



NEW PRINCE SHRI BHAVANI COLLEGE OF ENGINEERING AND TECHNOLOGY

Affiliated to Anna University | Approved by AICTE | Accredited by NAAC
Tambaram - Velachery Main Road, Santhosapuram, Chennai-600 073.



DEPARTMENT OF INFORMATION TECHNOLOGY

3.1.1 COURSE OUTCOME

REGULATION 2017

After successful completion of the course, student will be able to

Course Name: C101

Year Of Study: 2019-2020

Semester: I

Subject Code/Subject Name: - HS8151 COMMUNICATIVE ENGLISH

CO	STATEMENT
C101.1	Apply various Question types and Parts of Speech
C101.2	Write Paragraphs and Short Narrative Descriptions
C101.3	Write Coherent Paragraph with wide range of Vocabulary
C101.4	Write Personal Letter /Email without Grammatical Errors
C101.5	Write Short Essays and Dialogues

Course Name: C102

Year of Study: 2019-2020

Semester: I

Subject Code & Subject Name: MA8151- ENGINEERING MATHEMATICS-I

CO	STATEMENT
C102.1	Analyze the types of functions and differentiation rules for real life Engineering problems.
C102.2	Apply the concepts of partial derivatives and total derivatives in Taylor's series, Jacobians and maxima and minima of functions.
C102.3	Apply the rule of integration in various functions.
C102.4	Evaluate the double and triple integrals for finding area and volume of different plane surfaces.
C102.5	Solve the higher order differential equations of different types for engineering applications.



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Course Name: C103

Year Of Study: 2019-2020

Semester: I

Subject Code/Subject Name: PH8151- ENGINEERING PHYSICS

CO	STATEMENT
C103.1	Summarize the basic properties of matter and its applications
C103.2	Explain the concept of waves, LASERs and Fibre optics
C103.3	Describe the thermal properties of materials and device applications
C103.4	Apply the concepts of Physics in Quantum theory and its application in electronmicroscopes
C103.5	Explain the types of crystal structures and crystal growth techniques

Course Name: C104

Year of Study: 2019-2020

Semester: I

Subject Code & Subject Name: CY8151- ENGINEERING CHEMISTRY

CO	STATEMENT
C104.1	Describe the type of factors present in boilers and the method used to treat hardwater
C104.2	Explain the factors affecting the rate of adsorption and catalytic activity
C104.3	Apply the concept of phase rule, its various phase diagrams and able to predict the low melting alloy
C104.4	Summarize the various solid, liquid and gaseous fuels manufacturing methods and basic reactions involved in combustion reaction
C104.5	Describe the types of batteries their reactions and the significance of storage renewable energy resource



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Course Name: C105

Year Of Study: 2019-2020

Semester: I

Subject Code/Subject Name: GE8151- PROBLEM SOLVING AND PYTHON PROGRAMMING

CO	STATEMENT
C105.1	Solve simple computational problems using notations.
C105.2	Write python programs using statements and expressions.
C105.3	Apply control flow and function concepts in user defined problems.
C105.4	Apply python data structure – list, tuples, and dictionaries for compound data.
C105.5	Describe file handling in python for solving problems.

Course Name: C106

Year of Study: 2019-2020

Semester: I

Subject Code & Subject Name: GE8152- ENGINEERING GRAPHICS

CO	STATEMENT
C106.1	Draw the various curves used in Engineering practices.
C106.2	Draw the Projections of straight lines which are inclined to both horizontal and vertical planes.
C106.3	Draw the Projection of solids inclined to one plane and parallel to other plane
C106.4	Draw the projection of sectioned solids and draw the development of lateral surfaces of a solid
C106.5	Draw the isometric and perspective projection of simple solids



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Course Name: C107

Year Of Study: 2019-2020

Semester: I

Subject Code/Subject Name: GE8161- PROBLEM SOLVING AND PYTHON PROGRAMMING

LABORATORY

CO	STATEMENT
C107.1	Write a python program for simple computational problems.
C107.2	Write a python program with conditionals and loops.
C107.3	Write a python program stepwise by defining functions and calling them.
C107.4	Write a python program using lists, tuples, and dictionaries for representing compound data.
C107.5	Write a python program for read and write data from to files in python.

