



Engineering College
An Autonomous Institution

Ghatkesar, Hyderabad - 501 301, Telangana.

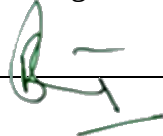
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NBA Accredited B.Tech Courses, Accorded NACC A-Grade with 3.20 CGPA

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Outcomes of one course from each semester AY 2023-24

CO No.	Course Outcome
C113 Basic Electrical Engineering (I Year – I Sem)	
C113.1	Analyze and solve electrical circuits using network laws and theorems.
C113.2	Gain the knowledge of basics of AC circuits.
C113.3	Understand and analyze basics of Electric and Magnetic circuits.
C113.4	Realize the requirement of transformers in transmission and distribution of electric power and other applications.
C113.5	Study the working principles of Electrical Machines.
C113.6	Introduce components of Low Voltage Electrical Installations.
C121 Mathematics – II (I Year – II Sem)	
C121.1	Identify whether the given differential equation of first order is exact or not.
C121.2	Solve higher differential equation and apply the concept of differential equation to real world problems.
C121.3	Evaluate the multiple integrals.
C121.4	Apply the concept to find areas, volumes, center of mass and Gravity for cubes, sphere and rectangular parallelepiped.
C121.5	The physical quantities involved in engineering field related to the vector valued functions.
C121.6	Evaluate the line, surface and volume integrals and converting them from one to another.


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C214 Computer Organization and Architecture (II Year – I Sem)	
C214.1	Understand the basics of instructions sets and their impact on processor design.
C214.2	Demonstrate an understanding of the design of the functional units of a digital computer system.
C214.3	Evaluate cost performance and design trade-offs in designing and constructing a computer processor including memory.
C214.4	Design a pipeline for consistent execution of instructions with minimum hazards.
C214.5	Recognize and manipulate representations of numbers stored in digital computers.
C214.6	Demonstrate computer architecture concepts related to design of modern processors, memories and I/Os.
C223 Operating System (II Year – II Sem)	
C223.1	Illustrate and simulate the Process Scheduling Algorithms.
C223.2	Do Programming with UNIX/Linux System Calls and Use Thread Libraries like Pthreads.
C223.3	Describe the Memory Management Techniques and File Systems.
C223.4	Discuss the Resource sharing issues and its solutions particularly dealing with Deadlocks.
C223.5	Describe the Disk Concepts and review of Input / Output Systems.
C223.6	Differentiate various Operating systems like Linux and Window-XP.
C313 Software Engineering (III Year – I Sem)	
C313.1	Able to define software engineering process and practices, and demonstrate various process models.
C313.2	Ability to identify the minimum requirements for the development of application.
C313.3	Ability to apply the process of testing and various methodologies for developing the software.
C313.4	Ability to develop, maintain, efficient, reliable and cost effective software solutions.
C313.5	Ability to critically thinking and evaluate assumptions and arguments.
C313.6	Able to identify different types of risks in software development.

C323 Cryptography and Network Security (III Year – II Sem)	
C323.1	Understand and apply the cryptographic algorithms to safeguard from intruders.
C323.2	Compare and contrast symmetric and asymmetric encryption systems and their vulnerability to attack.
C323.3	Implement the various key distribution, management and message authentication schemes to send the messages with security.
C323.4	Identify information system requirements for Transport level, wireless network, E-Mail and IP.
C323.5	Design a network security system by implementing all the concepts of encryption and decryption algorithms.
C323.6	Ability to understand the current legal issues towards information security.
C412 Principles of Programming Languages (IV Year – I Sem)	
C412.1	Ability to express syntax and semantics in formal notation.
C412.2	Ability to apply suitable programming paradigm for the application.
C412.3	Ability to compare the features of various programming languages.
C412.4	Able to understand the programming paradigms of modern programming languages.
C412.5	Able to understand the concepts of ADT and OOP.
C412.6	Ability to program in different language paradigms and evaluate their relative benefits.
C423 Computer Forensics (IV Year – II Sem)	
C423.1	Understand the definition of computer forensics fundamentals and real time computer forensic issues.
C423.2	Understand the importance of initial response and proper documentation.
C423.3	Understand memory hierarchy and Identify different storage formats for data acquisition.
C423.4	Understand the principles of network forensics.
C423.5	Identify and apply various computer forensics tools to solve the computer forensic cases.

