A.V.C Collegeof Engineering

Mannampandal, Mayiladuthurai

DEPARTMENT OF COMPUTER SCIENCE ANDENGINEERING

Regulations 2017 - Course Outcome Statement

Semester 01

SUB CODE	NBA CODE	Course Outcome Statement
HS8151/ COMMUNICATIVE ENGLISH	C101.1	Identify the articles of a general kind in magazines and newspapers.
	C101.2	Fill up the informal conversations; introduce themselves and their friends and express opinions in English.
	C101.3	Discuss and delivered short talks in English.
	C101.4	Write short essays of a general kind and personal letters and emails in English.
	C101.5	Write cohesively and coherently and flawlessly avoiding grammatical errors, using a wide vocabulary range, organizing their ideas logically on a topic.
	C101.6	Identify and list out the active and passive vocabulary.

SUB CODE	NBA CODE	Course Outcome Statement
MA8151 ENGINEERING MATHEMATICS - I	C102.1	Explain the limit definition and rules of differentiation to differentiate functions.
	C102.2	Apply partial differentiation to solve maxima and minima problems.
	C102.3	Identify the integrals using techniques of integration and integration by parts.
	C102.4	Explain integrals by using Riemann sums and the Fundamental Theorem of Calculus.
	C102.5	Compute area and volume by using multiple integral.
	C102.6	Apply various techniques in solving differential equations

SUB CODE	NBA CODE	Course Outcome Statement
PH8151/ ENGINEERING PHYSICS	C103.1	Describe the knowledge of metals on the basis of properties of matter.
	C103.2	Understand the concept of light waves and optical devices with their applications in fibre optics.
	C103.3	Explain the concept of thermal properties of materials and their applications
	C103.4	Develop the knowledge on advanced physics concepts of quantum theory and its applications in Microscopes.
	C103.5	Explain the basics about crystals and their structures
	C103.6	Summarise the concepts of various crystal growth techniques.

SUB CODE	NBA CODE	Course Outcome Statement
CY8151/ ENGG.CHEMISTRY	C104.1	Describe about the boiler feed water requirements with related problems and water treatment techniques
	C104.2	Compare the absorption, adsorption isotherms,catalysts,catalysis.
	C104.3	Explain the basic concepts of phase rule and its application with preparation, properties of alloys.
	C104.4	Describe about the manufacturing process of solid, liquid and gaseous fuels.
	C104.5	Solve the calorific value calculations.
	C104.6	Summarize the principles and generation of energy in batteries, nuclear reactors, Solar cells, Wind mill and fuel cells

SUB CODE	NBA CODE	Course Outcome Statement
GE8151 PROBLEM SOLVING AND PYTHON PROGRAMMING	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.

SUB CODE	NBA CODE	Course Outcome Statement
GE8152 ENGINEERING GRAPHICS	C106.1	Familiarize with the fundamentals and standards of Engineering graphics
	C106.2	Perform freehand sketching of basic geometrical constructions and multiple views of objects
	C106.3	Project orthographic projections of points, lines and plane surfaces.
	C106.4	Draw projections and solids.
	C106.5	Draw the section of solids and development of surfaces.

SUB CODE	NBA CODE	Course Outcome Statement
GE8161 PROBLEM SOLVING AND PYTHON PROGRAMMING LAB	C107.1	Implement simple python programs
	C107.2	Generate python code using conditionals and loops.
	C107.3	Implement sorting algorithms using functions.
	C107.4	Generate python code using lists and tuples
	C107.5	Implement python files for text statistics.
	C107.6	Implement simulation concepts.