Course Name: C108

Year of Study: 2019-2020

Semester: I

Subject Code & Subject Name: BS8161- PHYSICS AND CHEMISTRY LABORATORY

CO	STATEMENT
C108.1	Calculate the young's and rigidity modules of various objects by uniform, non-uniform bending and torsional oscillation and cantilever method.
C108.2	Calculate the wavelength of laser, particle size and acceptance angle, groove width of optical fiber and velocity of sound in liquids using grating and ultrasonic Interferometer.
C108.3	Calculate the bandgap of a semiconductor by post office box, thickness of wire by air wedge and thermal conductivity of a bad conductor by Lee's disc method.
C108.4	Determination of total, temporary and permanent hardness, DO content, Chloride, alkalinity, sodium and potassium in water.
C108.5	Estimation of iron content using potentiometer, strength of acid and mixture of acids using conductivity meter, strength of acid by pH meter, molecular weight and polyvinyl alcohol using Ostwald viscometer.



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Course Name: C109

Year of Study: 2020-2021

Semester: II

Subject Code & Name: HS8251 TECHNICAL ENGLISH

CO	STATEMENT
C109.1	Write Checklist & Recommendations Technically
C109.2	Write letters & Emails and Interpretation of Charts & Graphs
C109.3	Describe any process both in general and technical way
C109.4	Write the job application with Resume & Cover Letter and different kinds of Essays
C109.5	Write the Minutes & Reports of events

Course Name: C110

Year Of Study: 2020-2021

Semester: II

Subject Code/Subject Name: MA8251 ENGINEERING MATHEMATICS II

CO	STATEMENT
C110.1	Apply Cayley- Hamilton theorem and orthogonal transformation for different process of matrices.
C110.2	Solve line, surface and volume integrals using various theorems.
C110.3	Analyze the properties and mappings for constructing analytic functions.
C110.4	Evaluate the complex and contour integral using Cauchy's theorem.
C110.5	Solve differential equations of different order using the concepts of Laplace transforms.



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Course Name: C111

Year of Study: 2020-2021

Semester: II

Subject Code & Name: PH8252- PHYSICS FOR INFORMATION SCIENCE

CO	STATEMENT
C111.1	Explain the significance of free electron theories and energy band structures
C111.2	Apply the basics of semiconductor physics and its applications in various devices
C111.3	Comprehend the different magnetic properties of materials and their applications in data storage
C111.4	Summarize the functioning of optical materials for opto-electronic devices
C111.5	Describe the basics of quantum structures and their applications in nano electronics

Course Name: C116

Year Of Study: 2020-2021

Semester: II

Subject Code/Subject Name CS8251- PROGRAMMING IN C

CO	STATEMENT
C116.1	Describe the basic construct and syntax of C programming.
C116.2	Write Programs using arrays and strings.
C116.3	Write Programs using functions and pointers.
C116.4	Apply the concept of union and structure for user defined problems.
C116.5	Describe the file handling in C.



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Course Name: C117

Year of Study: 2020-2021

Semester: II

Subject Code & Name: IT8201- INFORMATION TECHNOLOGY ESSENTIALS

CO	STATEMENT
C117.1	Describe the website creation, working of website and types of servers.
C117.2	Explain the client side scripting, server side scripting and PHP basics.
C117.3	Summarize the essential concepts of networking.
C117.4	Explain the conception of cell phone fundamentals, generation of cellular networks, and cellphone network technologies.
C117.5	Describe the database applications, information systems and social networking applications.

Course Name: C126

Year Of Study: 2020-2021

Semester: II

Subject Code/Subject Name BE8251- BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

CO	STATEMENT
C126.1	Explain the basic theorems of Electrical circuits, concepts of measuring instruments.
C126.2	Explain the construction, working principles and applications of electrical machines.
C126.3	Comprehend the construction, working of electronic circuits.
C126.4	Explain the principles of digital electronics.
C126.5	Comprehend the concepts in communication.



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Course Name: C127

Year of Study: 2020-2021

Semester: II

Subject Code & Name: GE261- ENGINEERING PRACTICES LABORATORY

CO	STATEMENT
C127.1	Summarize the Plumbing and carpentry of Residential and Industrial buildings.
C127.2	Design of Different joints using Welding work.
C127.3	Demonstrate of foundry operations and fitting models.
C127.4	Design of Residential house wiring soldering practice of component using
C127.5	Estimate the measurement of electrical quantities of energy resistance, ripple factor for HWR and IWR

Course Name: C128

Year of Study: 2021-2022

Semester: II

Subject Code & Name: CS261- C PROGRAMING LABORATORY

CO	STATEMENT
C128.1	Write Programs using basic constructs.
C128.2	Write Programs using arrays and strings.
C128.3	Write Programs using function and recursive function.
C128.4	Write Programs using union and structure for user defined problems
C128.5	Write Programs using file handling methodologies in C.



