



## RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS::ONGOLE

(Approved by AICTE-NEW DELHI, Affiliated to JNTUK KAKINADA)  
NH-16, Valluru,-523272, Ongole, Prakasam District, A.P

### DEPARTMENT OF CSE

#### COURSE OUTCOMES

A Y:2018-2019

#### I Year I Semester

CO No.	Subject: English-I	Taxonomy Level
After completing the course the student shall be able to		
C111.1	Students enhanced communication skills and team work	Applying
C111.2	students can understand the structure of a paragraph	Understanding
C111.3	students will improve self motivation and self esteem	Creating
C111.4	students can apply problem solving adaptability and stress management in their lives	Applying
C111.5	students will learn personal presentation	Analyzing
C111.6	students will develop conversation proficiency	Applying

CO No.	Subject: Mathematics-I	Taxonomy Level
After completing the course the student shall be able to		
C112.1	Find the solutions of first order ordinary differential equations.	Understanding
C112.2	Apply the technique of solving ordinary differential equations in some engineering problems like electrical circuits, simple harmonic motions etc.	Applying
C112.3	Define Laplace transform and inverse Laplace transform of various functions and solve ordinary differential equations using Laplace transform.	Applying
C112.4	Utilize the technique of partial differentiation to find the extreme values of functions of several variables.	Applying
C112.5	Find the solutions of linear and nonlinear partial differential equations of first order.	Understanding
C112.6	Solve the higher order linear partial differential equations.	Understanding

CO No.	Subject: Mathematics-II	Taxonomy Level
After completing the course the student shall be able to		
C113.1	Understand the most basic numerical method to solve simultaneous linear equations.	Understanding



C113.2	Define interpolation and compute interpolating polynomial from the given data using interpolating formula.	Remembering
C113.3	Solve differential equations numerically using numerical methods.	Applying
C113.4	Understand the basic concepts of complex function and analytic functions using C-R equations.	Remembering
C113.5	Make use of Cauchy's theorem and Cauchy's Integral theorem to evaluate complex integration.	Applying
C113.6	Make use of residues to evaluate complex integration.	Applying

CO No.	Subject: Applied Physics	Taxonomy Level
After completing the course the student shall be able to		
C114.1	Explain the properties of light supporting the wave nature and working of optical instruments	Understanding
C114.2	Apply Lasers in scientific research and engineering by developing knowledge on basic principle in the working of Lasers & optical fibers.	Applying
C114.3	Describe the concept of Electrical or Electronic gadgets and their performance under E- or H- fields.	Understanding
C114.4	Explain the concept of Acoustics of Buildings, and the behavior of materials in the external magnetic and electric fields and physical significance of Maxwell's equations.	Understanding
C114.5	Explain the concept of matter waves, free electron theory and origin of energy band formation in solids .	Understanding
C114.6	Explain the intrinsic and extrinsic semiconductors ,drift ,diffusion currents in semiconductors.	Understanding

CO No.	Subject: Computer Programming	Taxonomy Level
After completing the course the student shall be able to		
C115.1	Explain the basic terminology used in computer programming	Understanding
C115.2	Discuss the design of Algorithms, writing and executing programs	Understanding
C115.3	Explain the different data types, selection and Basic loop structures	Understanding
C115.4	Apply the modular programming and recursive solution formulations.	Applying
C115.5	Demonstrate the data representations using arrays.	Applying
C115.6	Implement data structures, dynamic memory, create, update data files	Applying



CO No.	Subject: Engineering Drawing	Taxonomy Level
After completing the course the student shall be able to		
C116.1	Learn the usage of drawing instruments and how to draw Polygons, Engineering Curves and Scales	Remembering
C116.2	Explain about the Orthographic Projections, Projection of Points And Lines	Understanding
C116.3	Solve and draw the projections of straight lines inclined to both the planes	Applying
C116.4	Solve and draw the projection of planes	Applying
C116.5.	Solve and draw the projection of solids	Applying
C116.6	Draw the Isometric Views to Orthographic Views and vice versa	Applying

