

**Karpaga Vinayaga College of Engineering and Technology**  
**Department of Computer Science and Engineering**  
**Course Outcomes (R-2013)**

	<b>HS6151 Technical English</b>
<b>C101.1</b>	Listen, understand and respond to others in different situations.
<b>C101.2</b>	Writing with clarity in simple, apt and flawless language with coherence and cohesion
<b>C101.3</b>	Explain basic grammar techniques and utilise it in enhancing language development.
<b>C101.4</b>	Reading and comprehend a variety of texts adopting different reading skills
<b>C101.5</b>	Developing flair for any kind of writing with rich vocabulary and proper syntax.
<b>C101.6</b>	Writing technical articles and present papers on any topic of any genre.
	<b>MA6151 Mathematics</b>
<b>C102.1</b>	Applying mathematical techniques to problems in a wide range of practical engineering problems.
<b>C102.2</b>	Constructs arguments to prove and justify results.
<b>C102.3</b>	Manipulates algebraic expressions involving exponential functions.
<b>C102.4</b>	Manipulates algebraic expressions involving logarithmic functions.
<b>C102.5</b>	Techniques of integration to calculate areas and volumes.
<b>C102.6</b>	Interpret and communicate mathematics in a variety of problem solving..
	<b>PH6151 Engineering Physics</b>
<b>C103.1</b>	Explain the Young's modulus and Rigidity modulus of elasticity of materials and its determination through experimental methods
<b>C103.2</b>	Characteristics of laser light and their application in semiconductor laser.
<b>C103.3</b>	Principle behind the propagation of light through an optical fibre and its application in sensors.
<b>C103.4</b>	Different modes of heat transfer .
<b>C103.5</b>	Relate and explain the quantum concepts in electron microscopes.
<b>C103.6</b>	To apply the unit cell characteristics and the growth of crystals..
	<b>Cy6151 Engineering Chemistry</b>
<b>C104.1</b>	Concepts of basics of polymer chemistry
<b>C104.2</b>	Concepts of types of polymers, polymerization reactions, polymerization techniques and fabrication methods of polymers for engineering applications
<b>C104.3</b>	Concepts of second law of thermodynamics and second law based derivations of importance in engineering applications in all disciplines

<b>C104.4</b>	Concepts of phase rule in the alloying and the behaviour of one component and two component systems using phase diagram
<b>C104.5</b>	Importance of photophysical and photochemical processes and spectroscopy .
<b>C104.6</b>	Basics of nano materials, their properties and applications .
	<b>Ge6151 Computer Programming</b>
<b>C105.1</b>	Concepts of organization of digital computer and design the solution for simple computing problems using algorithm, flowchart and pseudo code
<b>C105.2</b>	Different looping structure to solve simple scientific and statistical problems. .
<b>C105.3</b>	Concepts of identifying the solutions for simple problems using arrays and strings .
<b>C105.4</b>	Usage of dynamic memory allocation and pointer variables .
<b>C105.5</b>	Concepts of structure and union with an example programs .
<b>C105.6</b>	Development of simple software and applications .
	<b>Ge6152 Engineering Graphics</b>
<b>C106.1</b>	Concept about conics and orthographic views of engineering components .
<b>C106.2</b>	Projection of points, lines and planes
<b>C106.3</b>	Concepts of solids and projection of solids at different positions .
<b>C106.4</b>	Concepts of sectioned view of solids and development of surface .
<b>C106.5</b>	Concepts of to apply isometric projection and perspective views of an object/solid .
<b>C106.6</b>	Concept about conics and orthographic views of engineering components .
	<b>Ge6161 Computer Practices Laboratory</b>
<b>C107.1</b>	Fundamental concepts and basics commands in C .
<b>C107.2</b>	Develop, compile and debug programs in C language .
<b>C107.3</b>	Formulate problems and implement algorithms in C. .
<b>C107.4</b>	Select programming components that efficiently solve computing problems in real-world. .
<b>C107.5</b>	Good programming design methods for program development. .
<b>C107.6</b>	To develop recursive programs .
	<b>E6163 Physics And Chemistry Laboratory – I</b>
<b>C108.1</b>	Determine optical fibre parameters using laser properties. .
<b>C108.2</b>	Measure the velocity of ultrasonic waves in a given liquid medium .
<b>C108.3</b>	Compute the wavelength of mercury spectrum using properties of light .
<b>C108.4</b>	Compute the thermal conductivity of a bad conductor using Lee’s method. .