SUB CODE	NBA CODE	Course Outcome Statement
BS8161 Physics and Chemistry Laboratory	C108.1	Idea about titration techniques
	C108.2	Estimate hardness of water
	C108.3	Handling instruments like pH meter, Conductivity meter.
	C108.4	Applying the experimental method to correlate with Physics theory
	C108.5	Usage of Optical system for various measurements
	C108.6	calculate the elastic properties for both wood and Metal

Semester 02

SUB CODE	NBA CODE	Course Outcome Statement
HS8251 / TECHNICAL ENGLISH	C109.1	Read technical texts and write area- specific texts effortlessly
	C109.2	Listen and comprehend lectures and talks in their area of specialisation successfully in English.
	C109.3	Speak appropriately and effectively in varied formal and informal contexts.
	C109.4	Write reports and winning job applications.
	C109.5	Write short essays of a general kind and emails in English, their ideas logically on a topic.
	C109.6	Make presentations and participate in Group Discussions

SUB CODE	NBA CODE	Course Outcome Statement
MA8252/MATHEMATICS-II	C110.1	Analyse quadratic form to canonical form
	C110.2	Implement the concept of vector calculus in engineering disciplines.
	C110.3	Apply the concept of vector function, vector field, scalar field and its applications.
	C110.4	Differentiate the standard techniques of complex variable and use them to solve core engineering problems
	C110.5	Evaluate real integrals by applying concept of complex integration.
	C110.6	Solve Ordinary Differential Equations using Laplace Transforms.

SUB CODE	NBA CODE	Course Outcome Statement
BE8255 / Basic Electrical, Electronics &Measurement Engg.	C112.1	Identify the electric circuits and analysis.
	C112.2	Explain about the basic operation of electric machines and transformers
	C112.3	Discover the Renewable sources and common domestic loads.
	C112.4	Analyze the characteristics of different electronic devices such as diodes and transistors

SUB CODE	NBA CODE	Course Outcome Statement
	C112.5	Apply the mathematical knowledge and science & engineering fundamentals gained to solve problems pertaining to measurement applications.
	C112.6	Compare and select the right sensor/transducer for a given application.

SUB CODE	NBA CODE	Course Outcome Statement
GE8292/ENVIRONMENTAL SCIENCE AND ENGINEERING	C113.1	Study of nature and the facts about environment.
	C113.2	Find and implement scientific, technological,economic and political solutions to environmental problems
	C113.3	study the interrelationship between living organism and environment.
	C113.4	Appreciate the importance of environment by assessing its impact on the human world;envision the surrounding environment, its functions and its value.
	C113.5	Study the dynamic processes and understand the features of the earth's interior and surface.
	C113.6	Study the integrated themes and biodiversity, natural resources, pollution control and waste management.

SUB CODE	NBA CODE	Course Outcome Statement
CS8251 Programming in C	C114.1	Design simple applications in C using basic constructs
	C114.2	Design and implement applications using arrays and strings
	C114.3	Explain the concept of function in C
	C114.4	Design and implement applications in C using pointers.
	C114.5	Summarize the difference between structure and union in C
	C114.6	Design applications using sequential and random access file processing

SUB CODE	NBA CODE	Course Outcome Statement
GE6262 Engineering Practices Laboratory	C115.1	Apply the knowledge of pipeline connections to household fittings and industrial buildings and prepare the different joints in carpentry
	C115.2	Perform the various welding processes and know about its applications.
	C115.3	Perform step turning operation in a lathe and Produce a funnel using sheet metal.
	C115.4	Carry out basic home electrical works and appliances.
	C115.5	Elaborate on the components, gates, soldering practices.

SUB CODE	NBA CODE	Course Outcome Statement
CS8261 C Programming Laboratory	C116.1	Develop programs in C using basic constructs
	C116.2	Design applications using I/O statements, expressions and decision making statements

SUB CODE		Course Outcome Statement
	C116.3	Design to perform the operations namely, addtion, subtraction, multiplication and Division
	C116.4	Develop C programs for simple applications making use of basic constructs,arrays and strings
	C116.5	Develop C program involving functions,recursion,pointersand structures.
	C116.6	Design applications using sequential and random access file processing.

