JCT COLLEGE OF ENGINEERING & TECHNOLOGY

PICHANUR, COIMBATORE-641105

Department of Computer Science and Engineering

Regulation 2017

Course Outcomes

Course Code: C105
Course: GE8151-Problem Solving and Python Programming
On completion of this course the Students will be able to

C105.1	Develop algorithmic solutions to simple computational problems
C105.2	Read, write, execute by hand simple Python programs.
C105.3	Structure simple Python programs for solving problems.
C105.4	Decompose a Python program into functions
C105.5	Represent compound data using Python lists, tuples, dictionaries
C105.6	Read and write data from/to files in Python Programs

Course Code: C114
Course: CS8251-Programming in C
On completion of this course the Students will be able to

C114.1	Develop simple applications in C using basic constructs
C114.2	Design and implement applications using arrays and strings
C114.3	Develop and implement applications in C using functions and pointers
C114.4	Develop applications in C using structures
C114.5	Design applications using sequential and random access file processing

Course Code: C116
Course: CS8261- C Programming Laboratory
On completion of this course the Students will be able to

C116.1	Develop C programs for simple applications making use of basic constructs, arrays and strings.
C116.2	Develop C programs involving functions, recursion, pointers, and structures
C116.3	Design applications using sequential and random access file processing

Course Code: C202
Course: CS8351- Digital Principles and System Design
On completion of this course the Students will be able to

C202.1	Simplify Boolean functions using KMap
C202.2	Design and Analyze Combinational and Sequential Circuits
C202.3	Implement designs using Programmable Logic Devices
C202.4	Write HDL code for combinational and Sequential Circuits

Course Code: C203
Course: CS8391- Data Structures
On completion of this course the Students will be able to

C203.1	Implement abstract data types for linear data structures
C203.2	Apply the different linear and non-linear data structures to problem solutions
C203.3	Critically analyze the various sorting algorithms

Course Code: C204
Course: CS8392-Object Oriented Programming
On completion of this course the Students will be able to

C204.1	Develop Java programs using OOP principles
C204.2	Develop Java programs with the concepts inheritance and interfaces
C204.3	Build Java applications using exceptions and I/O streams
C204.4	Develop Java applications with threads and generics classes
C204.5	Develop interactive Java programs using swings

Course Code: C207
Course: CS8383- Object Oriented Programming Laboratory
On completion of this course the Students will be able to

C207.1	Develop and implement Java programs for simple applications that make use of classes, packages and interfaces.
C207.2	Develop and implement Java programs with arraylist, exception handling and multithreading
C207.3	Design applications using file processing, generic programming and event handling

Course Code: C206
Course:CS8381- Data Structures Laboratory
On completion of this course the Students will be able to

C206.1	Write functions to implement linear and non-linear data structure operations
C206.2	Suggest appropriate linear / non-linear data structure operations for solving a given problem
C206.3	Appropriately use the linear / non-linear data structure operations for a given problem
C206.4	Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval

Course Code: C208
Course: CS8382- Digital Systems Laboratory
On completion of this course the Students will be able to

C208.1	Implement simplified combinational circuits using basic logic gates
C208.2	Implement combinational circuits using MSI devices
C208.3	Implement sequential circuits like registers and counters
C208.4	Simulate combinational and sequential circuits using HDL

Course Code: C211
Course: CS8491-Computer Architecture
On completion of this course the Students will be able to

C211.1	Understand the basics structure of computers, operations and instructions
C211.2	Design arithmetic and logic unit.
C211.3	Understand pipelined execution and design control unit
C211.4	Understand parallel processing architectures
C211.5	Understand the various memory systems and I/O communication

Course Code: C212
Course: CS8492-Database Management Systems
On completion of this course the Students will be able to

C212.1	Classify the modern and futuristic database applications based on size and complexity
C212.2	Map ER model to Relational model to perform database design effectively
C212.3	Write queries using normalization criteria and optimize queries
C212.4	Compare and contrast various indexing strategies in different database systems
C212.5	Appraise how advanced databases differ from traditional databases

Course Code: C213
Course: CS8451-Design and Analysis of Algorithms
On completion of this course the Students will be able to

C213.1	Design algorithms for various computing problems.
C213.2	Analyze the time and space complexity of algorithms
C213.3	Critically analyze the different algorithm design techniques for a given problem
C213.4	Modify existing algorithms to improve efficiency

Course Code: C214
Course: CS8493-Operating Systems
On completion of this course the Students will be able to

C214.1	Analyze various scheduling algorithms.
C214.2	Understand deadlock, prevention and avoidance algorithms
C214.3	Compare and contrast various memory management schemes
C214.4	Understand the functionality of file systems
C214.5	Perform administrative tasks on Linux Servers
C214.6	Compare iOS and Android Operating Systems

Course Code: C215
Course: CS8494- Software Engineering
On completion of this course the Students will be able to