<b>C108.5</b>	Estimate acids and bases quantitatively based on the conductance of the solution .
<b>C108.6</b>	Estimate acids and bases quantitatively based on ph level of the solution .
	<b>HS6251 Technical English – II</b>
<b>C109.1</b>	Concepts of breakdown the ideas in to its elementary constituents, analyze and act after a meaning full thought process.
<b>C109.2</b>	Concepts to analyze the phrase and passage and explicitly pass on the ideas meaning fully.
<b>C109.3</b>	Manage to interpret the given phrase or the graphical rendering and review the contents well individually or as a group.
<b>C109.4</b>	Concentrate on the communication aspect of complicated ideas and respond positively.
<b>C109.5</b>	Debate the issues and find the rudiments of the problem individually and as a group..
<b>C109.6</b>	Intelligently and seek clarification and understand completely.
	<b>MA6251 Mathematics – II</b>
<b>C110.1</b>	Apply Laplace transform technique to solve the given ordinary differential equation.
<b>C110.2</b>	Concepts of vector calculus, needed for problems in all engineering disciplines..
<b>C110.3</b>	Concepts of compute line, surface and volume integral using Gauss divergence, Green's and stoke's theorem..
<b>C110.4</b>	Find the singularities and its corresponding residues for the given function .
<b>C110.5</b>	Double integral over general areas and triple integral over general volumes .
<b>C110.6</b>	Apply Gauss Divergence theorem for evaluating the surface integral .
	<b>PH6251 Engineering Physics – II</b>
<b>C111.1</b>	Use of magnetic materials .
<b>C111.2</b>	The use of semiconducting materials .
<b>C111.3</b>	Describe the modern engineering materials and its appliications .
<b>C111.4</b>	The dielectric materials and its applications .
<b>C111.5</b>	Advance engineering materials and its applications .
<b>C111.6</b>	Explain various types of materials and their applications in engineering and technology .
	<b>CS6201 Digital Principles and System Design</b>
<b>C112.1</b>	Apply the Boolean functions using K-Map .
<b>C112.2</b>	Concepts of Interpret Combinational circuits for a given functions using logic gates.
<b>C112.3</b>	Concepts of Recognise Synchronous Sequential circuits for the given condition .
<b>C112.4</b>	Concepts of Recognise Asynchronous Sequential circuits for the given condition .
<b>C112.5</b>	Apply Programmable Logic towards memory management .

C112.6	Solve verilog codes for the design of digital circuits .
	<b>CY6251 Engineering Chemistry – II</b>
C113.1	Boiler feed water requirements, related problems and water treatment techniques .
C113.2	Reduction reactions as they relate to engineering applications, such as corrosion .
C113.3	Principles of electrochemical reactions, redox reactions in corrosion of materials and methods for corrosion prevention and protection of materials .
C113.4	Principles and generation of energy in batteries, nuclear reactors, solar cells, wind mills and fuel cells.
C113.5	Preparation, properties and applications of engineering materials .
C113.6	Types of fuels, calorific value calculations, manufacture of solid, liquid and gaseous fuels .
	<b>CS6202 Programming and Data Structures I</b>
C114.1	Concepts of linear data structures using array and linked list .
C114.2	Data structures like stacks, queues in linear data structure.
C114.3	Concepts of non-linear data structures tree and its application .
C114.4	Concepts of various algorithms in graph .
C114.5	Solve searching, sorting and hashing techniques in data structures.
C114.6	Interpret sorting algorithms for a give problem .
	<b>GE6262 Physics and Chemistry Laboratory – II</b>
C115.1	Demonstrate the application of a diode laser to determine the characteristics of a given optical fibre .
C115.2	Demonstrate the estimation of hydrochloric acid present in the given solution using ph meter .
C115.3	Estimate the mixture of acids by conductometry .
C115.4	Determine Coefficient of viscosity of a liquid using Poiseuille"s method .
C115.5	Determine Rigidity modulus using torsion pendulum.
C115.6	Determine cao in cement .
	<b>CS6211 Digital Laboratory</b>
C116.1	Design simplified combinational circuits using basic logic gates .
C116.2	Design combinational circuits using MSI devices .
C116.3	Design sequential circuits like registers and counters .
C116.4	Simulate combinational and sequential circuits using HDL . .
C116.5	Design and implementation of 4-bit binary adder / subtractor .
C116.6	Design and Implement a simple digital system. .
	<b>CS6212 Programming and Data Structures Laboratory</b>