Semester 03

SUB CODE	NBA CODE	Course Outcome Statement
MA8351 Discrete Mathematics	C201.1	Identify the fundamental knowledge of the concepts of Mathematical Logic and proofs.
	C201.2	Apply the basic concepts of mathematical induction and generating functions.
	C201.3	Interpret the basic concepts of utilize graph theoretical concepts to other fields of Engineering.
	C202.3	Analyze the concept of algebraic structure and applications of algebraic structure.
	C201.5	Apply the basic concepts of basic concepts of Lattices and Boolean Algebra.
	C201.6	Exposed to concepts and properties of Lattices and sub lattices.

SUB CODE	NBA CODE	Course Outcome Statement
CS8351 Digital Principles and System Design	C202.1	To design digital circuits using simplified boolean function
	C202.2	To analyze and design combinational circuits
	C202.3	To write HDL code for combinational and sequential circuits
	C202.4	To analyze and design synchronous sequential circuits
	C202.5	To analyze and design asynchronous sequential circuits
	C202.6	To understand programmable logic devices

SUB CODE	NBA CODE	Course Outcome Statement
CS8391 Data Structures	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	Broadens about various techniques in B+ trees and AVL trees.
	C203.4	Critically analyze the various graph algorithms.
	C203.5	Adopting various searching algorithms.
	C203.6	Apply different hashing techniques to solve related problems.

SUB CODE	NBA CODE	Course Outcome Statement
CS8392 Object Oriented Programming	C204.1	Design Java Programs using OOPS Principles.
	C204.2	Develop Java Programs with the concepts of Inheritance and Interfaces(Unit II)

SUB CODE	NBA CODE	Course Outcome Statement
	C204.3	Build Java Applications using Exceptions and I/O Streams(Unit III)
	C204.4	Implement Java Applications with Threads and Generic Classes(Unit IV)
	C204.5	Develop Interactive Graphics programming using Java(Unit V)
	C204.6	Apply AWT and Swing concepts to design flexible user interfaces.(Unit V)

SUB CODE	NBA CODE	Course Outcome Statement
EC8395 Communication Engineering	C205.1	Understand the various analog modulation technique
	C205.2	Understand the various pulse modulation techniques
	C205.3	Know the various digital moderation techniques
	C205.4	Know the various digital transmission techniques
	C205.5	Understand the principles behind information theory and coding
	C205.6	Understand the various digital communication techniques

SUB CODE	NBA CODE	Course Outcome Statement
CS8381 Data Structures Laboratory	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.
	C206.5	Apply appropriate sorting and searching algorithms.
	C206.6	Able to analyze the heap order property.

SUB CODE	NBA CODE	Course Outcome Statement
CS8383 Object Oriented Programming Laboratory	C207.1	Use classes and packages to develop simple applications.
	C207.2	Implement Java programs using Inheritance and interfaces.
	C207.3	Design applications using String operations and abstract classes.
	C207.4	Develop applications to handle exceptions and files.
	C207.5	Implement Java programs using Multithreading and Generic functions.
	C207.6	Develop Java frames using AWT and perform event handling.

SUB CODE	NBA CODE	Course Outcome Statement
CS8382 Digital Systems Laboratory	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

SUB CODE	NBA CODE	Course Outcome Statement
	C208.4	Implement sequential circuits like counters
	C208.5	Simulate combinational circuits using HDL
	C208.6	Simulate sequential circuits using HDL

SUB CODE	NBA CODE	Course Outcome Statement
HS8381 Interpersonal Skills/Listening &Speaking	C209.1	To prepare students for understand the concept of Interpersonal Skills.
	C209.2	To prepare students to speak on simple topics.
	C209.3	To create communication impact by using voice modulation techniques.
	C209.4	Participating effectively in informal conversations, introduction and expressing opinions.
	C209.5	To create awareness among students to overcome stage fear and build self-confidence.
	C209.6	To prepare students for role of speaking in English and its contribution for their success.