CO No.	Subject: English-Communications Skills Lab-I	Taxonomy Level
After completing the course the student shall be able to		
C117.1	Explain the basic concepts of language useful for pupils in their career	Applying
C117.2	Illustrate the usage of tenses in everyday life.	Understanding
C117.3	Apply the techniques of science through language ability in a practical way.	Applying
C117.4	Make use of grammatical sentences for perfect communication	Creating
C117.5	Analyze the importance of future tense with examples	Analyzing
C117.6	Find the speaking and writing skills through reading ability of safety measures	Applying

O No.	Subject: Applied Physics Lab	Taxonomy Level
After completing the course the student shall be able to		
C118.1	Explain the appropriate application of Optics in Newton rings	Understanding
C118.2	Explain the appropriate application of Optics in Diffraction Grating	Understanding



C118.3	Apply the basic concepts of laser and techniques for the optics experiments.	Applying
C118.4	Apply the mathematical concepts/equations to obtain quantitative results.	Applying
C118.5	Explain the basic concepts of semiconductor physics, which are useful to understand the operation of Zener diode and PN junction diode	Understanding
C118.6	Develop basic communication skills through working in groups in performing the laboratory experiments and by interpreting	Evaluating

CO No.	Subject: COMPUTER PROGRAMMING	Taxonomy Level
After completing the course the student shall be able to		
C119.1	Explain the basic terminology used in COMPUTER PROGRAMMING	Understanding
C119.2	Explain the branching, iteration and data representation using arrays.	Understanding
C119.3	Describe the Modular programming and recursive solution formulation.	Understanding
C119.4	Explain the arrays, pointers and dynamic memory allocation.	Understanding
C119.5	Demonstrate the structures and unions.	Applying
C119.6	Demonstrate the file operations.	Applying

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Head of the Department  
 Department of S&H  
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DEPARTMENT OF CSE

COURSE OUTCOMES

I YEAR II SEMSTER

A Y:2018-2019

CO No.	Subject: English-II	Taxonomy Level
After completing the course the student shall be able to		
C121.1	Acquire the knowledge of education and how to serve the society accordingly	Remembering
C121.2	Classify the different perspective of science in the sense of a common man and scientist	Understanding
C121.3	Apply the knowledge to adjust ourselves towards the environmental conditions in the society	Applying
C121.4	Create an awareness on the present day and traditional beliefs	Applying
C121.5	Create the awareness on health threats due to climate changes.	Applying
C121.6	Identify the greatness and the hard work of the pioneers and try to inspire in attaining language communication skills	Remembering

CO No.	Subject: Mathematics-III	Taxonomy Level
After completing the course the student shall be able to		
C122.1	Applying analytical and numerical techniques to solve linear system of equations using matrices.	Applying
C122.2	Find the Eigen values and Eigen vectors of the square matrices and discuss the nature of quadratic forms.	Remembering
C122.3	Applying the techniques of multiple integrals to find the areas and volumes.	Applying
C122.4	Find the values of definite integrals using Beta and Gamma functions.	Remembering
C122.5	Find the gradient of scalar point functions, divergence and curl of vector point functions.	Remembering
C122.6	Applying Green's, Stokes and Gauss's divergence theorems to find line, surface and volume integrals.	Applying



CO No.	Subject: Applied Chemistry	Taxonomy Level
After completing the course the student shall be able to		
C123.1	Differentiate the plastics and rubber materials and their uses	Analysing
C123.2	Explain the origin of fuel and their economic advantages and limitations	Understanding
C123.3	Explain the working of batteries and its applications	Understanding
C123.4	Describe the synthesis of nano materials and green methods	Understanding
C123.5	Classify the types of solids and magnetic materials	Understanding
C123.6	Discuss the non conventional energy resources and fuel cells	Understanding