<b>C201.1</b>	Write functions to implement linear and non-linear data structure operations
<b>C201.2</b>	Suggest appropriate linear / non-linear data structure operations for solving a given problem
<b>C201.3</b>	Make use of linear / non-linear data structure operations for a given problem
<b>C201.4</b>	Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval
<b>C201.5</b>	Apply sorting and searching algorithms for the given problem
<b>C201.6</b>	Apply the different data structures for implementing solutions to practical problems.
	<b>MA6351 Transforms and Partial Differential Equations</b>
<b>C202.1</b>	Concepts to solve first, second order homogeneous and non homogeneous partial differential equations.
<b>C202.2</b>	Concepts to find the Fourier series of a given function satisfying Dirchlet's condition.
<b>C202.3</b>	Apply Fourier series to solve one dimensional way, one and two dimensional heat equations.
<b>C202.4</b>	Determine Fourier transform for a given function and use them to evaluate certain definite Integrals.
<b>C202.5</b>	Determine z transforms of standard functions and use them to solve difference equations.
<b>C202.6</b>	Apply Inverse Z - transform to solve difference equations.
	<b>CS6301 Programming and Data Structure II</b>
<b>C203.1</b>	Describe linear data structures using array and linked list.
<b>C203.2</b>	Apply data structures like stacks, queues in linear data structure.
<b>C203.3</b>	Non-linear data structures tree and its application.
<b>C203.4</b>	Various algorithms in graph . .
<b>C203.5</b>	To solve searching, sorting and hashing techniques in data structures. .
<b>C203.6</b>	To Interpret sorting algorithms for a give problem .
	<b>CS6302 Database Management Systems</b>
<b>C204.1</b>	Fundamental concepts of relational database and SQL .
<b>C204.2</b>	Use ER model for Relational model mapping to perform database design effectively .
<b>C204.3</b>	Summarize the properties of transactions and concurrency control mechanisms .
<b>C204.4</b>	Outline concepts of various storage and optimization techniques .
<b>C204.5</b>	Compare and contrast various indexing strategies in different database systems .
<b>C204.6</b>	The different advanced databases .
	<b>CS6303 Computer Architecture</b>
<b>C205.1</b>	Basic structures of a computer system .
<b>C205.2</b>	Various arithmetic operations for computers .