Semester 04

SUB CODE	NBA CODE	Course Outcome Statement
MA8402 Probability and Queueing Theory	C210.1	Discuss the concepts of probability.
	C210.2	Implement the Correlation and Regression Relationships time in a probabilistic manner
	C210.3	classify with different ways of of Markov Process and Markov chain
	C210.4	Discuss the Birth & death queueing models
	C210.5	Describe the Pollaczek-Khuntchine formula
	C210.6	Summarize the finite series in non markovian queues

SUB CODE	NBA CODE	Course Outcome Statement
CS8491 Computer Architecture	C211.1	Describe the basic structure and operation of digital computer.
	C211.2	Design arithmetic and logic unit and implementation of fixed point and floating-point arithmetic operations.
	C211.3	Discuss the concept of pipelined execution and design control unit.
	C211.4	Summarize Parallel Processing architectures.
	C211.5	Discuss with hierarchical memory system including cache memories and virtual memory.
	C211.6	Classify with different ways of communicating with I/O devices and standard I/O interfaces.

SUB CODE	NBA	Course Outcome Statement

	CODE	
	C212.1	Classify the modern and futuristic database applications based on size and complexity
	C212.2	Design ER model to Relational model and to perform normalization in database effectively.
CS8492 Database Management Systems	C212.3	Implement the properties of Transaction with real time example.
	C212.4	Compare and contrast various indexing strategies in different database systems
	C212.5	Differentiate how advanced databases differ from traditional databases.
	C212.6	Discuss about Information Retrieval and Queries in IR systems.

SUB CODE	NBA CODE	Course Outcome Statement
	C213.1	Design algorithm for various recursive and non-recursive problems.
	C213.2	Apply the design techniques of Brute force and Divide and conquer
CS8451 Design and Analysis of Algorithms	C213.3	Design algorithms using Dynamic programming and Greedy technique
	C213.4	Apply the design techniques of iterative improvement.
	C213.5	Interpret Class P, Class NP and NP Complete Problems.
	C213.6	Design algorithms using Backtracking and Branch and Bound techniques.

SUB CODE	NBA CODE	Course Outcome Statement
	C214.1	Understand the various computer system organization.
	C214.2	Analyze various scheduling algorithms.
CS8493 Operating Systems	C214.3	Understand deadlock, prevention and avoidance algorithms.
	C214.4	Compare and contrast various memory management schemes.
	C214.5	Understand the functionality of file systems.
	C214.6	Perform administrative tasks on Linux Servers and Compare iOS and Android OS.

SUB CODE	NBA CODE	Course Outcome Statement
	C215.1	Identify the key activities in managing a software project.
	C215.2	Compare different process models.
CS8494 Software Engineering	C215.3	Use 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	Compute the project schedule, estimate project cost and effort required.

SUB CODE	NBA CODE	Course Outcome Statement
CS8481 Database	C216.1	Use typical data definitions and manipulation commands.

SUB CODE	NBA CODE	Course Outcome Statement
Management Systems Laboratory	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
	C216.6	Implement applications for different case study programs.

SUB CODE	NBA CODE	Course Outcome Statement
CS8461 Operating Systems Laboratory	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 Strategies

SUB CODE	NBA CODE	Course Outcome Statement
HS8461 Advanced Reading and Writing	C218.1	To prepare students for significance of silent reading and understanding comprehension.
	C218.2	Describe their ideas relevant to given topics.
	C218.3	To write convincing job applications and effective reports.
	C218.4	To write different types of essays.
	C218.5	To create awareness among the students about writing as an exact and formal skill.
	C218.6	To prepare students for role of writing in English and its contribution for their success.

Semester 05

SUB CODE	NBA CODE	Course Outcome Statement
MA8551 Algebra and Number Theory	C301.1	Apply the basic notions of groups, rings, fields which will then be used to solve related problems
	C301.2	Analyze the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts.
	C301.3	Demonstrate accurate and efficient use of advanced algebraic techniques.
	C301.4	Interpret their mastery by solving non - trivial problems related to the concepts, and by proving simple theorems about the, statements proven by the text.
	C301.5	Apply integrated approach to number theory and abstract algebra, and provide a firm basis for further reading and study in the subject.
	C301.6	Have the notion of solving Theory of numbers, techniques used in engineering and management problems.

