment from degradation.
4. Analyze solutions for environmental problems created by local national and global developmental activities.
5. Evaluate literature on environmental problems
6. Develop relevant research questions for environmental investigation.
7. Use methods and tools of environmental research, including statistical analysis, GIS and other techniques.

GR17A2104-Managerial Economics And Financial Analysis-B.Tech II Year II Semester

Course Outcomes

1. scan the economic environment;
2. understand the markets and competition;
3. forecast the demand;
4. plan the operations and the production;
5. choose an appropriate form of organisation;
6. know the cost and decide the price of the products and/or services produced, and
7. understand the financial statements and make financial analysis.

GR17A2076-Computer Organization-B.Tech II Year II Semester

Course Outcomes

1. Demonstrate knowledge of register organization of a basic computer system
2. Incorporate In-depth understanding of control unit organization and micro programmed control
3. Understand the performance of central processing unit of a basic computer system.
4. Apply various algorithms to perform arithmetic operations and propose suitable hardware for them
5. Analyze and emphasize various communication media in the basic computer system
6. Develop an ability to analyze and design various memory structures
7. Analyze the performance of a Multiprocessor System and various issues associated with its design.

GR17A2069-Operating Systems-B.Tech II Year II Semester
Course Outcomes

1. Recognize functions ,structures of operating systems
2. Exemplify various process management concepts including scheduling, synchronization, deadlocks
3. Organizing of memory including virtual memory.
4. Implementation of disk management considering issues related to file system interface
5. Recognize protection and security mechanisms and familiar with various types of operating systems including UNIX.
6. Check the sharing of system resources among the users.
7. Plan for a new operating systems.

GR17A2070-Object Oriented Programming Through Java-B.Tech II Year II Semester
Course Outcomes

1. Classify multicore architectures
2. Distinguish between higher threading and multi threading
3. Implement object oriented programming features and concepts for solving a given problem.
4. Produce complex programs using java standard API library
5. Implement object oriented programming concepts using java
6. Check the errors and trace the output of the program.
7. Develop interactive programs using applets and swings.

GR17A2077-Computer Networks-B.Tech II Year II Semester
Course Outcomes

1. Define basic terminology of computer networks
2. Apply various network configurations and transmission media to build a network for an organization
3. Gain knowledge and develop error correction technique for specified problems
4. Compare various routing methods and give solutions for transmission problems
5. Explain various transmission methods
6. Relate different protocols with various applications
7. Demonstrate solutions to various security problems related web applications

GR17A2072-Object Oriented Programming Through Java Lab-B.Tech II Year II Semester
Course Outcomes

1. Differentiate between procedure oriented programming and object oriented programming
2. Implement object oriented programming features and concepts for solving given problem
3. Produce complex programs using Java standard API Library
4. Evaluate the quality of program and improve it
5. Recognize required validations in the internet programming
6. Check for errors and do needed corrections of the program
7. Generate interactive programs using applets and swings.

GR17A2078-OPERATING SYSTEMS AND COMPUTER NETWORKS LAB-B.Tech II Year II Semester

Course Outcomes

1. Understand and analyze the various file organization techniques
2. Interpret and adapt the different operating systems and Networking systems
3. Implement of CPU scheduling algorithms
4. Compare and Contrast page replacement techniques
5. Understand the implementation aspect of data link layer
6. Implement various routing algorithms
7. Compare and contrast the various encryption mechanisms

GR17A2079-WEB DESIGNING LAB-B.Tech II Year II Semester

Course Outcomes

1. Build a static web sites using HTML
2. Design and implement web services
3. Apply the techniques and knowledge to provide the web interactivity
4. Apply the knowledge to provide security to the applications
5. Apply adobe Photoshop to create brouchers and edit the photos
6. Apply adobe flash to create the animations
7. Design the Web Pages using Dreamweaver tools

GR17A2002-Value Education And Ethics-B.Tech II Year II Semester

Course Outcomes

1. Choose the right value system by self analysis and right understanding
2. Use positive thinking, dignity of labour for building harmony and peace in self, family and society.
3. Analyze the importance of personality on effective behavior
4. Identify and solve ethical dilemmas by finding value based and sustainable solutions in professional life.
5. Find sustainable technological solutions for saving environment.
6. Demonstratevalue and ethical systems for continuous happiness and prosperity.
7. Illustrate effective teamwork bringing out win-win solutions for complex problems

Course Outcomes

1. Comprehend important issues related to gender in contemporary India.
2. Identify basic dimensions of the biological, sociological, psychological and legal aspects of the gender through the discussion of materials derived from research, facts, everyday life, literature and films.
3. Analyze how gender discrimination works in our society and how to counter is.
4. Illustrate the gender division of labour and its relation to politics and economics'
5. Demonstrate how men and women students, professionals will be better equipped to work and live together as equals.
6. Develop a sense of appreciation of women in all walks of life.
7. Interpret the laws that provide protection and relief to women form gender violence