<b>C205.3</b>	Analyze pipelined control units and the different types of hazards in the instructions .
<b>C205.4</b>	To interpret the concepts of parallel processing architecture .
<b>C205.5</b>	Summarize the fundamentals of memory system .
<b>C205.6</b>	Concepts of I/O system .
	<b>CS6304 Analog and Digital Communication</b>
<b>C206.1</b>	Illustrate analog communication techniques .
<b>C206.2</b>	Digital communication techniques .
<b>C206.3</b>	Illustrate data and pulse communication techniques .
<b>C206.4</b>	Make use of various error control coding techniques to identify/correct errors .
<b>C206.5</b>	Concepts of outline multi-user radio communication .
<b>C206.6</b>	Concepts of Satellite Communication - Bluetooth .
	<b>GE6351 Environmental Science and Engineering</b>
<b>C207.1</b>	Summarize the values, threats, conservation of biodiversity and ecosystems .
<b>C207.2</b>	Sources, effects, control measures of different types of pollution, and solid waste management.
<b>C207.3</b>	Associate the effects of exploitation of Natural resources on environment .
<b>C207.4</b>	Summarize the water conservation methods and various environmental acts for environmental sustainability .
<b>C207.5</b>	Effect of Human population and role of IT in environment and human health . .
<b>C207.6</b>	Scientific, technological, economic and social solutions to environmental problems .
	<b>CS6311 Programming and Data Structure Laboratory II</b>
<b>C208.1</b>	Write functions to implement linear and non-linear data structure operations .
<b>C208.2</b>	Suggest appropriate linear / non-linear data structure operations for solving a given problem .
<b>C208.3</b>	Make use of linear / non-linear data structure operations for a given problem .
<b>C208.4</b>	Apply good programming design methods for program development. .
<b>C208.5</b>	Apply sorting and searching algorithms for the given problem .
<b>C208.6</b>	Apply the different data structures for implementing solutions to practical problems.
	<b>CS6312 Database Management Systems Laboratory</b>
<b>C209.1</b>	Typical data definitions and manipulation commands .
<b>C209.2</b>	Design applications to test Nested and Join Queries .
<b>C209.3</b>	Implement simple applications that use views .
<b>C209.4</b>	Implement applications that require a Front-end Tool .
<b>C209.5</b>	Critically analyze the use of Tables, Views, Functions and Procedures .

<b>C209.6</b>	Apply advanced SQL Queries .
	<b>MA6453 Probability and Queueing Theory</b>
<b>C210.1</b>	Fundamental Probability Theory, Baye's theorem .
<b>C210.2</b>	Associate the concepts of Standard distributions with real life phenomena.
<b>C210.3</b>	Concepts of covariance, correlation and regression . Central limit theorem .
<b>C210.4</b>	Markov chain in terms of a transition probability matrix and transition diagram.
<b>C210.5</b>	Extend birth and death processes which evolve with respect to time in a probabilistic manner .
<b>C210.6</b>	Interpret the Queuing models.
	<b>CS6551 Computer Networks</b>
<b>C211.1</b>	Identify various layers of network and discuss the functions of physical layer .
<b>C211.2</b>	Data flows from one node to another node with regard to data link layer .
<b>C211.3</b>	Different services of network layer .
<b>C211.4</b>	Compare the different transport layer protocols and their applicability based on user requirements .
<b>C211.5</b>	Describe the working of various application layer protocols .
<b>C211.6</b>	Evaluate the performance of network and analyze routing algorithms.
	<b>CS6401 Operating Systems</b>
<b>C212.1</b>	Overall view of the computer system and operating system .
<b>C212.2</b>	Scheduling algorithm and deadlock prevention and avoidance algorithm .
<b>C212.3</b>	Compare and contrast various memory management schemes and file system functionalities .
<b>C212.4</b>	Performance of the various page replacement algorithms and interpret the file system implementation, sharing and protection mechanisms.
<b>C212.5</b>	Demonstrate administrative tasks on Linux servers and to be familiar with the basics of Mobile OS.
<b>C212.6</b>	Various algorithms to solve computing problems.
	<b>CS6402 Design and Analysis of Algorithms</b>
<b>C213.1</b>	Fundamental concepts problem solving algorithm, its types and the parameters to analyze those algorithms .
<b>C213.2</b>	Brute Force method and Divide and Conquer method to solve computing problems.
<b>C213.3</b>	Dynamic programming and greedy techniques to solve computing problems .
<b>C213.4</b>	Understand how to scientific problems can be solved using iterative method and how to cope with limitations of algorithm power.
<b>C213.5</b>	Critically analyze the different algorithm design techniques for a given problem based on its time and space complexity.