SUB CODE	NBA CODE	Course Outcome Statement
CS8591 Computer Networks	C302.1	Classify the basic layers and its functions in computer networks.
	C302.2	Examine the performance of a network.
	C302.3	Explain 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	Describe the working of various application layer protocols.

SUB CODE	NBA CODE	Course Outcome Statement
EC 8691 Microprocessors and Microcontrollers	C303.1	Explain the Architecture of 8086 Mocroprocessor.
	C303.2	Analyze the Multiprocessor configuration in 8086 processor
	C303.3	Design I/O and Memory Interfacing circuits.
	C303.4	Design interface microprocessors with supporting chips
	C303.5	Explain the Architecture of 8051 Microcontroller
	C303.6	Design microcontroller based system

SUB CODE	NBA CODE	Course Outcome Statement
CS8501 Theory of computation	C304.1	Construct NFA and DFA. (Unit I)
	C304.2	Derive regular expressions, regular grammar and minimization of automata. (Unit II)
	C304.3	Design PDA for any CFG. (Unit III)
	C304.4	Apply closure properties of CFL and design Turing machines for any CFL. (Unit IV)
	C304.5	Differentiate recursive and recursively enumerable problems. (Unit V)
	C304.6	Prove NP complete problems. (Unit V)

SUB CODE	NBA CODE	Course Outcome Statement
CS8592 Object Oriented Analysis and Design	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	Develop, explore the conceptual model into various scenarios and applications.
	C305.6	Understand the various testing methodologies for OO software.

SUB CODE	NBA CODE	Course Outcome Statement
OCE551 Air Pollution and Control Engineering (OE1)	C306.1	Summarize the nature and classification of air pollutant.
	C306.2	Explain the effects of meteorology on air pollution.
	C306.3	Explain about particulate air pollution control device to meet applicable standards.
	C306.4	Design stacks & selection of control equipment for gaseous pollutant.

SUB CODE	NBA CODE	Course Outcome Statement
	C306.5	Determine the indoor air quality management.
	C306.6	Describe the preventive measures & control of noise pollution.

SUB CODE	NBA CODE	Course Outcome Statement
OMD551 Basic of Biomedical Instrumentation (OE1)	C307.1	Describe the different bio potential and its propagation.
	C307.2	Infer the different electrode placement for various physiological recording.
	C307.3	Design bio amplifier for various physiological recording.
	C307.4	Describe the various techniques of non electrical physiological measurements.
	C307.5	Interpret the different biochemical measurements.
	C307.6	Analyze the various bio-signals.

SUB CODE	NBA CODE	Course Outcome Statement
EC8681 Microprocessors and Microcontrollers Laboratory	C331.1	Write ALP Programmes for fixed Point and Arithmetic operations
	C331.2	Write ALP Programmes for Floating Point and Arithmetic operations
	C331.3	Interface different I/Os with processor
	C331.4	Generate waveforms using Microprocessors
	C331.5	Execute Programs in 8051
	C331.6	Explain the difference between simulator and Emulator

SUB CODE	NBA CODE	Course Outcome Statement
CS8582- Object Oriented Analysis and Design Lab	C332.1	Use OO analysis and design for a given problem specification.
	C332.2	Identify and map basic software requirements in UML mapping.
	C332.3	Apply the software quality using design patterns and to explain the rationale behind applying specific design patterns.
	C332.4	Identify the compliance of the software with the SRS.
	C332.5	Develop Code from Design, Compare and contrast various testing techniques.
	C332.6	Demonstrate various designing Techniques.

SUB CODE	NBA CODE	Course Outcome Statement
CS8581 Networks Laboratory	C333.1	Demonstrate the use of networking commands.
	C333.2	Implement various protocols using TCP and UDP.
	C333.3	Compare the performance of different transport layer protocols.
	C333.4	Use simulation tools to analyze the performance of various network protocols.
	C333.5	Analyze various routing algorithms.
	C333.6	Implement error correction codes.

