<u>Course Code &Name:</u> C201 - (MA6351- Transforms and Partial Differential Equations)

REGULATION: R2013

YEAR/SEM: II/III

C201.1	AP	Identify the partial differential equations of both homogeneous and non-homogeneous type and understand how to solve standard partial differential equations.
C201.2	AP	Solve differential equations using Fourier series analysis which plays a vital role in engineering applications.
C201.3	AP	Solve one and two dimensional heat flow problems and one dimensional wave equations using Fourier series techniques.
C201.4	AL	Analyze the mathematical principles on transforms and partial differential equations would provide them the ability to solve some of the physical problems of engineering.
C201.5	AP	Apply the mathematical tools for the solutions of partial differential equations by using z-transform techniques.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C201.1	2	3	0	0	2	0	0	0	0	0	0	0	2	2
C201.2	3	3	2	2	3	2	0	0	0	0	0	2	2	3
C201.3	2	2	0	0	2	0	0	0	0	0	0	0	2	2
C201.4	3	3	2	1	3	1	0	0	0	0	0	0	2	2
C201.5	3	2	3	2	3	2	0	0	0	0	0	2	2	2
C201	3	3	2	2	3	2	0	0	0	0	0	2	2	2

<u>Course Code &Name:</u> C202 - (CS6301-Programming and Data Structure II)

REGULATION: R2013

YEAR/SEM: II/III

C202.1	AL	Analyze the fundamentals of Object Oriented Programming
C202.2	AP	Apply the concepts of data abstraction, encapsulation and inheritance for problem solutions
C202.3	AP	Make use of the advanced concepts of Object Oriented Programming like exception handling and templates.
C202.4	AL	Analyze the advanced concepts of tree preliminaries and other tree structures
C202.5	AP	Apply different graph data structure algorithms

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO ₂
C202.1	3	3	1	0	0	0	0	0	0	0	0	2	3	3
C202.2	3	3	2	0	0	0	0	0	0	0	0	2	3	3
C202.3	3	3	3	0	0	0	0	0	0	0	0	2	3	2
C202.4	3	3	3	3	0	0	0	0	0	0	0	2	3	3
C202.5	3	3	3	2	0	0	0	0	0	0	0	3	2	3
C202	3	3	3	3	0	0	0	0	0	0	0	2	3	3

<u>Course Code &Name:</u> C203 – (CS6302- Database Management Systems)

REGULATION: R2013

YEAR/SEM: II/III

C203.1	AP	Build the database for Applications using ER model.
C203.2	AP	Construct and process simple databases using SQL Commands.
C203.3	AP	Apply concurrency control and recovery mechanism for database problems.
C203.4	AL	Analyze the various current trends in database technology.
C203.5	AP	Make use of Security concepts to Data Bases.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C203.1	3	3	3	0	0	0	0	0	0	0	0	3	3	3
C203.2	3	3	3	0	3	0	0	0	0	0	0	3	3	3
C203.3	3	3	2	0	0	0	0	0	0	0	0	3	3	3
C203.4	3	3	3	2	3	0	0	0	0	0	0	3	3	2
C203.5	3	3	2	2	3	0	0	0	0	0	0	3	3	3
C203	3	3	3	2	3	0	0	0	0	0	0	3	3	3

<u>Course Code &Name:</u> C204 – (CS6303 & Computer Architecture)

REGULATION: R2013

YEAR/SEM: II/III

C204.1	AP	Organize the basics of computer hardware and how software interacts with computer hardware
C204.2	AP	Construct arithmetic and logic units.
C204.3	AL	Analyze pipelined control units
C204.4	AP	Make use of parallel processing architectures.
C204.5	AL	Inspect performance of memory systems

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO ₂
C204.1	3	3	3	0	0	0	0	0	0	0	0	2	3	3
C204.2	3	3	3	0	0	0	0	0	0	0	0	0	2	2
C204.3	3	3	3	2	0	0	0	0	0	0	0	0	2	2
C204.4	3	3	3	2	0	0	0	0	0	0	0	3	2	2
C204.5	3	3	3	0	0	0	0	0	0	0	0	3	2	3
C204	3	3	3	2	0	0	0	0	0	0	0	3	2	2

Course Code &Name: C205 – (CS6304- Analog and Digital Communication)

REGULATION: R2013

YEAR/SEM: II/III

C205.1	AL	Classify the different types of modulation
C205.2	AL	Analyze the digital communication techniques
C205.3	U	Illustrate the data and pulse communication techniques
C205.4	AP	Make use of various error control coding techniques to identify/correct errors
C205.5	AP	Develop multi-user radio communication

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C205.1	3	3	3	2	2	0	0	0	0	0	0	0	2	2
C205.2	3	2	3	2	3	0	0	0	0	0	0	0	2	2
C205.3	3	3	2	3	3	0	0	0	0	0	0	0	2	2
C205.4	3	3	2	3	3	0	0	0	0	0	0	0	2	2
C205.5	3	3	2	3	2	0	0	0	0	0	0	0	2	2
C205	3	3	2	3	3	0	0	0	0	0	0	0	2	2

Course Code &Name: C206 - (GE6351- Environmental Science and Engineering)

REGULATION: R2013

YEAR/SEM: II/III

C206.1	AL	Categories the values, threats and conservation of biodiversity and classify various Ecosystems.
C206.2	AP	Identify and implement technological and economical solution to environmental pollution
C206.3	AP	Develop the knowledge on various natural resources, their causes and their effects.
C206.4	AL	Examine various environmental acts and disaster management
C206.5	AL	Compare the population and environment and the role of IT in environment and human health.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C206.1	3	3	3	0	0	0	2	2	2	2	0	2	2	2
C206.2	3	2	3	0	0	0	2	2	3	3	0	3	2	2
C206.3	3	2	2	0	0	0	2	3	2	2	0	3	2	2
C206.4	3	3	2	0	0	0	3	2	2	3	0	3	2	2
C206.5	3	3	3	0	0	0	3	3	3	2	0	3	3	2
C206	3	3	3	0	0	0	2	2	2	2	0	3	2	2

<u>Course Code &Name:</u> C207 – (CS6311- Programming and Data Structure Laboratory II)

REGULATION: R2013

YEAR/SEM: II/III

C207.1	C	Design and implement C++ programs for manipulating stacks, queues, linked lists, trees and graph
C207.2	E	Select good programming deign ,methods for program development
C207.3	E	Evaluate the different data structures for implementing solutions to practical problems.
C207.4	C	Develop recursive program using trees and graphs
C207.5	C	Build the shortest path algorithm.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C207.1	3	3	3	0	0	0	0	2	2	2	0	2	2	3
C207.2	3	3	3	0	0	0	0	2	3	3	0	2	3	2
C207.3	3	3	2	0	0	0	0	2	2	3	0	3	2	2
C207.4	3	3	3	3	0	0	0	2	2	3	0	3	3	3
C207.5	3	3	3	3	0	0	0	3	2	3	0	3	3	3
C207	3	3	3	3	0	0	0	2	2	3	0	3	3	3

<u>Course Code &Name:</u> C208 – (CS6312- Database Management Systems Laboratory)

REGULATION: R2013

YEAR/SEM: II/III

C208.1	C	Create simple database with database language commends
C208.2	E	Assess the database using queries to retrieve records
C208.3	C	Make up the PL/SQL for processing database
C208.4	C	Construct front end tools to design forms, reports and menus
C208.5	C	Develop the solutions using database concepts for real time requirements.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C208.1	3	3	3	0	0	0	0	2	2	3	0	3	3	2
C208.2	3	3	3	0	0	0	0	3	3	3	0	3	3	3
C208.3	3	3	3	0	0	0	0	3	3	2	0	3	3	3
C208.4	3	3	3	3	3	0	0	2	3	3	0	3	3	3
C208.5	3	3	3	3	3	0	0	3	3	3	0	3	3	3
C208	3	3	3	3	3	0	0	2	3	3	0	3	3	3

 $\underline{\text{Course Code \&Name:}} \ \textbf{C209} - (\textbf{MA6453 - PROBABILITY \& QUEUEING THEORY})$

REGULATION: R2013

YEAR/SEM: II/IV

C209.1	AP	Apply the skills in handling situation involving more than one Random variables and function of Random variables.
C209.2	E	Explain two dimensional Random variables distributions theorems.
C209.3	AL	Classify the real life problems with Markov process and Markov chains.
C209.4	AP	Apply queuing theory application in engineering technology.
C209.5	AP	Apply Non Markov and queues in open and closed queue network.

