MALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE
(Approved by AICTE, Affiliated to JNTUK)
(An ISO9001:2008 Certified Institution)
Pulladigunta (Village), Vatticherukuru (Mandal),
Guntur-522017, Andhra Pradesh, India
Department of Computer Science and Engineering

	COURSE CODE		R16 COURSE OUTCOMES
1	**C201 Statistics with R Programming**	**C201.1**	Motivate for learning a programming language
		C201.2	To Access online resources for R and import new function packages into the R workspace
		C201.3	Import, review, manipulate and summarize data-sets in R
		C201.4	Explore data-sets to create testable hypotheses and identify appropriate statistical tests
		C201.5	Able to perform appropriate statistical tests using R Create and edit visualizations
2	**C202 (Mathematical Foundations of Computer Science)**	**C202.1**	Apply mathematical logic and rules of inferences to check consistency of premises and reducethe given statement into normal forms
		C202.2	Apply theory of inference for statement calculus and predicate calculus to derive the conclusions.know the basic concepts of sets, relations ,functions , lattices and their properties
		C202.3	Know the basic concepts of properties of integers and groups
		C202.4	Use fundamental counting principle to determine the number of outcomes
		C202.5	Develop and solve the recurrence relations . Know the basic concepts of graphs and determine the minimal spanning tree for a given weighted graph
		C202.6	know the concepts of coloring of a graph
3	**C203 (Digital Logic Design)**	**C203.1**	Illustrate various number systems, binary addition and subtraction, data complements which are useful for various operations
		C203.2	Apply various karnaugh maps to minimize logic functions
		C203.3	Apply various karnaugh maps to minimize logic functions
		C203.4	Design combinational, sequential logic circuits for logic functions
		C203.5	Design various registers and counters for logic functions
		C203.6	Design of Mealy & Moore Machines for Sequential Circuits
4	**C204 (Python Programming)**	**C204.1**	Illustrate various number systems, binary addition and subtraction, data complements which are useful for various operations.
		C204.2	Develop Python programs by applying basic types, operations and expressions and decision and loops in Python environment
		C204.3	Examine different data structures and functions in python to develop solutions engineering problems
		C204.4	Apply Functions and modular programming concepts of python programming language to solve real world problem
		C204.5	Apply the core object oriented concepts of python to model solutions to problems.
		C204.6	Examine standard library in python and compare different types of testing mechanisms to solve real world problems

5	**C205 DATASTRUCTURES THROUGH C++**	**C205.1**	Illustrate the ADTs of Polynomial, Sparse matrix, transposing of matrix and matrix multiplications by using arrays.
		C205.2	Perform various operations of stack and queue by using arrays.
		C205.3	Implement various matrices, polynomials, stack and queue by using linked lists**.**
		C205.4	Implement different hierarchical forms of data and perform various operations in BST,tree traversals.
		C205.5	Analyze graph traversal techniques of DFS,BFS and minimum cost spanning Trees.
		C205.6	Compare various searching and sorting techniques with their Complexities
6	**C206 COMPUTER Graphics**	**C206.1**	Make Use of algorithms for drawing line, circle ,eclipse and clipping algorithms for line, polygon, text and curve.
		C206.2	Interpret 3D objects representation, viewing, visible surface identification, Animations, complex objects for fractals and self similarity, peano curves, Julia sets.
		C206.3	Types of different Colour models
		C206.4	Build graphic primitives by using OPENGL.
		C206.5	Contrast shading methods for detect objects, rendering texture and drawing shadows
		C206.6	Know the ray tracing method for graphic primitives and perform Boolean operations on objects
7	**C207 Data Structures through C++Lab**	**C207.1**	Implementation of single and double linked list
		C207.2	Implementation of different stack and queue by using arrays
		C207.3	Implementation of binary search trees, Hash Table and Heaps.
		C207.4	Implementation of Graph traversals(DFS and BFS),finding shortest path algorithms(prim's, Dijkstra's and kruskal's).
		C207.5	Implement and analyze different Sorting and Searching Techniques with their complexities.
8	**C208 Python Programming Lab**	**C208.1**	Solve complex engineering problems by applying syntax and semantics of python script, operations and control flow.
		C208.2	Examine and Apply to make use of core python data structures lists, multi-D lists, dictionaries and files to solve complex problems.
		C208.3	Make use of python functions to organize a complex program into a modular program by using the built-in packages in python
		C208.4	Analyze and Apply GUI and graphics web based solutions for solving complex engineering problems using applying object oriented features of python.
		C208.5	Design, Develop and Test Database applications using advanced features of python.
9	**C209 SOFTWARE ENGINEERING**	**C209.1**	Discuss about process and various s/w process models in software development
		C209.2	Analyze requirements analysis, specifications and design process.
		C209.3	Utilize Function oriented design and user interface design
		C209.4	Evaluate software using various testing techniques.
		C209.5	Analyze CASE tools, reliability, quality management, maintenance and reuse of s/w systems.
		C209.6	Analyze quality management of s/w systems
10	**C210 JAVA PROGRAMMING**	**C210.1**	Demonstrate Various Concepts of Object Oriented Programming language
		C210.2	Apply principles of object oriented programming to model/design real world problems
		C210.3	Apply Exception handling mechanisms to develop fault- tolerent applications
		C210.4	Analyze the concepts of multi threaded programming and synchronization
		C210.5	Build programs using String API and use different keywords while developing a program
		C210.6	Make use of Awt and Applet and event handling to design GUI applications.

11	**C211 ADVANCED DATA STRUCTURES**	**C211.1**	Apply sorting Techniques on different data
		C211.2	Apply Hashing Technique for different the data performing operations
		C211.3	Design priority Queues using heaps
		C211.4	Design of Binary Search Tree
		C211.5	Design multi way search tree
		C211.6	Understanding the application of data search technique
12	**C212 COMPUTER ORGANIZATION**	**C212.1**	Illustrate structure and types of computer.
		C212.2	Describe about computer instructions,.
		C212.3	Describe about addressing modes
		C212.4	Realize about input/output organization.
		C212.5	Design memory mapping processors.
		C212.6	Describe about micro programmed control..
13	**C213 FORMAL LANGUAGES & AUTOMATA THEORY**	**C213.1**	Design automata for any given pattern
		C213.2	Specify regular expression of string pattern
		C213.3	Write context free grammar for any language
		C213.4	Design PDA for the given language
		C213.5	Apply Turing machine to propose computationsolutions
		C213.6	Interpret whether a problem is decidable or not
14	**C214 PRINCIPLES OF PROGRAMMING LANGUAGES**	**C214.1**	Describe the syntax, semantics and basic constructs of programming languages
		C214.2	Design of sub programs in various programming languages
		C214.3	Apply object oriented concepts
		C214.4	Analyze functional program using ML(meta language)
		C214.5	Analyze logic paradigm in prolog
15	**C215 ADVANCED DATA STRUCTURE LAB**	**C215.1**	Develop programs to implement AVL trees.
		C215.2	Design application that uses binary heap
		C215.3	Write a program to generate minimum cost spanning tree.
		C215.4	Describe and implement algorithm to find shortest path in the graph
		C215.5	Write a program to implement static hashing
		C215.6	Develop programs to implement huffmann coding technique and balanced trees
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Signature Of The Head Of The Department