CO No.	Subject: OBJECT-ORIENTED PROGRAMMING THROUGH C++	Taxonomy Level
After completing the course the student shall be able to		
C124.1	Explain the basic terminology used in object oriented programming.	Understanding
C124.2	Explain about the classes, objects, constructors and destructor.	Understanding
C124.3	Demonstrate the operator overloading and inheritance.	Applying
C124.4	Explain the polymorphism and virtual functions.	Understanding
C124.5	Explain the Generic programming and exception handling. (understand)	Understanding
C124.6	Describe the standard template library. (Remembering)	Understanding

CO No.	Subject: ENGINEERING MECHANICS	Taxonomy Level
After completing the course the student shall be able to		
C125.1	Remember the concept of force system, friction and its applications	Remembering
C125.2	Construct the free body diagrams for different problems and solve the problems using the equilibrium conditions.	Applying
C125.3	Identify the centroid and centre of gravity for different composite sections	Applying



C125.4	Solve the problems on moment of inertia, mass moment of inertia for different composite sections using parallel axis and perpendicular theorems. (Applying)	Applying
C125.5	Summarize the motion of a body in general plane motion which includes rectilinear and curvilinear paths.	Understanding
C125.6	Remember the concept of work, power, and energy and calculate these values work-energy and impulse momentum principles.	Remembering

CO No.	Subject: Environmental Studies	Taxonomy Level
After completing the course the student shall be able to		
C126.1	Explain the concepts of the ecosystem and its functions in the environment.	Understanding
C126.2	Summarize the natural resources and their importance for the sustenance of life & need to conserve the natural resources	Understanding
C126.3	Demonstrate the values, threats, conservation practices to protect the biodiversity.	Applying
C126.4	Describe various attributes of the pollution and their impacts and measures to reduce pollution along with waste management practices.	Understanding
C126.5	Evaluate social issues both rural and urban environment and the possible means to combat the challenges, with help of environmental legislations of India	Evaluating
C126.6	Implement Environmental Impact Assessment, Green campus, business, & politics in their daily life	Applying

CO No.	Subject: English Communication Skills Lab-II	Taxonomy Level
After completing the course the student shall be able to		
C127.1	Explain the importance of body language	Understanding
C 127.2	Summarize the skill of general English through dialogue	Understanding
C 127.3	Develop short presentations on simple topics	Applying
C 127.4	Summarize training offered to students through Group Discussion	Analyzing



C 127.5	Describe the stand of interview skills through that students will successes	Remembering
C 127.6	Explain the knowledge ability to communicate the needs and requirements of Debate	Understanding

CO No.	Subject: : Applied Chemistry/ Engineering Chemistry Laboratory	Taxonomy Level
After completing the course the student shall be able to		
C128.1	describe the experimental skills to design new experiments in engineering.	Understanding
C 128.2	explain tge different types of titrations and acquire skills in instrumentation.	Understanding
C 128.3	determine hardness of various water samples.	Evaluating
C 128.4	determine tge no of free ions and charges in a mixture of acids using conductivity meter.	Evaluating
C 128.5	calculate the potential between reference electrode and un known solution by using potentio meter.	Understanding

CO No.	Subject: OBJECT-ORIENTED PROGRAMMING LAB	Taxonomy Level
After completing the course the student shall be able to		
C129.1	Compare the procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects.	Understanding
C129.2	Explain dynamic memory management techniques using pointers, constructors, destructors, etc	Understanding
C129.3	Experiment with the concept of function overloading, operator overloading, virtual functions and polymorphism.	Applying
C129.4	Classify inheritance with the understanding of early and late binding, usage of exception handling, generic programming.	Understanding
C129.5	Demonstrate the use of various OOPs concepts with the help of programs.	Understanding
C129.6	Experiment with exception handling and STL programming model to understand programming concepts.	Applying

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2<sup>nd</sup> year 1<sup>st</sup> Semester CO summary

**MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS**

C211.1	Explain the concept and nature of Managerial Economics and its relationship with other disciplines
C211.2	understand the concept of Production function, Input Output relationship, different Cost Concepts and Concept of Cost-Volume-Profit Analysis
C211.3	Explain the Nature of Competition, Characteristics of Pricing in the different market structure and significance of various pricing methods
C211.4	List different forms of Business organization and their Merits and Demerits both public & private Enterprises and the concepts of Business Cycles
C211.5	Demonstrate different Accounting Systems preparation of Financial Statements and uses of different tools for performance evaluation
C211.6	Make use of concept of Capital, Capitalization, Capital Budgeting and to know the techniques used to evaluate Capital Budgeting proposals by using different methods

**Mathematical Foundations of Computer Science**

C212.1	Understand mathematical logic and predicates for analyzing statements.
C212.2	Exploit problems in mathematical induction and algorithms in number theory
C212.3	Make use of set theory, functions and algebraic structures in various applications related to computer science.
C212.4	Demonstrate Graphs and Trees as tools to visualize and simplify situations in computing problems
C212.5	Apply basic Counting techniques to solve Combinatorial Problems
C212.6	Utilize generating functions and substitutions to solve recurrence relations

**Digital Logic Design**

C213.1	Understanding features of number systems and to design different logic circuits for real time applications.
C213.2	Describe and minimize the Boolean expressions using the theorems in order to reduce the design complexity of combinational circuits.
C213.3	Apply the Boolean expressions using k maps in order to reduce the design complexity of combinational circuits.
C213.4	Design and analyze small combinational circuits and to use standard combinational functions/building blocks to build larger more complex circuits.
C213.5	Understand the knowledge on flip-flops which are necessary to develop the memory in the microprocessors and controllers for real time applications
C213.6	Understand the knowledge on counters which are necessary to develop the microprocessors and controllers for real time applications.



### OOP through C++

C214.1	Explain the concepts of object oriented mode. C++ programming and I/O in C++
C214.2	Utilize Operators, control structures, functions, overloading, recursion in C++ programming
C214.3	Understand classes, objects and member functions
C214.4	Application of constructors, destructors, variants in them, operator overloading, type conversions.
C214.5	Demonstrate inheritance, types of inheritance, polymorphism, virtual functions
C214.6	Understand Files, File operations, generic programming, templates, function templates, Exception handling

### Data Structures

C215.1	find solutions to different problems using arrays.
C215.2	find solutions to different problems using stack and queue
C215.3	Perform different operations for storage and retrieval of data on linked lists.
C215.4	handle various operations like searching, insertion, deletion, Traversing mechanism etc. on various Trees data structures
C215.5	handle various operations like searching, insertion, deletion, Traversing mechanism etc. on various Tree data structure
C215.6	Explain concepts of sorting techniques

### Object Oriented Programming Lab

CO. No.	Course Outcome
C216.1	Implement and test the concepts of Classes & Objects, friend functions, constructors & destructors in program design of a few example exercises.
C216.2	Design & implement a few forms of inheritance through few exercises.
C215.3	Analyse the types of Polymorphism and Generic Programming through a few exercises.
C216.4	improve individual / team work skills, communication & report writing skills

### Data Structures Lab

CO. No.	Course Outcome
C217.1	Implement & test the functionality of data structures like linked list, stacks & queues.
C217.2	Implement & test the functionality of searching & sorting techniques.
C217.3	Implement & test the functionality of trees and graph traversal techniques.
C217.4	Improve individual / team work skills, communication & report writing skills



## 2<sup>nd</sup> year 2<sup>st</sup> Semester CO summary

### PROBABILITY AND STATISTICS

C221.1	Explain Random variables and Distributions
C221.2	Demonstrate Moments and Generating functions
C221.3	Understand Sampling Theory
C221.4	Utilize Tests of Hypothesis
C221.5	Understand Curve fitting and Correlation
C221.6	Implement Statistical Quality Control Methods