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2
C209.1	3	3	3	3	0	2	0	0	0	0	2	2	2	2
C209.2	2	3	2	2	0	2	0	0	0	0	2	2	2	2
C209.3	2	3	2	3	0	2	0	0	0	0	2	2	2	2
C209.4	3	3	3	3	0	2	0	0	0	0	2	2	3	3
C209.5	3	3	3	3	0	2	0	0	0	0	2	2	2	2
C209	3	3	3	3	0	2	0	0	0	0	2	2	2	2

Course Code &Name: C210 – (CS6551 COMPUTER NETWORKS)

REGULATION: R2013

YEAR/SEM: II/IV

C210.1	AP	Identify the components required to build different types of networks
C210.2	AL	Categorize the Media Access Control Protocols and different Internet working
C210.3	AP	Apply various types of routing techniques
C210.4	AL	Compare the flow of information from one node to another node in the networks
C210.5	AP	Make use of different traditional applications with its protocols

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C210.1	3	3	2	0	0	0	0	0	0	0	0	2	3	2
C210.2	3	3	3	2	0	0	0	0	0	0	0	3	3	3
C210.3	3	3	2	3	3	0	0	0	0	0	0	3	3	3
C210.4	3	3	3	2	3	0	0	0	0	0	0	3	3	3
C210.5	3	2	3	3	3	0	0	0	0	0	0	3	3	3
C210	3	3	3	3	3	0	0	0	0	0	0	3	3	3

Course Code &Name: C211- (CS6401 OPERATING SYSTEMS)

REGULATION: R2013

YEAR/SEM: II/IV

211.1	AL	Survey the concepts and functions of Operating systems.
C211.2	AL	Classify the scheduling Algorithms, Deadlock Prevention and avoidance Algorithms.
C211.3	AL	Compare and contrast various memory management schemes
C211.4	C	Design and Implement a prototype of file systems and I/O Systems
C211.5	AP	Utilize the administrative task on Linux server

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO ₂
C211.1	3	3	3	2	0	0	0	0	0	0	0	3	3	3
C211.2	2	3	3	2	0	0	0	0	0	0	0	3	3	3
C211.3	3	3	3	3	0	0	0	0	0	0	0	3	3	3
C211.4	3	3	3	3	0	0	0	0	0	0	0	3	3	3
C211.5	3	2	2	2	3	0	0	0	0	0	0	3	3	2
C211	3	3	3	3	3	0	0	0	0	0	0	3	3	3

Course Code &Name: C212 - (CS6402 DESIGN AND ANALYSIS OF ALGORITHMS)

REGULATION: R2013

YEAR/SEM: II/IV

C212.1	AP	Identify the fundamental needs of algorithms in problem solving
C212.2	AL	Classify the different algorithm design techniques for problem solving
C212.3	AP	Construct the algorithms for various computing problems
C212.4	AL	Compare the time and space complexity of various algorithms
C212.5	AP	Identify the existing algorithm to improve efficiency

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO ₂
C212.1	3	3	3	0	0	0	0	0	2	2	0	2	3	3
C212.2	3	3	3	3	0	0	0	0	3	2	0	2	3	3
C212.3	3	3	3	3	0	0	0	0	2	2	0	3	2	2
C212.4	3	3	3	3	0	0	0	0	3	2	0	3	2	3
C212.5	3	3	3	3	0	0	0	0	3	3	0	3	2	2
C212	3	3	3	3	0	0	0	0	3	2	0	3	2	3

Course Code &Name: C213 – (EC6504 - MICROPROCESSOR AND MICROCONTROLLER)

REGULATION: R2013

YEAR/SEM: II/IV

C213.1	AP	Build the architecture and addressing modes of 8086.
C213.2	AL	Examine the concept of system bus structure and different modes of 8086 processor.
C213.3	AL	Analyze the various I/O interfacing techniques of 8086 microprocessor.
C213.4	AL	List the addressing modes of 8051.
C213.5	AL	Analyze the various interfacing techniques and applications of 8051 microprocessor.

	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2
C213.1	3	0	0	0	3	0	0	0	0	0	0	0	0	0
C213.2	0	0	3	2	0	0	0	0	0	0	0	0	0	0
C213.3	0	2	3	3	3	0	0	0	0	0	0	0	0	3
C213.4	2	0	0	0	3	0	0	0	0	0	0	0	0	1
C213.5	0	2	3	3	0	0	0	0	0	0	0	0	0	3
C213	2	2	3	3	3	0	0	0	0	0	0	0	0	3

Course Code &Name: C214 - (CS6403 SOFTWARE ENGINEERING)

REGULATION: R2013

YEAR/SEM: II/IV

C214.1	AP	Identify the key activities in managing the software activities
C214.2	AL	Compare different process modules
C214.3	AP	Build the software design process and user interface
C214.4	AP	Apply the systematic procedure for software design and deployment
C214.5	AL	Compare and contrast the various testing and maintenances

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C214.1	3	2	3	0	2	3	0	2	2	2	0	3	3	3
C214.2	3	3	2	0	2	3	0	2	2	3	0	3	3	3
C214.3	3	3	3	0	3	3	0	3	3	2	0	3	3	3
C214.4	2	2	3	0	3	3	0	2	3	3	0	3	3	2
C214.5	3	3	3	0	3	3	0	3	3	3	0	3	3	3
C214	3	3	3	0	3	3	0	2	3	3	0	3	3	3

Course Code &Name: C215 – (CS6411 NETWORKS LABORATORY)

REGULATION: R2013

YEAR/SEM: II/IV

C215.1	C	Develop the socket program using TCP & UDP
C215.2	C	Design simple applications using TCP & UDP
C215.3	C	Develop the various protocols.
C215.4	E	Compare the performances of protocols in different layers
C215.5	C	Assess various Routing protocols

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C215.1	3	2	3	1	0	0	0	2	3	3	0	3	3	3
C215.2	3	2	3	2	0	0	0	2	3	3	0	3	3	3
C215.3	3	3	3	2	3	0	0	3	3	3	0	3	3	3
C215.4	3	3	3	2	2	0	0	2	3	3	0	3	3	3
C215.5	3	3	3	3	3	0	0	2	3	3	0	3	3	3
C215	3	3	3	2	0	0	0	2	3	3	0	3	3	3

Course Code &Name: C216 – (CS6412 MICROPROCESSOR AND MICROCONTROLLER LAB)

REGULATION: R2013

YEAR/SEM: II/IV

C216.1	E	Interpret the ALP programs in 8086.
C216.2	E	Determine the Arithmetic & logical operations in 8086 microprocessor.
C216.3	C	Test A/D & D/A, stepper motor, traffic light Interfacing with 8086 Microprocessor.
C216.4	E	Interpret the ALP Programs in 8051.
C216.5	C	Compile the programs using MASM Software

	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2
C216.1	3	0	0	0	0	0	0	0	0	0	0	0	0	2
C216.2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
C216.3	3	3	3	3	0	0	0	0	0	0	3	0	0	3
C216.4	3	0	0	0	0	0	0	0	0	0	0	0	0	0
C216.5	2	0	0	2	3	0	0	0	0	0	0	0	0	0
C216	3	3	3	3	3	0	0	0	0	0	3	0	0	3

Course Code &Name: C217- (CS6413 OPERATING SYSTEMS LAB)

REGULATION: R2013

YEAR/SEM: II/IV

C217.1	C	Test the Unix commands and shell programming
C217.2	C	Build ' C' program for process and file system management using system calls
C217.3	E	Compare the best CPU scheduling algorithm for a given problem instance
C217.4	E	Evaluate the performance of various page replacement algorithms
C217.5	C	Develop algorithm for deadlock avoidance, detection and file allocation strategies

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C217.1	3	3	0	0	0	0	0	2	3	3	0	3	3	3
C217.2	3	3	3	2	0	0	0	3	3	3	0	3	3	3
C217.3	3	3	3	3	0	0	0	2	3	3	0	3	3	3
C217.4	3	3	3	2	0	0	0	2	3	3	0	3	3	2
C217.5	3	3	3	2	0	0	0	2	3	3	0	3	3	3
C217	3	3	3	2	0	0	0	2	3	3	0	3	3	3

Course Code &Name: C301 – (MA6566- DISCRETE MATHEMATICS)

REGULATION: R2013

YEAR/SEM: III/V

C301.1	AP	Identify the propositional logic and predicates, quantifiers with rules of inference
C301.2	AP	Solve the recurrence relation by applying generating function
C301.3	AL	Classify the special types of graphs
C301.4	AL	Analyze the algebraic properties of groups, rings and fields.
C301.5	AL	List the different types of lattices and its property.