C423.6	Analyze the data in mobile forensics.
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Note:

C423 is the Third course(3) in Fourth Year(4) Second Semester(2) and ‘.1’ to ‘.6’ are the outcomes of this course.

C214 is the Fourth course(4) in Second Year(2) First Semester(1) and ‘.1’ to ‘.6’ are the outcomes of this course.

Table B 3.1.1.2 Course Outcomes of one course from each semester AY 2018-19

CO No.	Course Outcome
C112 Chemistry(I Year – I Sem)	
C112.1	Explain and rationalize the atomic, molecular and electronic changes in molecules, Crystal field theory and Band theory related to conductivity.
C112.2	Develop the understanding of technology involved in water treatment for domestic and industrial use and to solve the related numerical problems on water purification.
C112.3	Understand the basic concepts of electro analytical techniques and battery technology.
C112.4	Understand the causes of corrosion, its consequences and methods to minimize corrosion to improve industrial designs.
C112.5	Explain configurational, conformational analysis of molecules, different types of organic reaction mechanisms and synthesis of drug molecules.
C112.6	Understand the fundamentals of UV,IR & NMR Spectroscopy and elucidate the applications to analyze the structures of chemical compounds using spectroscopic analysis techniques.
C124 Engineering Graphics (I Year – II Sem)	
C124.1	To understand the fundamentals of engineering drawing.

C124.2	To describe the concepts of various curves used in engineering and its applications.
C124.3	To apply the concept of Orthographic projections of 1D, 2D objects.
C124.4	Apply the concept of orthographic projection to describe 3D objects and its sectional views.
C124.5	Apply the concept of projections to develop the solid surfaces and interpenetration of solid surfaces.
C124.6	To visualize isometric views to orthographic views and vice-versa.
C212 Data Structures through C++ (II Year – I Sem)	
C212.1	Able to identify the appropriate data structures and algorithms for solving real world problems.
C212.2	Demonstrate and solve set of operations on linear data structures such as List, Stack and Queue.
C212.3	Construct, identify & name different type of trees and tree traversal techniques and also techniques to implement priority queues.
C212.4	Analyze the complexity of the algorithms.
C212.5	Illustrate various techniques for searching, sorting and hashing.
C212.6	Able to analyze and implement various kinds of graph traversal techniques and different search trees & its operations.
C225 Business Economics and Financial Analysis (II Year – II Sem)	
C225.1	Understand the micro and macro economics theories and its significance in economy.
C225.2	Understand the relative importance of business economics and structure of business firms.
C225.3	Analyze the product demand and its costs using tools as well as in forecasting demand of product.
C225.4	Develop the knowledge about production, market, BEA and pricing theories and its theories.
C225.5	Understand the conceptual knowledge of accounting and acquire the skills to prepare financial statements.

C225.6	Evaluate the company profitability and financial position by using financial tools and techniques.
C312 Data Communication and Computer Networks (III Year – I Sem)	
C312.1	Able to describe the basic building blocks of Computer Networks by identifying various components and illustrate their applicability.
C312.2	Able to identify the issues at the Physical and Data link layer and interpret their solutions.
C312.3	Able to distinguish between different types of Subnets, illustrate the working of Routing Algorithms, and analyze their applicability.
C312.4	Able to list the services provided, express the design issues, and illustrate the solutions at the Transport layer.
C312.5	Able to demonstrate the working of widely used applications like DNS, Email, www etc.
C312.6	Able to administrate a network and flow of information further he/she can understand easily the concepts of network security, Mobile and ad hoc networks.
C322 Web Technologies (III Year – II Sem)	
C322.1	Implement interactive web page (s) using HTML, CSS and JavaScript.
C322.2	Have Understanding of server-side scripting with PHP language.
C322.3	Have Understanding of what is XML and how to parse and use XML Data with Java.
C322.4	To introduce Server-side programming with Java Servlets and JSP.
C322.5	Build Dynamic web site using server side PHP Programming and Database connectivity.
C322.6	Gain knowledge of client side scripting, validation of forms and AJAX programming.
C413 Data Warehousing and Data Mining (IV Year – I Sem)	
C413.1	Student should be able to understand why the data warehouse in addition to database systems.
C413.2	Able to understand Modeling and design of data warehouses.