Semester 06

SUB CODE	NBA CODE	Course Outcome Statement
CS8651 Internet Programming	C334.1	Construct a basic website using HTML and Cascading Style Sheets.
	C334.2	Design a dynamic web page with validation using Java Script objects and by applying different event handling mechanisms.
	C334.3	Implement the Server side programs using Servlets and JSP.
	C336.2	Construct simple web pages in PHP.
	C334.5	Demonstrate for representing the data in XML format.
	C334.6	Implement the interactive web applications using AJAX and Web Services.

SUB CODE	NBA CODE	Course Outcome Statement
CS8691 Artificial Intelligence	C335.1	Illustrate the foundation of AI and Intelligent Agents
	C335.2	Apply appropriate search algorithms for any AI problem.
	C336.2	Describe a problem using first order and predicate logic.
	C335.4	Find the appropriate agent strategy to solve a given problem.
	C335.5	Construct software agents to solve a problem.
	C335.6	Design applications for NLP that use Artificial Intelligence.

SUB CODE	NBA CODE	Course Outcome Statement
CS8601 Mobile Computing	C336.1	Explain the basics of mobile telecommunication systems
	C336.2	Illustrate the generations of telecommunication systems in wireless networks•
	C336.3	Determine the functionality of MAC, network layer and Identify a routing protocol for a given Ad hoc network
	C336.4	Describe the functionality of Transport and Application layers
	C336.5	Develop a mobile application using android/blackberry/ios/Windows SDK
	C336.6	To Design a web application using tools

SUB CODE	NBA CODE	Course Outcome Statement
CS8602 Compiler Design	C337.1	Understand the different phases of compiler and Design Lexical analyzer for given language .
	C337.2	Apply different parsing algorithms to develop the parsers for a given grammar
	C337.3	Construct the intermediate representation considering the type systems.
	C337.4	Generate machine code from the intermediate code forms and Understand run-time environment.
	C337.5	Implement code optimization techniques for the generated code.
	C337.6	Design and implement a compiler along with analysis of practical aspects using LEX,YACC

SUB CODE	NBA CODE	Course Outcome Statement
CS8603 Distributed Systems	C338.1	Describe the foundations and issues of distributed systems.(Unit I)
	C338.2	Design a model of distributed executions for a system of n processes.(Unit I)
	C338.3	Find the global state for distributed systems based on local states of processes and channels.(Unit II)
	C338.4	Apply the Mutual Exclusion and Deadlock detection algorithms in distributed systems.(Unit III)
	C338.5	Design the agreement protocols and fault tolerance mechanisms in distributed systems.(Unit IV)
	C338.6	Summarize the features of peer-to-peer and distributed shared memory systems.(Unit V)

SUB CODE	NBA CODE	Course Outcome Statement
IT8076 Software Testing (PE1)	C340.1	Design a defect repository to accumulate defect information.
	C340.2	Design test cases using black box and white box approach.
	C340.3	Apply the concept of different levels of testing to identify suitable test to be carried out.
	C340.4	Design and validate test plan suitable for a software development for different domains.
	C340.5	Outline test plans and test cases designed.
	C340.6	Model an architecture for test automation .

SUB CODE	NBA CODE	Course Outcome Statement
CS8661 Internet Programming Laboratory	C346.1	Design the web page with HTML / XML and stylesheet.
	C346.2	Design the user interfaces using Java frames and applets.
	C346.3	Develop dynamic web pages using server side scripting.
	C346.4	Develop the Client Server applications.
	C346.5	Develop the web page using PHP.
	C346.6	Design application using AJAX.