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2
C301.1	3	3	0	0	3	3	0	2	0	0	0	3	2	2
C301.2	3	3	2	0	0	2	3	0	0	0	0	2	2	2
C301.3	3	2	2	3	0	3	3	0	0	3	0	3	2	2
C301.4	3	3	3	2	2	3	2	0	3	0	0	3	2	2
C301.5	3	3	0	2	0	2	3	0	0	0	0	2	2	2
C301	3	3	2	2	2	3	3	2	3	3	0	3	2	2

Course Code &Name: C302 – (CS6501- INTERNET PROGRAMMING)

REGULATION: R2013

YEAR/SEM: III/V

C302.1	AL	Analyze the concepts of Control Statements, I/O Applet and Threading by using JAVA
C302.2	AP	Build a basic website using HTML and Cascading Style Sheets
C302.3	AP	Develop the dynamic webpage with validation using java script objects and by applying different event handling mechanism
C302.4	AP	Construct the simple web page in PHP, and to present data in XML format.
C302.5	AP	Make use of server side programs using servlets and JSP

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C302.1	3	3	3	0	0	0	0	3	3	3	0	3	3	2
C302.2	3	3	3	0	0	0	0	3	3	3	0	3	3	2
C302.3	3	3	3	0	0	0	0	3	3	3	0	3	3	2
C302.4	3	3	3	0	0	0	0	3	3	3	0	3	3	3
C302.5	3	3	3	0	0	0	0	3	3	3	0	3	3	3
C302	3	3	3	0	0	0	0	3	3	3	0	3	3	2

Course Code &Name: C303 - (CS6502- OBJECT ORIENTED ANALYSIS AND DESIGN)

REGULATION: R2013

YEAR/SEM: III/V

C303.1	AP	Apply the basic UML diagram using OO concepts
C303.2	AP	Make Use of UML analysis and design diagrams
C303.3	AL	Analyze the domain models and conceptual classes
C303.4	AP	Build the code form design system and apply design patents
C303.5	AL	Compare and contrast various testing techniques.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C303.1	3	3	3	2	0	2	0	0	0	0	0	2	3	3
C303.2	3	3	3	2	0	3	0	0	0	0	0	3	3	3
C303.3	3	3	3	3	0	3	0	0	0	0	0	3	3	2
C303.4	3	3	2	2	0	3	0	0	0	0	0	2	3	3
C303.5	3	3	3	3	0	3	0	0	0	0	0	3	3	3
C303	3	3	3	2	0	3	0	0	0	0	0	3	3	3

Course Code &Name: C304 - (CS6503- THEORY OF COMPUTATION)

REGULATION: R2013

YEAR/SEM: III/V

C304.1	AP	Apply the concept of Finite Automata and Regular Expression
C304.2	AP	Organize the Context Free Grammar for any language set
C304.3	AP	Solve the push down automaton model for the given language
C304.4	AP	Make use of Turing machine concept to solve the various problems
C304.5	AL	Examine the decidability or undecidability of various problems

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C304.1	3	3	3	2	0	0	0	0	0	0	0	3	2	2
C304.2	3	3	3	2	0	0	0	0	0	0	0	3	2	2
C304.3	3	3	3	3	0	0	0	0	0	0	0	3	2	2
C304.4	3	3	3	3	0	0	0	0	0	0	0	3	2	2
C304.5	3	3	3	3	0	0	0	0	0	0	0	2	2	2
C304	3	3	3	3	0	0	0	0	0	0	0	3	2	2

Course Code &Name: C305 - (CS6504- COMPUTER GRAPHICS)

REGULATION: R2013

YEAR/SEM: III/V

C305.1	AP	Make use of various output primitives and graphics systems
C305.2	AP	Apply the 2D graphics to apply 2D transformations and clipping techniques in graphics
C305.3	AP	Apply the 3D graphics to apply 3D transformations and clipping techniques in graphics
C305.4	AP	Apply illumination and colour models.
C305.5	AL	Compare various animation sequences

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C305.1	3	3	3	2	1	2	0	0	0	0	0	3	3	2
C305.2	3	3	3	2	2	2	0	0	0	0	0	3	3	3
C305.3	3	3	3	2	3	2	0	0	0	0	0	3	3	3
C305.4	3	3	3	2	2	2	0	0	0	0	0	3	3	3
C305.5	3	3	3	2	2	2	0	0	0	0	0	3	2	2
C305	3	3	3	2	2	2	0	0	0	0	0	3	3	3

Course Code &Name: C306 - (CS6511 - CASE TOOL LAB)

REGULATION: R2013

YEAR/SEM: III/V

C306.1	E	Select key principles and modeling techniques in object oriented analysis, design and development.
C306.2	C	Construct the UML analysis and design diagrams
C306.3	C	Design the sequence, state and activity diagram using UML
C306.4	C	Create code from design
C306.5	E	Compare and contrast various testing techniques.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C306.1	3	3	3	0	3	2	0	2	2	3	0	3	3	2
C306.2	3	3	3	0	2	3	0	3	2	3	0	3	3	2
C306.3	3	3	3	0	3	3	0	3	3	2	0	3	2	2
C306.4	3	3	3	0	3	2	0	2	3	3	0	3	2	3
C306.5	3	3	3	0	2	3	0	3	3	2	0	3	2	3
C306	3	3	3	0	3	3	0	3	3	3	0	3	2	2

Course Code &Name: C307 – (CS6512- INTERNET PROGRAMMING LAB)

REGULATION: R2013

YEAR/SEM: III/V

C307.1	C	Build the web pages using HTML/XML and style sheets
C307.2	C	Create user interfaces using Java frames and applets
C307.3	C	Create and contrast dynamic web pages using server side scripting
C307.4	AP	Make use of a Client Server application and use the frameworks JSP Strut, Spring
C307.5	C	Create the applications using AJAX

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C307.1	3	3	3	0	3	0	0	3	3	3	0	3	3	3
C307.2	3	3	3	0	3	0	0	3	3	3	0	3	3	3
C307.3	3	2	3	0	3	0	0	3	3	3	0	3	3	2
C307.4	3	3	3	0	3	0	0	3	3	3	0	3	3	2
C307.5	3	3	3	0	3	0	0	3	3	3	0	3	3	3
C307	3	3	3	0	3	0	0	3	3	3	0	3	3	3

Course Code &Name: C308 - (CS6513- COMPUTER GRAPHICS LABORATORY)

REGULATION: R2013

YEAR/SEM: III/V

C308.1	E	Choose the algorithms to draw 2D and 3D objects
C308.2	C	Create 2D and 3D graphics scenes using open graphics library suits
C308.3	C	Develop the graphical objects to apply clipping algorithms and viewing technique
C308.4	E	Select an image editing tool for image manipulation and enhancement
C308.5	C	Develop 2D and 3D animation using tools

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C308.1	3	3	3	2	1	2	0	2	2	2	0	2	3	2
C308.2	3	3	3	2	2	2	0	2	2	3	0	2	3	3
C308.3	3	3	3	2	3	2	0	2	3	3	0	2	3	2
C308.4	3	3	3	2	2	2	0	2	2	2	0	2	3	3
C308.5	3	3	3	2	2	2	0	2	3	3	0	2	3	3
C308	3	3	3	2	2	2	0	2	2	3	0	2	3	3