C215.1	Identify the key activities in managing a software project
C215.2	Compare different process models.
C215.3	Concepts of requirements engineering and Analysis Modeling
C215.4	Apply systematic procedure for software design and deployment
C215.5	Compare and contrast the various testing and maintenance
C215.6	Manage project schedule, estimate project cost and effort required

Course Code: C216
Course: CS8481- Database Management Systems Laboratory
On completion of this course the Students will be able to

C216.1	Use typical data definitions and manipulation commands
C216.2	Design applications to test Nested and Join Queries

C216.3	Implement simple applications that use Views
C216.4	Implement applications that require a Front-end Tool
C216.5	Critically analyze the use of Tables, Views, Functions and Procedures

Course Code: C217
Course: CS8461- Operating Systems Laboratory
On completion of this course the Students will be able to

C217.1	Compare the performance of various CPU Scheduling Algorithms
C217.2	Implement Deadlock avoidance and Detection Algorithms
C217.3	Implement Semaphores
C217.4	Create processes and implement IPC
C217.5	Analyze the performance of the various Page Replacement Algorithms
C217.6	Implement File Organization and File Allocation Strategie

Course Code: C302
Course: CS8591- Computer Networks
On completion of this course the Students will be able to

C302.1	Understand the basic layers and its functions in computer networks
C302.2	Evaluate the performance of a network.
C302.3	Understand the basics of how data flows from one node to another
C302.4	Analyze and design routing algorithms.
C302.5	Design protocols for various functions in the network .
C302.6	Understand the working of various application layer protocols

Course Code: C304
Course: CS8501-Theory of Computation
On completion of this course the Students will be able to

C304.1	Construct automata, regular expression for any pattern
C304.2	Write Context free grammar for any construct
C304.3	Design Turing machines for any language
C304.4	Propose computation solutions using Turing machines
C304.5	Derive whether a problem is decidable or not

Course Code: C305
Course: CS8592-Object Oriented Analysis and Design
On completion of this course the Students will be able to

C305.1	Express software design with UML diagrams
C305.2	Design software applications using OO concepts
C305.3	Identify various scenarios based on software requirements ☐
C305.4	Transform UML based software design into pattern based design using design patterns
C305.5	Understand the various testing methodologies for OO software

Course Code: C306
Course: OEC552- Soft Computing
On completion of this course the Students will be able to

C306.1	Apply various soft computing concepts for practical applications
C306.2	Choose and design suitable neural network for real time problems
C306.3	Use fuzzy rules and reasoning to develop decision making and expert system
C306.4	Explain the importance of optimization techniques and genetic programming
C306.5	Review the various hybrid soft computing techniques and apply in real time

Course Code: C308
Course: Object Oriented Analysis and Design Laboratory
On completion of this course the Students will be able to

C308.1	Perform OO analysis and design for a given problem specification
C308.2	Identify and map basic software requirements in UML mapping.
C308.3	Improve the software quality using design patterns and to explain the rationale behind applying specific design patterns
C308.4	Test the compliance of the software with the SRS

Course Code: C309
Course: Networks Laboratory
On completion of this course the Students will be able to

C309.1	Implement various protocols using TCP and UDP.
C309.2	Compare the performance of different transport layer protocols.
C309.3	Use simulation tools to analyze the performance of various network protocols.

C309.4	Analyze various routing algorithms.
C309.5	Implement error correction codes

Course Code: C310
Course: CS8651- Internet Programming
On completion of this course the Students will be able to

C310.1	Construct a basic website using HTML and Cascading Style Sheets
C310.2	Build dynamic web page with validation using Java Script objects and by applying different event handling mechanisms
C310.3	Develop server side programs using Servlets and JSP.
C310.4	Construct simple web pages in PHP and to represent data in XML format.
C310.5	Use AJAX and web services to develop interactive web applications

Course Code: C311
Course: CS8691- Artificial Intelligence
On completion of this course the Students will be able to

C311.1	Use appropriate search algorithms for any AI problem
C311.2	Represent a problem using first order and predicate logic
C311.3	Provide the apt agent strategy to solve a given problem
C311.4	Design software agents to solve a problem
C311.5	Design applications for NLP that use Artificial Intelligence

Year of Study: 2019-20
Course Code: C312
Course: CS8601-Mobile Computing
On completion of this course the Students will be able to

	Explain the basics of mobile telecommunication systems
	Illustrate the generations of telecommunication systems in wireless network
	Determine the functionality of MAC, network layer and Identify a routing protocol for a given Ad hoc network
	Explain the functionality of Transport and Application layers
	Develop a mobile application using android/blackberry/ios/Windows SDK

Course Code: C313
Course: CS8602- Compiler Design
On completion of this course the Students will be able to

C313.1	Understand the different phases of compiler
C313.2	Design a lexical analyzer for a sample language.
C313.3	Apply different parsing algorithms to develop the parsers for a given grammar.
C313.4	Understand syntax-directed translation and run-time environment
C313.5	Learn to implement code optimization techniques and a simple code
C313.6	Design and implement a scanner and a parser using LEX and YACC tools