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Course Name: C129

Year Of Study: 2020-2021

Semester: II

Subject Code/Subject Name IT8211- INFORMATION TECHNOLOGY ESSENTIALSLABORATORY

CO	STATEMENT
C129.1	Analyze the concepts of sampling, mean and variance using various tests.
C129.2	Analyze the concepts of design of experiments using ANOVA.
C129.3	Solve the algebraic and numerical equations using numerical techniques.
C129.4	Evaluate the numerical differentiation and integration using different methods.
C129.5	Solve the first order differential equations using various methods.



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3.1.1 COURSE OUTCOME

REGULATION 2021

After successful completion of the course, student will be able to

Course Name: C201

Year Of Study: 2020-2021

Semester: III

Subject Code/Subject Name: MA8351-DISCRETE MATHEMATICS

CO	STATEMENT
C201.1	Apply the concepts of logic theory to construct the truth table, mathematical arguments and different methods of proofs.
C201.2	Apply the concepts of mathematical induction, pigeonhole principle, permutation and combination to solve the real life problems.
C201.3	Analyze the definitions and different types of graphs
C201.4	Analyze the concepts and properties of algebraic structures.
C201.5	Analyze the algebraic properties of lattices and Boolean algebra.

Course Name: C202

Year of Study: 2020-2021

Semester: III

Subject Code & Subject Name: CS8351-DIGITAL PRINCIPLES AND SYSTEM DESIGN

CO	STATEMENT
C202.1	Apply Boolean Algebra and simplification procedures relevant to digital logic.
C202.2	Design various combinational digital circuits using logic gates.
C202.3	Design synchronous sequential circuits.
C202.4	Design Asynchronous Sequential circuits.
C202.5	Design Programmable devices using logic gates.



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Course Name: C203

Year of Study: 2020-2021

Semester: III

Subject Code & Subject Name: CS8391 DATA STRUCTURES

CO	STATEMENT
C203.1	Describe linear data structures using array and linked list
C203.2	Explain the data structures like stacks, queues in linear data structure.
C203.3	Apply non-linear data structure's trees and its applications
C203.4	Apply various algorithms in graph
C203.5	Analyze searching, sorting and hashing techniques in data structures.

Course Name: C204

Year of Study: 2020-2021

Semester: III

Subject Code & Subject Name: CS8392 OBJECT ORIENTED PROGRAMMING

CO	STATEMENT
C204.1	Summarize the basics concepts of object oriented programming.
C204.2	Explain the Various Classification of Inheritance, String and Interface
C204.3	Write Java Program with Exception and Streams
C204.4	Analyze Multi Thread and Generic Classes in Java Program
C204.5	Apply Graphics and Event Handlers In Java Program



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Course Name: C205

Year of Study: 2020-2021

Semester: III

Subject Code & Subject Name: EC8394-ANALOG AND DIGITAL COMMUNICATION

CO	STATEMENT
C205.1	Explain the analog communication techniques.
C205.2	Comprehend the pulse and data communication techniques.
C205.3	Summarize the digital communication techniques.
C205.4	Apply the concepts of source and error control coding in communication.
C205.5	Explain the concepts of multi-user radio communication.

Course Name: C206

Year of Study: 2020-2021

Semester: III

Subject Code & Subject Name: CS8381 DATA STRUCTURES LABORATORY

CO	STATEMENT
C206.1	Apply Stack, Queue and List ADT's operation for solving a given problem.
C206.2	Solve various applications like traversal, insertion, deletion on tree data structure.
C206.3	Solve various application using graph algorithms.
C206.4	Evaluate various kinds of searching and sorting techniques.
C206.5	Apply appropriate hashing techniques for the given problem.



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Course Name: C207 **Year of Study:** 2020-2021

Semester: III

Subject Code & Subject Name: CS8383 OBJECT ORIENTED PROGRAMMING

LABORATORY

CO	STATEMENT
C207.1	Write Java Application using Classes and Interface
C207.2	Write Java Program to Perform String Operations using Array List and Abstract Class
C207.3	Write a java Program using Exception Handling, File and Multithreading
C207.4	Write a java Program using generic functions and event driven program paradigm
C207.4	Create an Application using java Program.