Course Code &Name: C309 – (CS6601 - DISTRIBUTED SYSTEMS)

REGULATION: R2013

YEAR/SEM: III/VI

C309.1	AL	Analyze the trends in distributed systems
C309.2	AP	Apply network virtualization and Remote Method Invocation
C309.3	AP	Utilize the file accessing model and various services in distributed system.
C309.4	AP	Apply the concepts of concurrency control, synchronization and replications in Distributed systems.
C309.5	AL	Examine the process and resource management systems

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C309.1	3	3	3	2	0	0	0	0	0	0	0	3	2	3
C309.2	3	3	3	2	0	0	0	0	0	0	0	2	2	2
C309.3	3	2	3	2	0	0	0	0	0	0	0	2	2	2
C309.4	3	3	3	3	0	0	0	0	0	0	0	3	2	2
C309.5	3	3	3	3	0	0	0	0	0	0	0	3	2	2
C309	3	3	3	2	0	0	0	0	0	0	0	3	2	2

Course Code &Name: C310 – IT6601 - MOBILE COMPUTING)

REGULATION: R2013

YEAR/SEM: III/VI

C310.1	AP	Apply the basics of mobile telecommunication systems
C310.2	AP	Choose the required functionality at each layer for given applications
C310.3	AP	Identify solution for each functionality at each layer
C310.4	AP	Make Use of simulation tools and design adhoc networks
C310.5	AP	Analyze the mobile applications

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C310.1	3	3	3	0	0	0	0	0	0	0	0	2	3	3
C310.2	3	3	2	0	0	0	0	0	0	0	0	2	3	2
C310.3	3	2	3	0	0	0	0	0	0	0	0	2	3	3
C310.4	3	3	3	0	3	0	0	0	0	0	0	2	3	3
C310.5	3	3	3	0	3	0	0	0	0	0	0	2	3	2
C310	3	3	3	0	3	0	0	0	0	0	0	2	3	3

Course Code &Name: C311 - (CS6660 - COMPILER DESIGN)

REGULATION: R2013

YEAR/SEM: III/VI

C311.1	AL	Classify the phases of a Compiler
C311.2	AP	Apply the translation of regular expression into parse tree using syntax analyzer
C311.3	AP	Construct the intermediate representation considering the type systems
C311.4	AL	Compare the various optimization techniques for the generated code
C311.5	AL	Analyze the different compiler construction tools to develop a simple compiler

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO ₂
C311.1	3	3	3	2	0	0	0	2	2	3	0	3	3	3
C311.2	3	3	3	3	0	0	0	2	2	2	0	3	3	3
C311.3	3	3	3	3	0	0	0	2	2	2	0	3	3	3
C311.4	3	3	2	3	0	0	0	2	2	2	0	3	2	3
C311.5	3	3	3	2	0	0	0	2	2	3	0	3	3	3
C311	3	3	3	3	0	0	0	2	2	2	0	3	3	3

Course Code &Name: C312 – (IT 6502 - DIGITAL SIGNAL PROCESSING)

REGULATION: R2013

YEAR/SEM: III/VI

C312.1	AL	Analysis of Discrete time signals and systems by using Z-transform
C312.2	AP	Apply the concept of DFT in filtering methods and discuss the DCT and its applications.
C312.3	AP	Apply and investigate IIR filters using various approximation techniques.
C312.4	AL	Analyze the FIR filter using fourier series, windowing techniques and frequency sampling methods.
C312.5	U	Understand the applications of digital signal processing

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C312.1	3	2	0	0	0	0	0	0	0	0	0	0	0	2
C312.2	3	2	0	0	0	0	0	0	0	0	0	3	0	2
C312.3	3	3	3	3	0	0	0	0	0	0	3	3	0	2
C312.4	3	3	3	3	0	0	0	0	0	0	3	3	0	2
C312.5	3	0	2	0	0	0	0	0	0	0	0	3	0	2
C312	3	3	3	3	0	0	0	0	0	0	3	3	0	2

Course Code &Name: C313 – (CS6659 - ARTIFICIAL INTELLIGENCE)

REGULATION: R2013

YEAR/SEM: III/VI

C313.1	AP	Identify problems that are amenable to solution by AI methods.
C313.2	AP	Identify appropriate AI methods to solve a given problem.
C313.3	AL	Simplify a given problem in the language/framework of different AI methods.
C313.4	AP	Develop the basic AI algorithms.
C313.5	AL	Analyze an empirical evaluation of different algorithms on problem formalization, and Architecture of Expert systems.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C313.1	3	3	2	2	0	0	0	0	0	0	0	3	3	2
C313.2	3	3	2	3	0	0	0	0	0	0	0	3	3	2
C313.3	3	3	3	3	0	0	0	0	0	0	0	3	3	2
C313.4	3	3	3	2	0	0	0	0	0	0	0	3	3	2
C313.5	3	3	3	3	0	0	0	0	0	0	0	3	3	2
C313	3	3	3	3	0	0	0	0	0	0	0	3	3	2

Course Code &Name: C314 - (IT6702 - DATA WAREHOUSING AND DATA MINING)

REGULATION: R2013

YEAR/SEM: III/VI

C314.1	AP	Make use of data warehouse concepts and architecture
C314.2	AL	Categorize the various OLAP types
C314.3	AP	Apply the data mining techniques and methods to large data sets
C314.4	AP	Make use of data mining tools
C314.5	AL	Compare the clustering and trends in data mining

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C314.1	3	3	3	0	0	0	0	0	0	0	0	2	3	2
C314.2	3	3	3	0	0	0	0	0	0	0	0	2	3	2
C314.3	3	3	3	0	0	0	0	0	0	0	0	2	2	2
C314.4	3	3	3	0	3	0	0	0	0	0	0	2	3	3
C314.5	3	3	3	0	2	0	0	0	0	0	0	2	3	3
C314	3	3	3	0	3	0	0	0	0	0	0	2	3	2

Course Code &Name: C315 - (CS6611- MOBILE APPLICATION DEVELOPMENT LAB)

REGULATION: R2013

YEAR/SEM: III/VI

C315.1	C	Develop the native application using GUI components and Mobile application development framework
C315.2	C	Design and implement various mobile applications using emulators
C315.3	C	Construct an application using multi threading and RSS feed
C315.4	E	Deduct location identification using GPS in an application
C315.5	C	Build a new applications to hand-held devices

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C315.1	3	3	3	0	3	2	0	2	2	1	0	2	3	2
C315.2	3	3	3	0	3	2	0	2	2	2	0	2	3	2
C315.3	3	3	3	0	2	2	0	2	2	3	0	3	3	2
C315.4	3	3	3	0	3	3	2	2	3	3	0	3	3	2
C315.5	3	3	3	0	3	3	2	3	3	3	0	3	3	3
C315	3	3	3	0	3	2	2	2	2	3	0	3	3	2

Course Code &Name: C316- (CS6612 COMPILER LABORATORY)

REGULATION: R2013

YEAR/SEM: III/VI

C316.1	E	Compare different compiler using tools to implement the different Phases
C316.2	C	Formulate the data flow and control flow of a typical programs
C316.3	C	Construct the intermediate representation
C316.4	C	Design the back end of a compiler for 8086 assembler
C316.5	E	Compare various code optimization techniques

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO ₂
C316.1	3	3	3	0	3	2	0	3	2	3	0	3	3	3
C316.2	3	3	3	0	2	2	0	2	2	2	0	3	3	2
C316.3	3	3	3	0	2	3	0	2	3	2	0	2	3	3
C316.4	3	3	3	0	3	2	0	2	3	2	0	2	2	3
C316.5	3	3	3	0	2	3	0	3	3	3	0	3	3	2
C316	3	3	3	0	2	2	0	2	3	2	0	3	3	3

<u>Course Code &Name:</u> C317- (CS6674 Communication and Soft skills Laboratory)