C413.3	Ability to perform the preprocessing of data and apply mining techniques on it
C413.4	Ability to identify the association rules, classification and clusters in large data sets.
C413.5	Ability to solve real world problems in business and scientific information using data mining.
C413.6	Ability to apply acquired knowledge for understanding data and select suitable methods for data analysis.
C421 Management Science (IV Year II Sem)	
C421.1	Understand the objectives, significance and goals of the organization.
C421.2	Identify the factors determining plant location, plant layout ,factors affecting production.
C421.3	Apply various methods to study work measurement process, and learn about work sampling material management.
C421.4	Define various methods of inspection and evaluate the process control charts, HRM.
C421.5	Identify and evaluate PERT,CPM network analysis ,project analysis.
C421.6	Apply value chain analysis, SWOT analysis and strategy formulation.

Table B 3.1.1.3 Course Outcomes of one course from each semester AY 2017-18

CO No.	Course Outcome
C114 Professional Communication in English (I – I Sem)	
C114.1	Understand the given texts and use English Language effectively in spoken and written forms.
C114.2	Students apply accentual patterns in speaking English so they will express themselves fluently and appropriately in social and professional contexts.
C114.3	Students evaluate reading as an exact and formal skill so that they are familiarized with the meanings of words from context and grasp the overall message of the text.
C114.4	Students enhance their writing skills so that they can remember the components of different forms of writing.
C114.5	Ability to analyze the grammatical structure of sentences within English texts,

	using grammatical terminology correctly.
C114.6	The student will apply verbal expressions by using specific vocabulary acquisition skills.
C121 Engineering Physics – II (I-II Sem)	
C121.1	Explain the fundamental concepts of Quantum physics.
C121.2	Identify different types of semiconductor materials.
C121.3	Describe the nature of dielectric materials.
C121.4	Classify different type's magnetic materials.
C121.5	Describe the phenomenon of superconductivity.
C121.6	Describe the properties and fabrication of nonmaterial's.
C215 Object Oriented Programming through JAVA (II – I Sem)	
C215.1	Able to solve real world problems using OOP techniques.
C215.2	Able to understand the use of abstract classes and static keyword.
C215.3	Able to solve problems using java collection framework, exception handling and I/O classes.
C215.4	Able to develop multithreaded applications with synchronization.
C215.5	Able to develop applets for web applications.
C215.6	Able to design GUI based applications.
C224 Formal Languages and Automata Theory (II- II Sem)	
C224.1	Ability to define formal languages and explain how they can be generated by different automata.
C224.2	Able to understand the concept of abstract machines and their power to recognize the languages.
C224.3	Able to employ finite state machines for modeling and solving computing problems.
C224.4	Able to design context free grammars for formal languages.
C224.5	Able to distinguish between decidability and undecidability.
C224.6	Able to gain proficiency with mathematical tools and formal methods.

C314 Compiler Design (III – I Sem)	
C314.1	Able to understand the concept of abstract machines and their power to recognize the languages.
C314.2	Able to use the tools related to compiler design effectively and efficiently.
C314.3	Able to write the optimized code.
C314.4	Able to employ finite state machines for modeling and solving computing problems.
C314.5	Separate the lexical, syntactic and semantic analysis into meaningful phases for a compiler to undertake language translation.
C314.6	Able to design a compiler for a simple programming language.
C323 Object Oriented Analysis and Design (III-II Sem)	
C323.1	Understand Unified Modeling Language and Rational Rose for object oriented modeling.
C323.2	Illustrate the conceptual model of UML.
C323.3	Represent Behavioral diagrams in UML.
C323.4	Identify the basic and advanced structural diagrams.
C323.5	Relate forward and reverse engineering for a software system.
C323.6	Assess the architectural modeling of UML.
C411 Linux Programming (IV – I Sem)	
C411.1	Work confidently in Linux environment.
C411.2	Students will be able to understand the basic commands of linux operating system and can write shell scripts.
C411.3	Work with shell script to automate different tasks as Linux administration.
C411.4	Students will be able to create file systems and directories and operate them.
C411.5	Apply networking Unix commands.
C411.6	Students will be create shared memory segments, pipes ,message queues and can exercise interprocess communication.
C422 Adhoc Sensor Networks(IV-II Sem)	