<b>C213.6</b>	Modify existing algorithms to improve efficiency.
	<b>EC6504 Microprocessor and Microcontroller</b>
<b>C214.1</b>	Architecture and instruction set of Microprocessor .
<b>C214.2</b>	System Bus Structure for Multiprocessor Configuration .
<b>C214.3</b>	Infer the functions of various interfacing integrated chips .
<b>C214.4</b>	Architectures and instruction set of Microcontroller .
<b>C214.5</b>	Illustrate the functions of various interfacing devices with Microcontroller .
<b>C214.6</b>	Build an assembly language program for interfacing.
	<b>CS6403 Software Engineering</b>
<b>C215.1</b>	Identify the key activities in managing a software project and recognize different process model .
<b>C215.2</b>	Concepts of requirements engineering and Analysis Modeling.
<b>C215.3</b>	Outline the systematic procedures for software design and deployment.
<b>C215.4</b>	Compare various testing and maintenance methods .
<b>C215.5</b>	Interpret the project schedule, estimate project cost and effort required.
<b>C215.6</b>	Develop a software using the software engineering principles.
	<b>CS6411 Networks Laboratory</b>
<b>C216.1</b>	Implement various protocols using TCP and UDP. .
<b>C216.2</b>	Compare the performance of different transport layer protocols.
<b>C216.3</b>	Use simulation tools to analyze the performance of various network protocols.
<b>C216.4</b>	Analyze various routing algorithms. .
<b>C216.5</b>	Implement error correction codes. .
<b>C216.6</b>	Apply hands on experience on various networking protocols..
	<b>CS6412 Microprocessor and Microcontroller Laboratory</b>
<b>C217.1</b>	Write ALP Programmes for fixed and Floating Point and Arithmetic operations .
<b>C217.2</b>	Interface different I/Os with processor .
<b>C217.3</b>	Generate waveforms using Microprocessors .
<b>C217.4</b>	Execute Programs in 8051 .
<b>C217.5</b>	Difference between simulator and Emulator .
<b>C217.6</b>	Difference between Serial and Parallel Interface .

	<b>CS6413 Operating Systems Laboratory</b>
<b>C301.1</b>	Compare the performance of various CPU Scheduling Algorithms.
<b>C301.2</b>	Implement Deadlock avoidance and Detection Algorithms.
<b>C301.3</b>	Implement Semaphores and Create processes, implement IPC.
<b>C301.4</b>	Analyze the performance of the various Page Replacement Algorithms.
<b>C301.5</b>	Implement File Organization and File Allocation Strategies.
<b>C301.6</b>	Apply the file system related system calls.
	<b>MA6453 Probability and Queueing Theory</b>
<b>C302.1</b>	Summarize the concept of elementary mathematical logical arguments
<b>C302.2</b>	Apply basic counting techniques to solve combinatorial problems.
<b>C302.3</b>	Associate the applications of Graph theory models and data structures
<b>C302.4</b>	Properties of algebraic structures such as groups, rings and fields.
<b>C302.5</b>	Boolean algebra in the area of lattices.
<b>C302.6</b>	Knowledge of argumental discrete mathematical problems.
	<b>CS6501 Internet Programming</b>
<b>C303.1</b>	Demonstrate simple website using HTML and CSS.
<b>C303.2</b>	Dynamic web pages with validation using Java Script objects and apply different event handling mechanisms.
<b>C303.3</b>	Illustrate server side programs using Servlet and JSP.
<b>C303.4</b>	Demonstrate simple web pages in PHP and to represent data in XML format. .
<b>C303.5</b>	AJAX and web services to develop interactive web applications .
<b>C303.6</b>	Develop interactive web applications for real world problems .
	<b>CS6502 Object Oriented Analysis and Design</b>
<b>C304.1</b>	Software design concepts with UML diagram .
<b>C304.2</b>	Construct the domain model and design model to various use case scenarios .
<b>C304.3</b>	Design software applications using object oriented concepts .