REGULATION: R2013

YEAR/SEM: III/VI

C317.1	AP	Develop communicative competence in English with specific reference to listening and speaking.
C317.2	AP	Build the learners' ability in reading and writing and to communicate effectively.
C317.3	AP	Apply the Strength of prospects of the learners for success in competitive examinations.
C317.4	AP	Develop the learners in successfully answering questions in interviews.
C317.5	AP	Make use of soft skills to maintain creative thinking, team work and sustainability in workplace.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO ₂
C317.1	0	0	0	0	0	0	0	0	3	3	0	0	2	2
C317.2	0	0	0	0	0	0	0	0	0	3	0	0	2	2
C317.3	0	0	0	0	0	0	0	0	0	3	0	0	2	2
C317.4	0	0	0	0	0	0	0	0	0	3	0	0	2	2
C317.5	0	0	0	0	0	0	0	0	3	3	0	0	2	2
C317	0	0	0	0	0	0	0	0	3	3	0	0	2	2

Course Code &Name: C401 – (CS6701 - CRYPTOGRAPHY AND NETWORK SECURITY)

REGULATION: R2013

YEAR/SEM: IV/VII

C401.1	AL	Examine the basics of number theory and compare various encryption techniques.
C401.2	AP	Utilize the functionality of public key cryptography.
C401.3	AP	Apply various message authentication functions and Design secure algorithms.
C401.4	AP	Choose different types of secure coding in the developed applications.
C401.5	AL	Classify different levels of security and services.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO ₂
C401.1	3	3	2	2	0	0	0	0	0	0	0	2	3	2
C401.2	3	3	3	2	0	0	0	0	0	0	0	3	3	2
C401.3	3	3	3	2	0	0	0	0	0	0	0	3	3	2
C401.4	3	3	3	2	0	0	0	0	0	0	0	3	3	2
C401.5	3	3	3	2	0	0	0	0	0	0	0	3	3	2
C401	3	3	3	2	0	0	0	0	0	0	0	3	3	2

Course Code &Name: C402 – (CS6702 - GRAPH THEORY)

REGULATION: R2013

YEAR/SEM: IV/VII

C402.1	AP	Apply the graph theory concept to design various types of tree methods in graph theory.
C402.2	AP	Make use of mathematical definitions to identify and construct examples and to distinguish examples from non-examples
C402.3	AP	Apply various methods using chromatic characteristics and plans graph.
C402.4	AP	Make use of the combination of theoretical knowledge and independent mathematical thinking
C402.5	AP	Solve the recurrence relation using to build the methods of generating function.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO ₂
C402.1	3	3	3	3	0	0	0	0	0	0	0	0	3	2
C402.2	3	3	2	3	0	0	0	0	0	0	0	0	2	2
C402.3	3	3	2	3	0	0	0	0	0	0	0	0	2	2
C402.4	3	3	2	3	0	0	0	0	0	0	0	0	2	2
C402.5	3	3	3	3	0	0	0	0	0	0	0	0	2	2
C402	3	3	2	3	0	0	0	0	0	0	0	0	2	2

Course Code &Name: C403 - (CS6703 - GRID AND CLOUD COMPUTING)

REGULATION: R2013

YEAR/SEM: IV/VII

C403.1	AL	Compare the Distributed Computing ,Grid and Cloud Architectures.
C403.2	AP	Apply grid computing techniques to solve large scale scientific problems
C403.3	AP	Apply the concepts of virtualization
C403.4	AP	Make use of grid and cloud tool kits
C403.5	AP	Apply the security models in the grid and cloud environment

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C403.1	3	3	2	2	0	0	0	0	0	0	0	3	3	2
C403.2	3	3	2	3	0	0	0	0	0	0	0	3	3	2
C403.3	3	3	3	3	0	0	0	0	0	0	0	3	3	3
C403.4	3	3	3	3	3	0	0	0	0	0	0	3	3	3
C403.5	3	3	3	3	2	0	0	0	0	0	0	3	3	3
C403	3	3	3	3	3	0	0	0	0	0	0	3	3	3

Course Code &Name: C404 - (CS6704 - RESOURCE MANAGEMENT TECHNIQUES)

REGULATION: R2013

YEAR/SEM: IV/VII

C404.1	AP	Make use of simplex method to solve optimization problems.
C404.2	AP	Apply the concept of duality to solve Shortest route problem
C404.3	E	Explain integer programming method.
C404.4	AP	Build the types of constraints and optimization methods.
C404.5	AP	Utilize PERT and CPM in project management.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO ₂
C404.1	3	3	2	3	3	0	0	0	0	0	3	3	0	0
C404.2	3	3	2	0	3	0	0	0	0	0	3	3	0	0
C404.3	3	2	1	0	2	0	0	0	0	0	3	3	0	0
C404.4	3	2	1	0	0	0	0	0	0	0	2	2	0	0
C404.5	3	3	2	3	3	0	0	0	0	0	3	3	0	0
C404	3	3	2	3	3	0	0	0	0	0	3	3	0	0

Course Code &Name: C405 - (CS6003 - AD HOC AND SENSOR NETWORKS)

REGULATION: R2013

YEAR/SEM: IV/VII

C405.1	AP	Apply the basic concepts of network architecture and applications of ad hoc and wireless sensor networks
C405.2	AL	Analyze the protocol design issues and different categories of MAC protocols
C405.3	AP	Select routing protocols for ad hoc and wireless sensor networks with respects to some protocol design issues
C405.4	AL	Categorize the sensor characteristics and WSN layer protocols
C405.5	AL	Analyze the Qos related performance measurements of ad hoc and sensor networks

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C405.1	3	2	3	1	0	0	0	0	0	0	0	3	3	2
C405.2	3	3	2	2	0	0	0	0	0	0	0	3	3	3
C405.3	3	3	2	2	2	0	0	0	0	0	0	3	3	3
C405.4	3	2	3	3	3	0	0	0	0	0	0	3	3	2
C405.5	3	3	3	2	2	0	0	0	0	0	0	3	3	3
C405	3	3	3	2	2	0	0	0	0	0	0	3	3	3

Course Code &Name: C406 – (CS6007 - INFORMATION RETRIEVAL)

REGULATION: R2013

YEAR/SEM: IV/VII

C406.1	AP	Apply information retrieval principles to locate relevant information in large collections of data
C406.2	AL	List the various information retrieval models
C406.3	AL	Examine the features of retrieval systems for web-based and other search tasks
C406.4	AL	Analyze the performance of retrieval systems using test collections
C406.5	AP	Make use of practical recommendations about deploying information retrieval systems in different search domains, including considerations for document management and querying

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C406.1	3	3	3	0	0	0	0	0	0	0	0	3	3	2
C406.2	3	3	3	3	0	0	0	0	0	0	0	3	2	2
C406.3	3	3	3	2	0	0	0	0	0	0	0	3	2	2
C406.4	3	3	3	3	0	0	0	0	0	0	0	3	2	2
C406.5	3	3	3	3	0	0	0	0	0	0	0	3	2	2
C406	3	3	3	3	0	0	0	0	0	0	0	3	2	2

Course Code &Name: C407 – (CS6711 - SECURITY LABORATORY)

REGULATION: R2013

YEAR/SEM: IV/VII

C407.1	C	Construct the cryptographic algorithms for data communication
C407.2	C	Develop the performance of various security algorithms
C407.3	C	Create the Digital signature for secure data transmission
C407.4	E	Select the different open source tools for network security and analysis
C407.5	C	Design intrusion detection system using network security tool.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C407.1	3	3	0	2	0	0	0	0	0	0	0	2	3	3
C407.2	3	3	3	3	2	0	0	3	3	3	0	2	3	2
C407.3	3	3	3	3	2	0	0	3	3	3	0	3	3	3
C407.4	3	3	2	2	2	0	0	2	3	2	0	3	3	3
C407.5	3	3	3	2	2	0	0	2	2	2	0	3	3	3
C407	3	3	3	2	2	0	0	3	3	3	0	3	3	3

Course Code &Name: C408 – (CS6712 - GRID AND CLOUD COMPUTING LABORATORY)