Course Name: C208 **Year of Study:** 2020-2021

Semester: III

Subject Code & Subject Name: CS8382-DIGITAL SYSTEMS LABORATORY

CO	STATEMENT
C208.1	Design of communication circuits using basic gates for arbitrary functions, code converter.
C208.2	Design of half/full adder and half/full subtractor.
C208.3	Design of combinational circuits using MSI devices.
C208.4	Design of shifts registers and counters.
C208.5	Design of combinational and sequential circuits using HDL.



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Course Name: C209

Year of Study: 2020-2021

Semester: III

Subject Code & Subject Name: HS8381 INTERPERSONAL SKILLS/LISTENING &
SPEAKING

CO	STATEMENT
C209.1	Comprehend information through listening to give appropriate response.
C209.2	Apply Speaking techniques with correct pronunciation on stress and intonation.
C209.3	Apply informal talk accurately and fluently using lexical chunks.
C209.4	Analyze group discussion in professional contexts.
C209.5	Analyze formal and informal talk through presentations in the form of business and academic context.

Course Name: C210

Year Of Study: 2020-2021

Semester: IV

Subject Code & Subject Name: MA8391-PROBABILITY & STATISTICS

CO	STATEMENT
C210.1	Apply the concepts of probability and distributions in real time problems.
C210.2	Analyze the concepts of two dimensional random variables.
C210.3	Analyze the concepts of two sampling ,mean and variance using various tests
C210.4	Analyze the concepts of design of experiments using ANOVA.
C210.5	Apply the control charts for measurements in statistical quality control.



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Course Name: C211

Year of Study: 2020-2021

Semester: IV

Subject Code & Subject Name: CS8491 COMPUTER ARCHITECTURE

CO	STATEMENT
C211.1	Summarize the basic structure of computers, instructions and MIPS addressing.
C211.2	Apply the Arithmetic and Logic Unit.
C211.3	Describe the pipelined execution and various hazards in processor and control unit.
C211.4	Comprehend different parallel processing architectures and multi core processors.
C211.5	Describe various memory technologies and Input / Output Devices.

Course Name: C212

Year of Study: 2020-2021

Semester: IV

Subject Code & Subject Name: CS8492 DATABASE MANAGEMENT SYSTEMS

CO	STATEMENT
C212.1	Describe the fundamental concepts of relational database and SQL
C212.2	Apply relational model from E-R model to perform database design effectively and optimize queries using normalization criteria.
C212.3	Summarize the properties of transaction and concurrency control mechanism.
C212.4	Apply the various indexing strategies in different database systems, various storage
C212.5	Explain the advanced databases like distributed databases, object based databases and XML databases.



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Course Name: C213

Year of Study: 2020-2021

Semester: IV

Subject Code & Subject Name: CS8451 DESIGN AND ANALYSIS OF ALGORITHMS

CO	STATEMENT
C213.1	Describe the Fundamental concepts of problem solving and analysis techniques of an algorithm.
C213.2	Design an algorithm for various computing problems.
C213.3	Analyze the efficiency of alternative algorithmic solutions for the same problems.
C213.4	Analyze the different algorithm design techniques for a given problem.
C213.5	Summarize the limitations of algorithmic power for improve an efficiency.

Course Name: C214

Year of Study: 2020-2021

Semester: IV

Subject Code & Subject Name: CS8493 OPERATING SYSTEMS

CO	STATEMENT
C214.1	Comprehend the basic concepts and functions of operating systems.
C214.2	Apply various CPU scheduling algorithms, synchronization primitives and deadlock, handling methods.
C214.3	Apply the various memory management schemes and page replacement algorithms.
C214.4	Apply the various disk scheduling algorithms, file systems implementation, protection and security mechanism.
C214.5	Describe the basics of Linux systems and mobile OS like IOS and Android.



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Course Name: C215

Year of Study: 2020-2021

Semester: IV

Subject Code & Subject Name: GE8291 ENVIRONMENTAL SCIENCE & ENGINEERING

CO	STATEMENT
C215.1	Describe about the Environment, Ecosystem and the importance of biodiversity.
C215.2	Summarize Environmental pollution and importance of public participation in environmental protection.
C215.3	Create awareness on the natural resources and its benefits.
C215.4	Analyze the impact of engineering solution in environmental problem, social issues and need for sustainable development.
C215.5	Analyze the standard of living and realize the serious environmental disasters.