### Java Programming

C222.1	Identify the principals of object oriented programming languages. Develop basic java program using control flow.
C222.2	Apply the knowledge of object oriented programming, To Design the solution of problem using method, constructor, garbage collection, static, arrays and inheritance.
C222.3	Understand the implementation of packages in java and Apply the knowledge of Exception handling to design the solution for complex problems using java programming.
C222.4	Analyze threads in java and Design the solution for thread communication, Understand the i/O Package to Design solution for problems in java.
C222.5	Design dynamic user interfaces using applets and Event handling in java.
C222.6	Understand various components of Java AWT , Swing and writing code snippets using Abstract Window Toolkit

### Advanced Data Structures

C223.1	Explain basic static and dynamic data structures and relevant standard algorithms for them:set,lists, dictionaries and hash ta
C223.2	Solve problem involving graphs, trees and heaps
C223.3	. Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data on Ques and Heaps
C223.4	Demonstrate bugs in program, recognise needed basic operations with non linear data structures
C223.5	Define efficiency and complexities in different sorting techniques
C223.6	Explain data structure impact on algorithms, program design and program performance



### Computer Organization

C224.1	Demonstrate a view of computer system from user's perspective and representation of data
C224.2	Outline the RTL, Micro-operations and Basic Computer Organization and design
C224.3	Outline the Central processing Unit and Micro-programmed Control.
C224.4	Understand the arithmetic operations of positive and negative numbers in a computer
C224.5	Illustrate different hardware components associated with the memory organization of a computer.
C224.6	Understand the inputs, operations and outputs performed in a computer.

### Formal Languages and Automata Theory

C225.1	Explain Deterministic, Non-Deterministic and Mealy and Moore Machines
C225.2	Describe about Finite Automata, Regular Grammar and Regular Expressions
C225.3	Discuss about Context Free Grammar and its applications
C225.4	Demonstrate Pushdown Automata
C225.5	Demonstrate of Turing Machine
C225.6	Apply the Decidable and Undecidable of Problems arise in Computer Science

### Digital Logic Design Lab

CO. No.	Course Outcome
C218.1	Design and Test the functionalities and Properties of Basic Gates, Universal Gates and Special Gates using Logisim Software.
C218.2	Design and verify functionalities of basic building blocks used in Combinational logic circuits
C218.3	Design and verify functionalities of basic building blocks used in Sequential logic circuits
C218.4	Improve individual / team work skills, communication & report writing skills

### Advanced Data Structures Lab

CO. No.	Course Outcome
C226.1	Design and develop programs on trees , hashing techniques
C226.2	Design and develop programs using AVL trees.
C226.3	Design and develop programs for minimum spanning trees.
C226.4	Improve individual / team work skills, communication & report writing skills

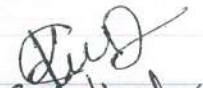


### Java Programming Lab

CO. No.	Course Outcome
C227.1	Implement the concepts of OOP in program design.
C227.2	Apply Exception handling mechanism and implement Multi-thread programming.
C227.3	Design CUI and GUI based applications using JDBC concepts.
C227.4	Improve individual / team work skills, communication & report writing skills

### Free Open Source Software(FOSS) Lab

CO. No.	Course Outcome
C228.1	Acquire knowledge on basic UNIX commands.
C228.2	Develop programs using AWK, R-Tool, Octave, SCI Lab
C228.3	Develop programs using Shell Scripts
C228.4	Improve individual / team work skills, communication & report writing skills

  
Coordinator



  
HOD

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### 3<sup>rd</sup> year 1<sup>st</sup> Semester CO summary