REGULATION: R2013

YEAR/SEM: IV/VII

C408.1	E	Select the Grid Toolkit.
C408.2	C	Design and Implement applications on Grid.
C408.3	E	Select the Cloud Toolkit
C408.4	C	Design and implement cloud applications on Cloud.
C408.5	C	Construct the applications according to the services.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C408.1	3	3	3	0	2	0	0	2	2	2	0	3	3	3
C408.2	2	3	2	0	3	0	0	3	2	2	0	3	3	3
C408.3	3	3	2	0	3	0	0	3	2	2	0	2	3	3
C408.4	3	3	3	0	3	0	0	2	0	0	0	3	3	2
C408.5	3	3	3	0	2	0	0	2	2	2	0	3	3	2
C408	3	3	3	0	3	0	0	2	2	2	0	3	3	3

Course Code &Name: C409 – (CS6801 - MULTI-CORE ARCHITECTURES AND PROGRAMMING)

REGULATION: R2013

YEAR/SEM: IV/VIII

C409.1	AL	Analyze the different types of Multi Core processors
C409.2	AP	Organize the Synchronization and data sharing with Communication threads
C409.3	AP	Develop the programs using Open MP and MPI program
C409.4	AP	Construct the distributed memory programming with MPI
C409.5	AL	Compare and contrast programming for serial and parallel Processor

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C409.1	3	3	3	2	0	0	0	0	0	0	0	0	3	2
C409.2	3	3	2	2	0	0	0	0	0	0	0	0	3	2
C409.3	3	3	2	3	0	0	0	0	0	0	0	3	3	2
C409.4	3	3	3	3	3	0	0	0	0	0	0	3	3	3
C409.5	3	3	3	3	3	0	0	0	0	0	0	3	3	2
C409	3	3	3	3	3	0	0	0	0	0	0	3	3	2

Course Code &Name: C410 – (IT6011 - KNOWLEDGE MANAGEMENT)

REGULATION: R2013

YEAR/SEM: IV/VIII

C410.1	AL	Examine the fundamental concepts in Evolution of knowledge management.
C410.2	AL	Inspect the importance of knowledge sharing.
C410.3	AP	Utilize the knowledge management tools for various applications.
C410.4	AP	Develop the knowledge management applications.
C410.5	AP	Develop enterprise knowledge management applications

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C410.1	3	3	2	0	0	0	0	0	0	0	0	2	3	2
C410.2	2	2	3	0	0	0	0	0	0	0	0	2	3	2
C410.3	3	3	3	2	0	0	0	0	0	0	0	3	3	2
C410.4	3	3	3	2	0	0	0	0	0	0	0	3	3	2
C410.5	3	3	3	2	0	0	0	0	0	0	0	3	3	2
C410	3	3	3	2	0	0	0	0	0	0	0	3	3	2

 $\underline{Course\ Code\ \&Name:}\ C411 - (MG6088\ -\ SOFTWARE\ PROJECT\ MANAGEMENT)$

REGULATION: R2013

YEAR/SEM: IV/VIII

C411.1	AL	Analyze the need for Software Project Management and control
C411.2	AL	Classify the various activities of project scheduling and evaluation
C411.3	AL	Contrast the risk assessment and management process
C411.4	AP	Build the different models of software process and network planning
C411.5	AP	Utilize the characteristic of organizational behaviors and management

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C411.1	3	2	2	0	0	0	0	0	0	0	0	2	3	2
C411.2	3	2	3	1	0	0	0	0	0	0	0	2	3	3
C411.3	3	3	3	2	0	0	0	0	0	0	0	3	3	2
C411.4	3	3	3	2	0	0	0	0	0	0	0	3	3	2
C411.5	2	3	3	2	0	0	0	0	0	0	0	3	3	0
C411	3	3	3	2	0	0	0	0	0	0	0	3	3	2

Course Code &Name: C412 - (CS6811 - PROJECT)

REGULATION: R2013
YEAR/SEM: IV/VIII

COURSE OUTCOMES

C412.1	E	Estimate the problem by applying acquired knowledge.
C412.2	С	Develop the executable project modules after considering risks
C412.3	E	Choose efficient tools for designing project modules.
C412.4	C	Combine all the modules through effective team work after efficient testing.
C412.5	С	Elaborate the completed task and compile the project report.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C412.1	3	2	2	2	2	0	0	2	- 3	2	0	3	3	2
C412.2	3	3	2	3	3	0	0	3	3	3	0	3	3	2
C412.3	3	3	3	3	3	0	2	3	3	3	0	3	2	2
C412.4	3	3	3	3	3	0	3	3	3	3	0	3	3	0
C412.5	3	3	3	3	3	0	3	3	3	3	0	3	3	0
C412.5	2	3	3	3	3	0	3	3	3	3	0	3	3	2

PRINCIPAL

GNANAMANI COLLEGE OF TECHNOLOGY,

NH-7, A.K. Samuthiram,

Pachal (Po), Namakkal-637 018

 ${\it Course\ Code\ \& Name:\ C101-(MA5160-Applied\ Probability\ and\ Statistics)}$

REGULATION: R2017

YEAR/SEM: I/ I

C101.1	AP	Apply the concept of random variable to find moments& moment generating functions of distributions.
C101.2	R	Find marginal, conditional distribution, statistical average for the standard probability function.
C101.3	R	Find the M.L.E and use the principle of least squares for curve fitting and regression lines.
C101.4	AP	Identify small, large samples and apply testing of hypothesis.
C101.5	AL	Analyze the multivariate methods for normal density and principal components from standardized variables.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C101.1	2	3	2	3	-	-	-	3	2	2	-	3	2	2
C101.2	2	3	2	3	-	-	-	-	-	-	-	3	2	2
C101.3	2	3	2	3	-	-	-	-	-	-	-	3	2	2
C101.4	3	3	-	-	-	1	-	-	1	-1	1	3	2	2
C101.5	3	3	3	2	-	-	-	3	3	3	-	3	3	3
C101	2.4	3	2.25	2.75	-	1	-	3	2.5	2.5	-	3	2.2	2.2

Course Code &Name: C102 - (CP5151 - Advanced Data Structures and Algorithms)

REGULATION: R2017

YEAR/SEM: I/ I

C102.1	AP	Find the usage of algorithms in computing.
C102.2	AP	Make Use of hierarchical data structures.
C102.3	E	Explain non-linear data structures with its application.
C102.4	E	Explain the Dynamic Programming concepts.
C102.5	U	Outline the NP Completeness of problem.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C102.1	2	3	2	3	-	-	-	-	-	1	1	3	2	2
C102.2	3	3	3	3	2	ı	ı	ı	ı	ı	ı	3	3	3
C102.3	3	2	1	ı	1	1	1	1	1	1	1	3	3	3
C102.4	3	2	1	ı	1	1	1	1	1	1	1	3	3	3
C102.5	ı	1	1	1	1	1	1	1	2	3	1	2	2	3
C102	2.75	2.5	1.75	3	2	-	-	-	2	3	-	2.8	2.6	2.8

Course Code &Name: C103 - (CP5152 - Advanced Computer Architecture)

REGULATION: R2017

YEAR/SEM: I/ I

C103.1	AP	Identify the limitations of ILP and the need for multicore architectures.
C103.2	AP	Discuss the various techniques used for optimizing cache performance and design of hierarchical memory system.
C103.3	AP	Ability to discuss issues on multiprocessors, cache coherence and interconnection Networks.
C103.4	E	Explain the architecture and workloads for warehouse scale computers.
C103.5	AP	Discuss the issues related to Vector Processing and how data level parallelism is exploited in architectures. GPU and software pipelining.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C103.1	3	3	-	-	-	-	-	-	-	-	-	3	2	2
C103.2	3	2	-	-	-	-	-	-	-	-	-	3	-	2
C103.3	3	2	-	-	-	-	-	-	-	-	-	3	-	2
C103.4	3	2	1	1	1	1	1	1	ı	1	1	3	3	3
C103.5	2	3	2	3	_	-	-	_	-	-	-	3	2	2
C103	2.8	2.4	1.5	3	-	-	-	-		-	-	3	2.3	2.2

Course Code &Name: C104 - (CP5153 - Operating System Internals)