SUB CODE	NBA CODE	Course Outcome Statement
CS8662 Mobile Application Development Laboratory	C347.1	Develop mobile applications using GUI and Layouts.
	C347.2	Develop mobile applications using Event Listener.
	C347.3	Develop mobile applications using Databases
	C347.4	Develop mobile applications using RSS Feed, Internal/External Storage, SMS, Multithreading and GPS
	C347.5	Analyze and discover own mobile app for simple needs.
	C347.6	Learn to utilize the power of background services, notifications and send an email.

SUB CODE	NBA CODE	Course Outcome Statement

SUB CODE	NBA CODE	Course Outcome Statement
CS8611 Mini Project	C348.1	Identify a suitable topic in the field of computer Science and Engineering
	C348.2	collect requirements on the topic selected.
	C348.3	Design the architecture and explore the diagrammatic representations
	C348.4	Implement the design using any known programming language
	C348.5	Do testing manually or using testing tools
	C348.6	Document the development procedure, steps and outputs.

SUB CODE	NBA CODE	Course Outcome Statement
HS8581 Professional Communication	C349.1	To Prepare for the International Examination such as IELTS and TOEFL.
	C349.2	To Prepare students for role of writing in English and its contribution for their success.
	C349.3	To Discuss the interview techniques and questions.
	C349.4	Describe their ideas relevant to given topics.
	C349.5	To write convincing job applications and effective reports.
	C349.6	To Prepare Presentations and Participate in Group Discussions .

SUB CODE	NBA CODE	Course Outcome Statement
MG8591 Principles of Management	C401.1	Summarize the evolution of management thoughts and various challenges of managerial activities in a global business environment.
	C401.2	Explain the types of Planning and Decision making at various levels management in the Organizations.
	C401.3	Discuss various types of Organization structure
	C401.4	List out the steps in Staffing process and stages in Career development.
	C401.5	Explain the elements in Direction.
	C401.6	Generalize various Controlling techniques to maintain standards in Organizations.

Semester 07

SUB CODE	NBA CODE	Course Outcome Statement
MG8591 Principles of Management	C401.1	Summarize the evolution of management thoughts and various challenges of managerial activities in a global business environment.
	C401.2	Explain the types of Planning and Decision making at various levels management in the Organizations.
	C401.3	Discuss various types of Organization structure
	C401.4	List out the steps in Staffing process and stages in Career development.
	C401.5	Explain the elements in Direction.
	C401.6	Generalize various Controlling techniques to maintain standards in Organizations.

SUB CODE	NBA CODE	Course Outcome Statement
CS8792 Cryptography and Network Security	C402.1	Understand the fundamentals of networks security, security architecture, threats and vulnerabilities
	C402.2	Apply the different cryptographic operations of symmetric cryptographic algorithms
	C403.2	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
	C402.6	Design secure messages, Emails

SUB CODE	NBA CODE	Course Outcome Statement
CS8791 Cloud Computing	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

SUB CODE	NBA CODE	Course Outcome Statement
OBM752 Hospital Management	C413.1	Explain the principles of Hospital administration.
	C413.2	Identify the importance of Human resource management.
	C413.3	Illustrate various recruitment and selection methods.
	C413.4	Describe the various training techniques.
	C413.5	Identify Information management systems and Supportive Services.
	C413.6	Exemplify Communication and safety procedures followed in hospitals.

SUB CODE	NBA CODE	Course Outcome Statement
IT8074 Service Oriented Architecture	C433.1	Implement the various XML technologies
	C433.2	Discuss the Service Orientation and benefits of SOA
	C433.3	Explain the Web Services and WS standards
	C433.4	Use the Web Services extensions to develop solutions
	C433.5	Apply the Service Modeling, service oriented analysis
	C433.6	Design the application development

SUB CODE	NBA CODE	Course Outcome Statement
CS8079 Human	C763.1	Describe the capabilities of both humans and computers

SUB CODE	NBA CODE	Course Outcome Statement
Computer Interaction (PE3)	C763.2	Design effective dialog for HCI
	C763.3	Analyze the stake holder's requirements and choose the appropriate models
	C763.4	Classify the multiple layers of mobile ecosystem and their roles
	C763.5	Demonstrate mobile HCI using mobile elements and tools
	C763.6	Design meaningful user interface