#### Compiler Design

C311.1	Understand different phases of compiler and acquire knowledge of translators for converting high level language into low level language.
C311.2	Identify formal grammars for specifying the syntax and construct top down parsing by various parsers like LL.
C311.3	Construct bottom up parsing table for given grammar using LR items.
C311.4	Comprehend how semantics are verified and able to generate intermediate code for given program
C311.5	Demonstrate table management and machine code generation for a given program and use peep hole optimization on machine code
C311.6	Apply machine independent code optimization techniques to improve the performance of a program

#### Data Communication

C312.1	Explain about layered architecture of network communications.
C312.2	list out different transmission media available for data communication.
C312.3	Demonstrate multiplexing techniques.
C312.4	explain wireless communication systems
C312.5	Understand telephone and cellular signal systems
C312.6	apply various error control mechanisms in data communications

#### Principles of Programming Languages

C313.1	Describe syntax and semantics of programming languages
C313.2	Explain data, data types, and basic statements of programming languages
C313.3	Design and implement subprogram constructs, Apply object - oriented concurrency, and event handling programming constructs
C313.4	Develop programs in Scheme, ML, and Prolog
C313.5	Understand and adopt new programming languages
C313.6	Describe logic programming

#### Database Management Systems

C314.1	Understand Database System Structure.
C314.2	Identify the advantages and disadvantages of the different models.
C314.3	Implement Sub Queries in Detail.
C314.4	Give illustration about normal forms.
C314.5	Apply Transaction Management and Concurrency Control on Data base.
C314.6	Implement Indexing Techniques.



### Operating Systems

C315.1	Explain the Operating System (OS) in different viewpoints and structure of operating system.
C315.2	Explain the concept of process management and solve CPU scheduling algorithms
C315.3	Summarize the concept of synchronization with different solutions.
C315.4	Compare different memory management strategies and the concepts of virtual memory
C315.5	Identify the characteristics of deadlocks and study different methods of handling deadlocks through examples.
C315.6	Outline different access methods, allocation methods of files and disk scheduling

### Compiler Design Lab

CO. No.	Course Outcome
C316.1	Implement lexical analyser for compilers.
C316.2	Implement parsing algorithms for syntax verification in compiler
C316.3	Design and develop various code optimization and generation technique.
C316.4	Improve individual / team work skills, communication & report writing skills

### Operating System & linux Lab

CO. No.	Course Outcome
C317.1	Simulate and implement various linux commands
C317.2	develop process scheduling and deadlock management algorithms
C317.3	Implement file organization and page replacement techniques
C317.4	Improve individual / team work skills, communication & report writing skills

### Database Management Systems Lab

CO. No.	Course Outcome
C318.1	Design & implement a database schema for a given problem-domain
C318.2	Create database using SQL and implement various integrity constraints
C318.3	Apply PL/SQL Programming for problem solving
C318.4	improve individual / team work skills, communication & report writing skills



### 3<sup>rd</sup> year 2<sup>nd</sup> Semester CO summary

#### Computer Networks

C 321.1	Outline the basic concepts of reference models and Identify the functionality of physical layer in computer communications
C 321.2	Explain various physical layer transmission techniques
C 321.3	Examine the data link layer design issues
C 321.4	list various data link access methods and network layer functions
C 321.5	Outline the IEEE 802.11 standard
C 321.6	Examine various application layer functionalities

#### Data Ware housing and Mining

C 322.1	Outline the basic concepts of data warehouse & data mining.
C 322.2	Apply data pre-processing, generalization and data characterization techniques to provide suitable input for a range of data mining algorithms.
C 322.3	Understand GUI of WEKA and IBM SPSS modeler
C 322.4	Examine the different classification & clustering techniques in data mining.
C 322.5	Apply data mining techniques to complex data objects like spatial data, multimedia data and web mining.
C 322.6	Apply appropriate data mining techniques on complex types of data