C422.1	Able to describe the principles of mobile ad hoc networks and what distinguishes them from infrastructure - based networks.
C422.2	Able to understand how proactive, reactive and hybrid routing protocols function.
C422.3	Able to differentiate the different types of data transmission in MANETs like broadcasting, multicasting and geocasting.
C422.4	Able to Understand the Basics of wireless sensors and applications to explore the best possible use of large number of Sensor Nodes in WSN.
C422.5	Able to understand the security issues over ad hoc and sensor networks.
C422.6	Able to use component-based operating system (tiny os) and platform targeting wireless sensor networks (WSNs).



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Course Outcomes of one course from each semester AY 2023-24

CO No.	Course Outcome
C113 Programming for Problem Solving (I Year – I Sem)	
C113.1	To write algorithms and to draw flowcharts for solving problems.
C113.2	To convert the algorithms/flowcharts to C programs.
C113.3	To code and test a given logic in the C programming language.
C113.4	To decompose a problem into functions and to develop modular reusable code.
C113.5	To use arrays, pointers, strings and structures to write C programs.
C113.6	Searching and sorting problems.

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C123 COMPUTER AIDED ENGINEERING GRAPHICS– II (I Year – II Sem)	
C123.1	Apply computer aided drafting tools to create 2D and 3D objects
C123.2	Sketch conics and different types of solids
C123.3	Appreciate the need of Sectional views of solids and Development of surfaces of solids.
C123.4	Read and interpret engineering drawings
C123.5	Conversion of orthographic projection into isometric view and vice versa manually and by using computer aided drafting
C214 Data Structures (II Year – I Sem)	
C212.1	Ability to select the data structures that efficiently model the information in a problem.
C212.2	Ability to assess efficiency trade-offs among different data structure implementations or combinations.
C212.3	Implement and know the application of algorithms for sorting and pattern matching.
C212.4	Design programs using a variety of data structures, including hash tables, binary and general tree structures, search trees, tries, heaps, graphs, and AVL-trees.
C223 Database Management Systems (II Year – II Sem)	
C223.1	Gain knowledge of fundamentals of DBMS, database design and normal forms
C223.2	Master the basics of SQL for retrieval and management of data.
C223.3	Be acquainted with the basics of transaction processing and concurrency control.
C223.4	Discuss the Resource sharing issues and its solutions particularly dealing with Deadlocks.
C223.5	Familiarity with database storage structures and access techniques
C311 Design and Analysis of Algorithms (III Year – I Sem)	
C311.1	Ability to analyze the performance of algorithms
C311.2	Ability to choose appropriate data structures and algorithm design methods for a

	specified application.
C311.3	Ability to understand how the choice of data structures and the algorithm design methods impact the performance of programs
C323 Natural Language Processing (III Year – II Sem)	
C323.1	Show sensitivity to linguistic phenomena and an ability to model them with formal grammars.
C323.2	Understand and carry out proper experimental methodology for training and evaluating empirical NLP systems
C323.3	Able to manipulate probabilities, construct statistical models over strings and trees, and estimate parameters using supervised and unsupervised training methods.
C323.4	Able to design, implement, and analyze NLP algorithms
C323.5	Able to design different language modeling Techniques.
C411 Neural Networks & Deep Learning (IV Year – I Sem)	
C411.1	Ability to understand the concepts of Neural Networks.
C411.2	Ability to select the Learning Networks in modeling real world systems
C411.3	Ability to use an efficient algorithm for Deep Models
C411.4	Ability to apply optimization strategies for large scale applications
C421 Disaster Preparedness & Planning Management (IV Year – II Sem)	
C421.1	The application of Disaster Concepts to Management.
C421.2	Analyzing Relationship between Development and Disasters.
C421.3	Ability to understand Categories of Disasters.
C421.4	Realization of the responsibilities to society.


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