<b>C304.4</b>	Identify various scenarios based on software requirements .
<b>C304.5</b>	Transform UML based software design into pattern based design using design patterns .
<b>C304.6</b>	Various testing methodologies for object oriented software .
	<b>CS6503 Theory of Computation</b>
<b>C305.1</b>	To design automata for any given pattern .
<b>C305.2</b>	Specify regular expression of string pattern .
<b>C305.3</b>	Write context free grammar for any language .
<b>C305.4</b>	Apply Turing machine to propose computation solutions .
<b>C305.5</b>	Interpret a problem is decidable or not . .
<b>C305.6</b>	Interpret NP class problems .
	<b>CS6504 Computer Graphics</b>
<b>C306.1</b>	Demonstrate the basic graphical objects (2D and 3D) generation and transformations .
<b>C306.2</b>	Illustrate various viewing and clipping techniques .
<b>C306.3</b>	Different types of projections and color models .
<b>C306.4</b>	Basic illumination and visible surface identification mechanism .
<b>C306.5</b>	Various animation sequences and graphics realism .
<b>C306.6</b>	Computer graphics realism.
	<b>CS6511 Case Tools Laboratory</b>
<b>C307.1</b>	Perform OO analysis and design for a given problem specification .
<b>C307.2</b>	Identify and map basic software requirements in UML mappin .
<b>C307.3</b>	Uderstand to improve the software quality using design patterns .
<b>C307.4</b>	Rationale behind applying specific design patterns .
<b>C307.5</b>	Test the compliance of the software with the SRS.
<b>C307.6</b>	To create code from design .
	<b>CS6512 Internet Programming Laboratory</b>
<b>C308.1</b>	Illusrate Web pages using HTML/XML and style sheets .
<b>C308.2</b>	Analyze user interfaces using Java frames and applets .
<b>C308.3</b>	Compare and contrast dynamic web pages using server side scripting .
<b>C308.4</b>	Develop a Client Server application .
<b>C308.5</b>	How to use the frameworks JSP Strut, Spring .
<b>C308.6</b>	Understand to Build the applications using AJAX .

	<b>CS6513 Computer Graphics Laboratory</b>
<b>C309.1</b>	To make use of algorithms to draw 2D and 3D objects .
<b>C309.2</b>	Show transformations and projections for 2D and 3D objects .
<b>C309.3</b>	Manipulate a graphical object using clipping algorithms and viewing technique .
<b>C309.4</b>	Use an image editing tool for image manipulation and enhancement .
<b>C309.5</b>	Utilize the authoring tool to develop a 3D scene and to perform 2D animation .
<b>C309.6</b>	Create a multimedia presentation/Game/Project .
	<b>CS6601 Distributed Systems</b>
<b>C310.1</b>	Elucidate the foundations and issues of distributed systems.
<b>C310.2</b>	Various synchronization issues and global state for distributed systems.
<b>C310.3</b>	Comprehend the Mutual Exclusion and Deadlock detection algorithms in distributed systems.
<b>C310.4</b>	Use of agreement protocols and fault tolerance mechanisms in distributed systems .
<b>C310.5</b>	Relate the features of peer-to-peer and distributed shared memory systems .
<b>C310.6</b>	Interpret the real-time distributed system applications.
	<b>IT6601 Mobile Computing</b>
<b>C311.1</b>	Basic concepts of mobile computing .
<b>C311.2</b>	Explain the basics of mobile telecommunication systems .
<b>C311.3</b>	Illustrate the generations of telecommunication systems in wireless networks .
<b>C311.4</b>	Demonstrate the functionality of MAC, network layer and Identify a routing protocol for a given Ad hoc network .
<b>C311.5</b>	Functionality of Transport and Application layers .
<b>C311.6</b>	Develop a mobile application using android/blackberry/ios/Windows SDK.
	<b>CS6660 Compiler Design</b>
<b>C312.1</b>	Illustrate a lexical analyzer for a sample language.
<b>C312.2</b>	Explain different parsing algorithms to develop the parsers for a given grammar .
<b>C312.3</b>	Syntax-directed translation and run-time environment.
<b>C312.4</b>	Intermediate code generation and run-time environment .
<b>C312.5</b>	Apply code optimization techniques for programming construct .
<b>C312.6</b>	Develop a scanner and a parser using LEX and YACC tools.
	<b>IT6502 Digital Signal Processing</b>
<b>C313.1</b>	Demonstrate the analytical representation of discrete-time signals.
<b>C313.2</b>	Illustrate the properties of systems and signals.