#### Design and Analysis of Algorithms

C 323.1	Understand the fundamentals for analyzing time and space complexity of algorithms
C 323.2	Apply divide and conquer technique to solve real time problems related to computing
C 323.3	Use greedy technique to solve problems on optimization like minimum spanning tree.
C 323.4	Make use of dynamic programming paradigm for solving problems like knapsack, matrix multiplication and optimal binary search tree.
C 323.5	Illustrate backtracking with applications on n-queen problem sum of subsets problem, and graph coloring
C 323.6	Explain branch and bound paradigm with Travelling sales person problem and 0/1 knapsack problem

#### Software Engineering

C 324.1	Understand the need of Software Life Cycle Models
C 324.2	Demonstrate the Requirements of the Software Systems process
C 324.3	Summarize the system models of software engineering
C 324.4	Choose appropriate software architecture style for real-time software projects
C 324.5	Analyze various testing techniques
C 324.6	Analyze Risk management and Software quality of the software products





### Web Technologies

C 325.1	Understand HTML tags to design static web pages
C 325.2	Describe the basic concepts of Java Scripts to design dynamic web pages
C 325.3	Familiarize the concepts of PHP and AJAX
C 325.4	Develop interactive applications using Servlets and JSP
C 325.5	Demonstrate database connectivity
C 325.6	Select appropriate tools for designing dynamic and interactive web applications

### Computer Networks & Network Programming Lab

CO. No.	Course Outcome
C327.1	Implement various framing and error detection methods in data link layer
C327.2	Implement various TCP and UDP protocols.
C327.3	Implement functionalities of application layer
C327.4	Improve individual / team work skills, communication & report writing skills

### Software Engineering Lab

CO. No.	Course Outcome
C328.1	Able to elicit, analyze and specify software requirements.
C328.2	Analyze and translate a specification into a design.
C328.3	Able to use modern engineering tools for specification, design, implementation
C328.4	Improve individual / team work skills, communication & report writing skills

### Web Technologies Lab

CO. No.	Course Outcome
C329.1	Design and implement static & dynamic websites.
C329.2	Create reusable components by using Java Beans.
C329.3	Design and implement data driven web applications.
C329.4	Improve individual / team work skills, communication & report writing skills

  
Coordinator





HOD  
DEPARTMENT OF THE DEPARTMENT  
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Valluru (V), Ongole

#### 4<sup>th</sup> year 1<sup>st</sup> Semester CO summary

##### Cryptography and Network Security

C411.1	Understand the concept of cryptography and conversion of plain text to cipher text using various techniques.
C411.2	Make use of symmetric key cryptography in data security system.
C411.3	Apply the Public key cryptography in data security system
C411.4	Illustrate the concept of digital signature and use digital signatures in authentication of digital information.
C411.5	Explain the authentication, transport layer security and E-mail security.
C411.6	Interpret the overview of IP security and Intrusion detection techniques

##### UML & Design Patterns

C412.1	Explain the goals of a good design.
C412.2	Apply FURPS model to describe functional and non-functional requirements of software design.
C412.3	Model an overall system skeleton design using UML class diagrams and their relationships.
C412.4	Explain how design patterns solve design problems and Develop design solutions using creational patterns
C412.5	Model the design of dynamic aspects using state-Chart diagram and Activity diagrams.
C412.6	Apply component and deployment diagrams to Package model elements.

##### Mobile Computing

C413.1	Investigate the Evolution of Cellular System and Protocols
C413.2	Analyze MAC Protocols in Adhoc Wireless network
C413.3	Analyze the Routing Protocols of Adhoc Wireless networks
C413.4	Explore various hybrid network architectures
C413.5	Analyze recent advances in the field of wireless communication
C413.6	Explore mobile application development environments like J2ME and Android

##### Elective –I [Software Testing Methodologies

C414.1	List a range of different software testing techniques and strategies and be able to apply specific(automated) unit testing method to the projects.
C414.2	Distinguish characteristics of structural testing methods.
C414.3	Demonstrate the integration testing which aims to uncover interaction and compatibility problems as early as possible.
C414.4	Discuss about the functional and system testing methods
C414.5	Demonstrate various issues for object oriented testing.
C414.6	Explain various testing tools