Course Code: C314
Course: CS8603- Distributed Systems
On completion of this course the Students will be able to

C314.1	Elucidate the foundations and issues of distributed systems
C314.2	Understand the various synchronization issues and global state for distributed systems
C314.3	Understand the Mutual Exclusion and Deadlock detection algorithms in distributed systems
C314.4	Describe the agreement protocols and fault tolerance mechanisms in distributed systems
C314.5	Describe the features of peer-to-peer and distributed shared memory

Course Code: C316
Course: INTERNET PROGRAMMING LABORATORY
On completion of this course the Students will be able to

C316.1	Construct Web pages using HTML/XML and style sheets
C316.2	Construct Web pages using HTML/XML and style sheets. ☐ Build dynamic web pages with validation using Java Script objects and by applying different
C316.3	Develop dynamic web pages using server side scripting.
C316.4	Use PHP programming to develop web applications
C316.5	Construct web applications using AJAX and web services

Course Code: C317
Course: Mobile Application Development Laboratory
On completion of this course the Students will be able to

C317.1	Construct Web pages using HTML/XML and style sheets
C317.2	Construct Web pages using HTML/XML and style sheets. ☐ Build dynamic web pages with validation using Java Script objects and by applying different
C317.3	Develop dynamic web pages using server side scripting.

C317.4	Use PHP programming to develop web applications
C317.5	Construct web applications using AJAX and web services

Course Code: C401
Course: MG8591-Principles of Management
On completion of this course the Students will be able to

C401.1	Upon completion of the course, students will be able to have clear understanding of managerial functions like planning, organizing, staffing, leading & controlling and have same basic knowledge on international aspect of management

Course Code: C402
Course: CS8792-Cryptography and Network Security
On completion of this course the Students will be able to

C402.1	Understand the fundamentals of networks security, security architecture, threats and vulnerabilities
C402.2	Apply the different cryptographic operations of symmetric cryptographic algorithms
C402.3	Apply the different cryptographic operations of public key cryptography
C402.4	Apply the various Authentication schemes to simulate different applications
C402.5	Understand various Security practices and System security standards

Year of Study: 2019-20
Course Code: C403
Course: CS8791-Cloud Computing
On completion of this course the Students will be able to

C403.1	Articulate the main concepts, key technologies, strengths and limitations of cloud computing
C403.2	Learn the key and enabling technologies that help in the development of cloud.
C403.3	Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models
C403.4	Explain the core issues of cloud computing such as resource management and security
C403.5	Be able to install and use current cloud technologies.
C403.6	Evaluate and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.

Course Code: C405
Course: IT8075- Software Project Management
On completion of this course the Students will be able to

C405.1	Understand Project Management principles while developing software
C405.2	Gain extensive knowledge about the basic project management concepts, framework and the process models
C405.3	Obtain adequate knowledge about software process models and software effort estimation techniques
C405.4	Estimate the risks involved in various project activities
C405.5	Define the checkpoints, project reporting structure, project progress and tracking mechanisms using project management principles
C405.6	Learn staff selection process and the issues related to people management

Course Code: C406
Course: CS8083 Multi-core Architectures and Programming
On completion of this course the Students will be able to

C406.1	Describe multicore architectures and identify their characteristics and challenges
C406.2	Identify the issues in programming Parallel Processors
C406.3	Write programs using OpenMP and MPI.
C406.4	Design parallel programming solutions to common problems
C406.5	Compare and contrast programming for serial processors and programming for parallel processors

Course Code: C407
Course: CS8711-Cloud Computing Laboratory
On completion of this course the Students will be able to

C407.1	Configure various virtualization tools such as Virtual Box, VMware workstation
C407.2	Design and deploy a web application in a PaaS environment
C407.3	Learn how to simulate a cloud environment to implement new schedulers
C407.4	Install and use a generic cloud environment that can be used as a private cloud
C407.5	Manipulate large data sets in a parallel environment.

Course Code: C408
Course: IT8761- Security Laboratory
On completion of this course the Students will be able to

C408.1	Develop code for classical Encryption Techniques to solve the problems
C408.2	Build cryptosystems by applying symmetric and public key encryption algorithms
C408.3	Construct code for authentication algorithms
C408.4	Develop a signature scheme using Digital signature standard
C408.4	Demonstrate the network security system using open source tools

Course Code: C409
Course: GE8076 -Professional Ethics in Engineering
On completion of this course the Students will be able to

C409.1	Upon completion of the course, the student should be able to apply ethics in society, discuss the ethical issues related to engineering and realize the responsibilities and rights in the society

Course Code: C410
Course: CS8001- Parallel Algorithms
On completion of this course the Students will be able to

C410.1	Develop parallel algorithms for standard problems and applications
C410.2	Analyse efficiency of different parallel algorithms

Course Code: C404
Course: SUPPLY CHAIN MANAGEMENT
On completion of this course the Students will be able to

C404.1	The student would understand the framework and scope of supply chain networks and functions.