<b>C313.3</b>	Make use of the Transform domain concepts in computational complexity problems.
<b>C313.4</b>	To Construct IIR filters for the given specifications .
<b>C313.5</b>	Construct FIR filters for the given specifications.
<b>C313.6</b>	Finite word length effects in digital filters .
	<b>CS6659 Artificial Intelligence</b>
<b>C314.1</b>	List the characteristics and types of intelligent agents .
<b>C314.2</b>	Interpret search algorithms for any AI problem .
<b>C314.3</b>	Understand Illustrate a problem using first order and predicate logic .
<b>C314.4</b>	The appropriate agent strategy to solve a given problem .
<b>C314.5</b>	Develop software agents to solve a problem .
<b>C314.6</b>	Demonstrate applications for NLP that use Artificial Intelligence .
	<b>IT6004 Software Testing</b>
<b>C315.1</b>	Outline the software testing criteria for developing test cases .
<b>C315.2</b>	To Build the test cases for software development .
<b>C315.3</b>	Explain the various level of testing .
<b>C315.4</b>	Test metrics, measurements and Management process .
<b>C315.5</b>	Make use of the latest test tool for functional and performance testing
<b>C315.6</b>	Create code from design .
	<b>CS6611 Mobile Application Development Laboratory</b>
<b>C316.1</b>	Applications using GUI and Layouts. .
<b>C316.2</b>	Develop mobile applications using Event Listener .
<b>C316.3</b>	Develop mobile applications using Databases .
<b>C316.4</b>	Develop mobile applications using RSS Feed, Internal/External Storage, SMS, Multi-threading and GPS. .
<b>C316.5</b>	Capabilities and limitations of mobile devices .
<b>C316.6</b>	Analyze and discover own mobile app for simple needs.
	<b>CS6612 Compiler Laboratory</b>
<b>C317.1</b>	Apply different compiler writing tools to implement the different Phases .
<b>C317.2</b>	Analyze the data flow and control flow .
<b>C317.3</b>	Construct the intermediate representation .
<b>C317.4</b>	Design the back end of a compiler for 8086 assembler .
<b>C317.5</b>	Compare various code optimization techniques .

<b>C317.6</b>	Generate an assembly language program equivalent to a source language program .
	<b>GE6674 Communication and Soft Skills – Laboratory Based</b>
<b>C318.1</b>	Make effective presentations.
<b>C318.2</b>	Participate confidently in Group Discussions.
<b>C318.3</b>	Attend job interviews and be successful in them.
<b>C318.4</b>	Develop adequate Soft Skills required for the workplace.
<b>C318.5</b>	Interpret the findings with appropriate technological / research citation.
<b>C318.6</b>	Improve adequate emotional intelligence.
	<b>CS6701 Cryptography and Network Security</b>
<b>C401.1</b>	Fundamentals of networks security, security architecture, threats and vulnerabilities.
<b>C401.2</b>	Mathematical support for both symmetric and asymmetric key cryptography.
<b>C401.3</b>	Use of symmetric key cryptographic algorithms to perform cryptographic operations .
<b>C401.4</b>	Solve cryptographic operations using public key cryptographic algorithms .
<b>C401.5</b>	Various Authentication schemes to simulate different applications.
<b>C401.6</b>	Various Security practices and System security standards.
	<b>CS6702 Graph Theory and Applications</b>
<b>C402.1</b>	Write precise and accurate mathematical definitions of objects in graph theory.
<b>C402.2</b>	Use mathematical definitions to identify and construct examples and to distinguish examples from non-examples .
<b>C402.3</b>	Validate and critically assess a mathematical proof.
<b>C402.4</b>	Use a combination of theoretical knowledge and independent mathematical thinking in creative investigation of questions in graph theory.
<b>C402.5</b>	Reason from definitions to construct mathematical proofs.
<b>C402.6</b>	Understand the uses of techniques of proofs and analysis in required applications.
	<b>CS6704 Resource Management Techniques</b>
<b>C403.1</b>	The use of simplex method to solve optimization problems.
<b>C403.2</b>	Demonstrate the concept of duality to solve Shortest route problem.