REGULATION: R2017

YEAR/SEM: I/ I

C104.1	U	Understand how the processes are implemented in Linux.
C104.2	AP	Discuss the implementation of the Linux file system.
C104.3	E	Explain the Linux memory management data structures and algorithms.
C104.4	U	Outline the knowledge in the implementation of inter process communication.
C104.5	E	Explain how program execution happens in Linux.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C104.1	3	-	2	-	-	-	-	-	-	-	-	3	2	2
C104.2	2	3	2	3	-	-	-	-	-	-	-	3	2	2
C104.3	3	2	1	-	-	-	-	-	-	-	-	3	3	3
C104.4	-	-	-	-	-	-	-	-	2	3	-	2	2	3
C104.5	3	2	1	-	-	-	-	-	-	-	-	3	3	3
C104	2.75	2.3	1.5	3	-	-	-	-	2	3	-	2.8	2.4	2.6

Course Code &Name: C105 - (CP5154 - Advanced Software Engineering)

REGULATION: R2017

YEAR/SEM: I/ I

C105.1	U	Outline software life cycle models and project management.
C105.2	E	Explain the system analysis concepts.
C105.3	E	Explain the system design concepts.
C105.4	U	Outline the software testing approaches.
C105.5	U	Outline the DevOps practices.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C105.1	-	-	-	-	-	-	-	-	2	3	-	2	2	3
C105.2	3	2	1	-	-	-	-	-	-	-	-	3	3	3
C105.3	3	2	1	-	-	-	-	-	-	-	-	3	3	3
C105.4	-	-	-	ı	-	-	-	-	2	3	1	2	2	3
C105.5	-	_	-	-	_	-	-	_	2	3	-	2	2	3
C105	3	2	1		-	-	-	-	2	3	-	2.4	2.4	3

Course Code &Name: C106 - (CP5191 - Machine Learning Techniques)

REGULATION: R2017

YEAR/SEM: I/ I

C106.1	AP	Distinguish between, supervised, unsupervised and semi-supervised learning.
C106.2	AP	Apply the appropriate machine learning strategy for any given problem.
C106.3	E	Explain supervised, unsupervised or semi-supervised learning algorithms for any given problem.
C106.4	C	Design systems that uses the appropriate graph models of machine learning.
C106.5	C	Design existing machine learning algorithms to improve classification efficiency.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C106.1	3	3	3	3	1	1	1	1	1	1	-	3	3	3
C106.2	3	3	3	3	ı	ı	ı	ı	ı	ı	-	3	3	3
C106.3	3	2	1	1	1	1	1	1	1	1	-	3	3	3
C106.4	3	3	3	2	2	ı	ı	2	2	2	-	3	3	3
C106.5	3	3	3	2	2	1	- 1	2	2	2	-	3	3	3
C106	3	2.8	2.6	2.5	2	-	-	2	2	2	-	3	3	3

Course Code &Name: C107 - (CP5161 - Data Structures Laboratory)

REGULATION: R2017

YEAR/SEM: I/ I

C107.1	C	Design and implement basic data structures.
C107.2	C	Design and implement advanced data structures.
C107.3	C	Design and implement data structures using graphs.
C107.4	C	Design and develop Optimization Algorithms
C107.5	C	Design and develop Dynamic programming algorithms.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C107.1	3	3	3	2	2	1	1	2	2	2	1	3	3	3
C107.2	3	3	3	2	2	ı	ı	2	2	2	ı	3	3	3
C107.3	3	3	3	2	2	ı	ı	2	2	2	1	3	3	3
C107.4	3	3	3	2	2	ı	ı	2	2	2	1	3	3	3
C107.5	3	3	3	2	2	1	- 1	2	2	2		3	3	3
C107	3	3	3	2	2	-	-	2	2	2	•	3	3	3

Course Code &Name: C110 - (CP5201 - NETWORK DESIGN AND TECHNOLOGIES)

REGULATION: R2017

YEAR/SEM: I/ II

C110.1	E	Explain Multiplexing Techniques and Wired & Wireless scenarios.
C110.2	AL	Classify the types and functionality of Wireless Technologies.
C110.3	AL	Classify Mobility Management and Call Control of different Cellular Technologies.
C110.4	E	Explain the layers of 4G Network.
C110.5	E	Explain Infer functionalities of Software Defined Network.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C110.1	3	2	1	-	-	1	-	-	1	-1	1	3	3	3
C110.2	3	2	3	1	1	1	1	1	1	1	ı	2	3	3
C110.3	3	2	3	1	1	1	1	1	1	1	1	2	3	3
C110.4	3	2	1	1	1	1	1	1	ı	1	ı	3	3	3
C110.5	3	2	1	-	- 1	1	- 1	- 1	1	-	-	3	3	3
C110	3	2	1.8	1	-	-	-	-		-		2.6	3	3

Course Code &Name: C111 - (CP5291 - SECURITY PRACTICES)

REGULATION: R2017

YEAR/SEM: I/ II

C111.1	U	Understand the core fundamentals of system security.
C111.2	AP	Apply the security concepts related to networks in wired and wireless scenario.
C111.3	AP	Develop and Implement the security essentials in IT Sector.
C111.4	R	Explain the concepts of Cyber Security and encryption Concepts.
C111.5	E	Determine a thorough knowledge in the area of Privacy and Storage security and related Issues.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C111.1	3	3	3	2	-	-	-	-	-	1	1	3	3	2
C111.2	3	3	3	2	-	-	-	-	-	-	-	3	3	3
C111.3	3	3	3	1	1	1	1	2	3	3	1	3	3	3
C111.4	2	3	2	2	1	1	1	1	1	1	1	3	2	3
C111.5	3	3	3	2	2	2	-	3	2	2	- 1	3	3	3
C111	2.8	3	2.8	2	2	2	-	2.5	2.5	2.5	-	3	2.8	2.8

Course Code &Name: C112 - (CP5292 & INTERNET OF THINGS)

REGULATION: R2017

YEAR/SEM: I/ II

C112.1	AL	Analyze various protocols for IoT.
C112.2	C	Develop web services to access/control IoT devices.
C112.3	C	Design a portable IoT using Raspberry Pi.
C112.4	C	Develop an IoT application and connect to the cloud.
C112.5	AL	Analyze applications of IoT in real time scenario.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C112.1	3	3	3	1	-	-	-	3	2	2	-	3	3	3
C112.2	3	3	3	2	-	-	-	3	3	3	-	3	3	3
C112.3	3	3	3	2	-	-	-	3	3	3	-	3	3	3
C112.4	3	3	3	2	-	ı	-	3	3	3	-	3	3	3
C112.5	3	3	3	1	_	-	-	3	2	2	_	3	3	3
C112	3	3	3	1.6	-	-	-	3	2.6	2.6	-	3	3	3

Course Code &Name: C113 - (CP5293 - Big Data Analytics) REGULATION: R2017

YEAR/SEM: I/ II

C113.1	U	To understand the competitive advantages of big data analytics.
C113.2	U	To understand the big data frameworks.
C113.3	U	To Understand data analysis methods.
C113.4	U	To Understand stream computing.
C113.5	U	To Understand knowledge on Hadoop related tools such as HBase, Cassandra, Pig, and Hive for big data analytics.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C113.1	3	-	2	-	-	-	-	-	-	-	-	3	2	2
C113.2	3	-	2	ı	ı	ı	-	ı	ı	1	1	3	2	2
C113.3	3	-	2	ı	-	ı	-	-	-	ı	1	3	2	2
C113.4	3	-	2	ı	-	ı	-	-	1	1	1	3	2	2
C113.5	3	-	2	ı	-	ı	-	-	-	ı	1	3	2	2
C113	3	-	2	-	-	-	-	-	-	-	-	3	2	2

Course Code &Name: C114 - (CP5092 - Cloud Computing Technologies)