## 4<sup>th</sup> year 2<sup>nd</sup> Semester CO summary

### Human Computer Interaction

C421.1	Explain the capabilities of both humans and computers from the viewpoint of human information processing.
C421.2	Describe typical human computer interaction models, styles and various historic HCI paradigms.
C421.3	Apply an interaction design process and universal design principles to designing HCI systems.
C421.4	Identify the HCI design principles standards and guidelines.
C421.5	Understand the user models and stakeholder requirements of HCI systems.
C421.6	Discuss tasks and dialogs of relevant HCI systems based on task analysis and dialog design.

### Cloud Computing

C422.1	Interpret the main concepts, key technologies, strengths, and limitations of cloud computing and the possible applications for state-of-the-art cloud computing
C422.2	Build the levels of virtualization, structure, memory & I/O devices, and Data Centers.
C422.3	Apply the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud and hybrid cloud to different problems.
C422.4	Analyze case studies to derive the best practice model to apply when developing and deploying cloud based applications
C422.5	Apply the resources management skills in theory and Applications related to cloud computing.
C422.6	Explain the storage technologies in File System in cloud environment.

### Distributed Systems

C423.1	Explain the building blocks of Distributed system.
C423.2	Implement the inter process communication using java program.
C423.3	Implement the RMI communication for distributed environment
C423.4	Explain the OS supports, process and threading
C423.5	Explain the distributed file system.
C423.6	Explain distributed deadlock transaction and replication.



**Elective – II [Hadoop and Big Data]**

C415.1	Understand the basic principles of creating Java applications with Generics
C415.2	Explain the GFS and HDFS file systems
C415.3	Develop applications for Big Data analytics
C415.4	Build a complete business data analytic solution
C415.5	Develop data summarization, Query, and analysis
C415.6	Applying data modeling techniques to large data sets

**UML & Design Patterns Lab**

CO. No.	Course Outcome
C416.1	Analyze Software Requirements for the given Software Application.
C416.2	Develop the UML Diagrams to view Software System in Static and Dynamic Aspects.
C416.3	Describe the dynamic behaviour and structure of the design.
C416.4	Improve individual / team work skills, communication & report writing skills

**Mobile Application Development Lab**

CO. No.	Course Outcome
C417.1	Create simple mobile applications using J2ME for low constraint devices
C417.2	Design and Develop simple android applications for smart phones
C417.3	Deployment of application in mobile stores(ex: google playstore etc. )
C417.4	Improve individual / team work skills, communication & report writing skills

**Software Testing Lab**

CO. No.	Course Outcome
C418.1	Investigate the reason for bugs and analyze the principles in software testing to prevent and remove bugs.
C418.2	Design and manage test planning process
C418.3	Apply the software testing techniques in commercial environment
C418.4	Improve individual / team work skills, communication & report writing skills

**Hadoop & BigData Lab**

CO. No.	Course Outcome
C419.1	Program applications using tools like Hive, pig, , NO SQL and MongoDB for Big data Applications
C419.2	Implement algorithms for Clustering, Classifying and finding associations in Big Data
C419.3	Design and implement algorithms to analyze Big data like streams, Web Graphs and Social Media data and construct recommendation systems.
C419.4	Improve individual / team work skills, communication & report writing skills



### Management Science

C424.1	apply the concepts & principles of management in real life industry
C424.2	design & develop organization chart & structure for an enterprise.
C424.3	apply PPC techniques. Quality Control. Work-study principles in real life industry.
C424.4	maintain Materials departments, & Determine EOQ
C424.5	identify Marketing Mix Strategies for an enterprise
C424.6	develop PERT/CPM Charts for projects of an enterprise and estimate time & cost of project.



Faculty Coordinator



HOD Signature

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RISE Krishna Sai Prakasam Group of Institutions  
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