SUB CODE	NBA CODE	Course Outcome Statement
CS8073 C# and .Net Programming (PE3)	C437.1	Learn the basic programming and object oriented concepts in C#.
	C437.2	To develop applications in windows, ADO.Net and ASP.Net.
	C437.3	To study the advanced concepts in data connectivity, WCF, WPF & WWF.
	C437.4	To develop mobile applications using .NET framework.
	C437.5	To understand base class libraries and their operations.
	C437.6	To understand the basics of XML and manipulate data using XML.

SUB CODE	NBA CODE	Course Outcome Statement
CS8711 - Cloud Computing LAb	C443.1	Configure various virtualization tools such as Virtual Box, VMware workstation.
	C443.2	Design and deploy a web application in a PaaS environment.
	C443.3	Learn how to simulate a cloud environment to implement new schedulers.
	C443.4	Install and use a generic cloud environment that can be used as a private cloud.
	C443.5	Manipulate large data sets in a parallel environment.
	C443.6	Design experiments in Hadoop environment

SUB CODE	NBA CODE	Course Outcome Statement
IT8761-Security Laboratory	C444.1	Develop code for classical Encryption Techniques to solve the problems.
	C444.2	Build cryptosystems by applying symmetric and public key encryption algorithms.
	C444.3	Construct code for authentication algorithms.
	C444.4	Develop a signature scheme using Digital signature standard.
	C444.5	Demonstrate the network security system using open source tools
	C444.6	Apply Intrusion detection system

Semester 08

SUB CODE	NBA CODE	Course Outcome Statement
CS8074 Cyber Forensics (PE4)	C449.1	Describe the basics of computer forensics. (Unit I)
	C449.2	Apply a number of different computer forensic tools to a given scenario. (Unit II)

SUB CODE	NBA CODE	Course Outcome Statement
	C449.3	Analyze and validate forensics data. (Unit III)
	C449.4	Identify the vulnerabilities in a given network infrastructure. (Unit III)
	C449.5	Explain the Ethical Hacking Procedures. (Unit IV)
	C449.6	Implement real-world hacking techniques to test system security. (Unit V)

SUB CODE	NBA CODE	Course Outcome Statement
GE8076 Professional Ethics in Engineering (PE4)	C451.1	To identify difference between ethical and non ethical situations
	C451.2	practice moral judgement in conditions of dilemma
	C453.2	Relate the code of ethics to social experimentation and Be aware of code of professional bodiles
	C451.4	Apply risk and safety measures in various engineering fields
	C451.5	Acquire knowledge about various roles of engineers in variety of global issues and able to apply ethical principles to resolve situations that arise in their professional lives.
	C451.6	Discuss the ethical issues related to engineering and realize the responsibilities and rights in the society.

SUB CODE	NBA CODE	Course Outcome Statement
CS8078 Green Computing (PE5)	C453.1	Acquire knowledge to adopt green computing practices to minimize negative impacts on the environment.
	C453.2	Describe energy saving practices in their use of hardware and green information system
	C453.3	Understand the power consumption in data center and grid
	C453.4	Discuss the social impact of Green IT initiatives and evaluate technology tools that can reduce carbon footprint by the stakeholders
	C453.5	Demonstrate the green IT transformation
	C453.6	Demonstrate the ways to minimize equipment disposal requirements

SUB CODE	NBA CODE	Course Outcome Statement
CS8811 PROJECT WORK	C459.1	Analyze the various research areas in the field of Computer Science Engineering.
	C459.2	Review several available literatures in the preferred field of study.
	C459.3	Relate the strengths and weaknesses of several existing solutions for research challenge.
	C459.4	Illustrate any challenging practical problems and find solution by formulating the proper methodology.
	C459.5	Implement the design using tools and techniques for the research plan identified.
	C459.6	Improve the students in preparing project reports and to face reviews and viva voce examination.