<b>C403.3</b>	Integer programming method.
<b>C403.4</b>	Demonstrate the types of constraints and optimization methods.
<b>C403.5</b>	Utilize PERT and CPM in project management.
<b>C403.6</b>	Integer programming and linear programming to solve real-life applications.
	<b>CS6004 Cyber Forensics</b>
<b>C404.1</b>	Security issues of network layer and transport layer.
<b>C404.2</b>	Illustrate the Email protection and Firewall applications.
<b>C404.3</b>	Computer crime, fraud and demonstrate computer.
<b>C404.4</b>	Utilize current forensics tools.
<b>C404.5</b>	Forensics data available from different sources.
<b>C404.6</b>	Analyze and validate forensics data.
	<b>CS6007 Information Retrieval</b>
<b>C405.1</b>	Interpret open source search engine framework and explore its capabilities .
<b>C405.2</b>	Appropriate method of classification or clustering.
<b>C405.3</b>	Design and implement innovative features in a search engine.
<b>C405.4</b>	Design and implement a recommender system .
<b>C405.5</b>	Demonstrate an open source search engine framework and explore its capabilities.
<b>C405.6</b>	Demonstrate the entire process flow of a search engine.
	<b>CS6711 Security Laboratory</b>
<b>C406.1</b>	Develop code for classical Encryption Techniques to solve the problems.
<b>C406.2</b>	Build cryptosystems by applying symmetric and public key encryption algorithms.
<b>C406.3</b>	Construct code for authentication algorithms.
<b>C406.4</b>	Develop a signature scheme using Digital signature standard.
<b>C406.5</b>	Demonstrate the network security system using open source tools.
<b>C406.6</b>	Exhibit ethical principles in engineering practices .
	<b>CS6712 Grid and Cloud Computing Laboratory</b>
<b>C407.1</b>	Configure various virtualization tools such as Virtual Box, vmware workstation .
<b>C407.2</b>	Design and deploy a web application in a paas environment link layer .
<b>C407.3</b>	Learn how to simulate a cloud environment to implement new schedulers .
<b>C407.4</b>	Demonstrate generic cloud environment that can be used as a private cloud .
<b>C407.5</b>	Manipulate large data sets in a parallel environment.

<b>C407.6</b>	Apply Hadoop single node cluster and run simple applications.
	<b>CS6801 Multi – Core Architectures and Programming</b>
<b>C408.1</b>	Multicore architectures and identify their characteristics and challenges.
<b>C408.2</b>	The issues in programming Parallel Processors.
<b>C408.3</b>	Programs using openmp and MPI .
<b>C408.4</b>	To design parallel programming solutions to common problems .
<b>C408.5</b>	Compare and contrast programming for serial processors and programming for parallel processors .
<b>C408.6</b>	Develop multi-core programs and design parallel solutions .
	<b>IT6011 Knowledge Management</b>
<b>C409.1</b>	Identify and formulate the foundation, necessity, issues related to knowledge management and ethics to be followed in a business organization.
<b>C409.2</b>	Integrate appropriate components and functions of various knowledge management systems and continuous updation of knowledge .
<b>C409.3</b>	Use the knowledge management tools effectively
<b>C409.4</b>	Various tools successfully for knowledge management applications .
<b>C409.5</b>	Knowledge management Applications.
<b>C409.6</b>	Design and develop enterprise applications using the concepts of Knowledge Management .
	<b>MG6088 Software Project Management</b>
<b>C410.1</b>	Need for Software Project Management and control .
<b>C410.2</b>	Various activities of project scheduling and evaluation .
<b>C410.3</b>	Risk assessment and management process.
<b>C410.4</b>	Demonstrate different models of software process and network planning .
<b>C410.5</b>	Organizational behaviors and management . .
<b>C410.6</b>	Project Management principles while developing a software.
	<b>CS6811 Project Work</b>
<b>C411.1</b>	Technically and economically feasible problems of social relevance .
<b>C411.2</b>	Plan and build the project team with assigned responsibilities .
<b>C411.3</b>	Identify and survey the relevant literature for getting exposed to related solutions .
<b>C411.4</b>	Analyse, design and develop adaptable and reusable solutions of minimal complexity by using modern tools .
<b>C411.5</b>	Implement and test solutions to trace against the user requirements .
<b>C411.6</b>	Deploy and support the solutions for better manageability of the solutions and provide scope for improvability .