REGULATION: R2017

YEAR/SEM: I/ II

C114.1	E	Explain the concepts of storage virtualization, network virtualization and its management.
C114.2	AP	Apply the different levels of virtualization and resource management.
C114.3	E	Explain the architecture, infrastructure and delivery models of cloud computing.
C114.4	C	Develop applications using Hadoop framework.
C114.5	E	Explain the Infer the security models in the cloud environment.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C114.1	3	3	3	2	2	2	-	3	2	2	-	3	3	3
C114.2	3	3	3	2	-	-	-	-	-	-	-	3	3	3
C114.3	3	3	3	2	2	2	-	3	2	2	-	3	3	3
C114.4	3	3	3	2	-	-	-	3	3	3	-	3	3	3
C114.5	3	3	3	2	2	2	-	3	2	2	-	3	3	3
C114	3	3	3	2	2	2	-	3	2.25	2.25	-	3	3	3

Course Code &Name: C115 - (CP5094/ Information Retrieval Techniques)

REGULATION: R2017

YEAR/SEM: I/ II

C115.1	E	Explain about the IR basic concepts and its components.
C115.2	AP	Identify various information retrieval models.
C115.3	E	Explain the indexing and query operations.
C115.4	U	Demonstrate document text mining techniques and clustering Algorithms.
C115.5	E	Explain the Web Search Engine Framework.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C115.1	3	3	3	2	2	2	-	3	2	2	-	3	3	3
C115.2	3	3	3	2	-	2	-	-	ı	-	1	2	3	3
C115.3	3	3	3	2	2	2	-	3	2	2	-	3	3	3
C115.4	3	3	3	2	2	2	-	3	2	2	-	3	3	3
C115.5	3	3	3	2	2	2	_	3	2	2	-	3	3	3
C115	3	3	3	2	2	2	-	3	2	2	-	3	3	3

Course Code &Name: C116 - (CP5261 - Data Analytics Laboratory) REGULATION: R2017

YEAR/SEM: I/ II

C116.1	C	Design and implement map Reduce programs for processing big data.
C116.2	AP	Define To realize storage of big data using H base, Mongo DB.
C116.3	AL	To analyze big data using linear models.
C116.4	AL	To analyze big data using machine learning techniques such as SVM / Decision tree.
C116.5	AL	To analyze big data using machine learning techniques such as classification and Clustering.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C116.1	3	3	ı	2	ı	ı	-	ı	ı	ı	ı	2	3	3
C116.2	3	3	2	2	2	ı	-	ı	ı	ı	ı	3	3	3
C116.3	3	3	2	2	ı	ı	-	ı	ı	ı	ı	3	3	3
C116.4	3	3	2	2	ı	ı	-	ı	ı	ı	ı	3	3	3
C116.5	3	3	2	2	- 1	-	-	- 1	-	-	-	3	3	3
C116	3	3	2	2	2	-	-	-	1	-	-	2.8	3	3

Course Code &Name: C117 - (CP5281 - Term Paper Writing and Seminar)

REGULATION: R2017

YEAR/SEM: I/ II

C117.1	AP	Identify the Domain Specific Objective
C117.2	E	Explain the Literature Survey
C117.3	AL	Analyzing different Methodologies
C117.4	AL	Analyze the Produce final draft of the Research Paper
C117.5	E	Explain to Prepare presentation for the research undergone

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C117.1	3	3	2	2	2	ı	ı	ı	ı	ı	ı	3	3	3
C117.2	3	3	2	2	2	ı	ı	ı	ı	ı	ı	3	3	3
C117.3	3	3	2	2	ı	ı	ı	ı	ı	ı	ı	3	3	3
C117.4	3	3	2	2	ı	ı	ı	ı	ı	ı	ı	3	3	3
C117.5	3	3	3	2	2	2	1	3	2	2	1	3	3	3
C117	3	3	2.2	2	2	2	•	3	2	2	1	3	3	3

Course Code &Name: C201 - (CP5005 - Software Quality Assurance and Testing)

REGULATION: R2017

YEAR/SEM: II/ III

C201.1	U	Understand the basics of testing, test planning & design
C201.2	E	Explain the various types of tests
C201.3	E	Explain the different categories of system test
C201.4	U	Outline the software quality metrics and standards
C201.5	E	Explain the quality assurance techniques and activities

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C201.1	3	3	3	2	-	-	-	-	-	-	-	3	3	2
C201.2	3	3	3	2	2	2	-	3	2	2	-	3	3	3
C201.3	3	3	3	2	2	2	-	3	2	2	1	3	3	3
C201.4	3	3	3	2	1	1	-	1	1	1	1	3	3	2
C201.5	3	3	3	2	2	2	_	3	2	2	-	3	3	3
C201	3	3	3	2	2	2	-	3	2	2	-	3	3	2.6

Course Code &Name: C202 - (CP5074 - Social Network Analysis)

REGULATION: R2017

YEAR/SEM: II/ III

C202.1	U	Understand the components of the social network
C202.2	E	Explain the model and visualize the social network
C202.3	U	Understand mine the users in the social network
C202.4	U	understand the evolution of the social network
C202.5	E	Explain the applications in real time systems

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C202.1	3	3	3	2	-	-	-	-	-	-	-	3	3	2
C202.2	3	3	3	2	2	2	-	3	2	2	-	3	3	3
C202.3	3	3	3	2	-	-	-	-	-	-	1	3	3	2
C202.4	3	3	3	2	1	1	1	1	1	-	1	3	3	2
C202.5	3	3	3	2	2	2	-	3	2	2	-	3	3	3
C202	3	3	3	2	2	2	-	3	2	2	-	3	3	2.4

Course Code &Name: C203 - (CP5076 - Information Storage Management)

REGULATION: R2017

YEAR/SEM: II/ III

C203.1	U	To understand the storage architecture and available technologies.
C203.2	U	Understand learn to establish & manage data centre.
C203.3	U	To understand Networked Storage
C203.4	U	Outline to learn information availability, monitoring & managing Data centers
C203.5	U	Outline to learn security aspects of storage & data centre.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C203.1	3	3	3	2	-	-	-	-	-	-	-	3	3	2
C203.2	3	3	3	2	-	-	-	-	-	-	-	3	3	2
C203.3	3	3	3	2	-	-	-	-	-	-	-	3	3	2
C203.4	3	3	3	2	-	-	-	-	-	ı	1	3	3	2
C203.5	3	3	3	2	_	-	-	_	_	-	-	3	3	2
C203	3	3	3	2	-	-	-	-	-	-	-	3	3	2

Course Code & Name: $C119 - (CP5311-Project\ Work\ (Phase-I))$

REGULATION: R2017

YEAR/SEM: II/ III

C119.1	AP	Identify the problem by applying acquired knowledge
C119.2	AP	Construct and organize executable project modules through proper designing
C119.3	E	Choose efficient tools for implementation of the designed modules
C119.4	AL	Analyze and categorize the outcomes of the implementation and derive inferences.
C119.5	AL	Examine the completed task and compile the project report

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C119.1	3	3	3	3	-	-	-	-	ı	-	1	2	3	3
C119.2	3	3	3	3	-	-	-	-	-	-	-	2	3	3
C119.3	3	3	3	2	2	-	-	2	2	2	1	2	3	3
C119.4	3	3	3	3	1	1	-	1	1	1	1	3	3	2
C119.5	3	3	3	3	_	-	_	_	-	-	-	3	3	2
C119	3	3	3	2.8	2	-	-	2	2	2	-	2.4	3	2.6

Course Code &Name: C217 - (CP5411 - Project Work (Phase- II))

REGULATION: R2017

YEAR/SEM: II/ IV

COURSE OUTCOMES

C217.1	AP	Plan and construct improved methods for an identified problem by applying acquired knowledge
C217.2	AP	Experiment and Develop effective solutions through proper designing
C217.3	AL	Analyze and categorize the outcomes of the implementation and derive inferences
C217.4	AL	Analyze the acquired outcomes based on evaluation metrics
C217.5	AL	Examine the completed task and compile the project report

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C217.1	3	3	3	2	_	2	_	-	_					1502
C217.2	3	2	2						_		•	3	3	3
	3	3	3	2	-	2	-	-	-	_ =	-	3	3	3
C217.3	3	3	3	2	-	2	-	_	-	_		2	2	
C217.4	3	3	3	2		2		_				3	3	3
C217.5	2	_							-	-	-	3	3	3
	3	3	3	2	-	2	-	-	-	-	-	3	3	3
C217	3	3	3	2	-	2	-	-	-	-	-	3	3	3

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