Course Name: C216

Year of Study: 2020-2021

Semester: IV

Subject Code & Subject Name: CS8481 DATABASE MANAGEMENT SYSTEMS

LABORATORY

CO	STATEMENT
C216.1	Outline data definition and data manipulation commands
C216.2	Compare nested and join queries
C216.3	Explain simple applications that use views
C216.4	Apply various DBMS concepts to create front end tools
C216.5	Construct and maintain tables using triggers and functions



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Course Name: C217

Year of Study: 2020-2021

Semester: IV

Subject Code & Subject Name: CS 8461 OPERATING SYSTEMS LABORATORY

CO	STATEMENT
C217.1	Write basics unix commands, shell programming and simulate UNIX commands using C program.
C217.2	Write C program to implement various scheduling algorithms, semaphores and shared memory and IPC
C217.3	Write C program using Bankers algorithm for Deadlock detection and avoidance
C217.4	Write C program for the implementation of Memory Allocation, Memory Management and Page Replacement Algorithms.
C217.5	Write C program to implement various file organization and allocation strategies.

Course Name: C218

Year of Study: 2020-2021

Semester: IV

Subject Code & Subject Name: HS8461 ADVANCED READING AND WRITING

CO	STATEMENT
C218.1	Write a descriptive paragraph in different types.
C218.2	Analyze reasons and supporting ideas through paragraph writing.
C218.3	Write different types of essays.
C218.4	Write emails, Jole application with resume, project and proposals.
C218.5	Apply critical thinking in various professional contexts.



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Course Name: C301

Year Of Study: 2021-2022

SEMESTER: V

Subject Code & Subject Name: MA8551-ALGEBRA & NUMBER THEORY

CO	STATEMENT
C301.1	Analyze the notations and properties of Algebraic structures such as groups, rings and fields
C301.2	Analyze the polynomial rings and irreducible polynomials over finite fields
C301.3	Apply the division algorithm and fundamental theorems on prime numbers
C301.4	Apply the congruence relation in number theory to solve the real life problems.
C301.5	Analyze the concepts of multiplicative functions and classical theorems

Course Name: C302

Year of Study: 2021-2022

Semester: V

Subject Code & Subject Name: CS8591 & COMPUTER NETWORKS

CO	STATEMENT
C302.1	Comprehend the protocol layers and physical level communication.
C302.2	Explain the concepts of data link layer and media access protocols.
C302.3	Apply various components of network to measure its performance.
C302.4	Apply various protocols of transport layer to check the transmission performance.
C302.5	Comprehend the protocols of application layer.



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Course Name: C303 **Year of Study:** 2021-2022

Semester: V

Subject Code & Subject Name: EC8691 MICROPROCESSORS AND MICROCONTROLLERS

CO	STATEMENT
C303.1	Explain the internal architecture of 8086 microprocessor.
C303.2	Explain the system bus structure of 8086 microprocessor.
C303.3	Apply the memory and input/output interfacing concepts to 8086 microprocessor based systems.
C303.4	Comprehend the architecture of 8051 microcontroller.
C303.5	Apply the interfacing concepts to 8051 microcontroller based systems.

Course Name: C304 **Year of Study:** 2021-2022

Semester: V

Subject Code & Subject Name: IT8501 WEB TECHNOLOGY

CO	STATEMENT
C304.1	Explain the concepts of web and the basics of markup languages.
C304.2	Design interactive web pages using style sheets and Java script.
C304.3	Apply Java programs for server side web pages to process client request.
C304.4	Apply XML and XSLT for representing web data and JSP for web application.
C304.5	Comprehend various web services and their interactions.



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Course Name: C305

Year of Study: 2021-2022

Semester: V

Subject Code & Subject Name: CS8494 SOFTWARE ENGINEERING

CO	STATEMENT
C305.1	Summarize the Software process and Agile Development.
C305.2	Describe the Requirement process and their specifications.
C305.3	Apply systematic procedure for software design.
C305.4	Apply systematic procedure for software Testing, Deployment and Maintenance.
C305.5	Describe the Project Planning and Management process.

Course Name: C313

Year of Study: 2021-2022

Semester: V

Subject Code & Subject Name: OCE552 GEOGRAPHIC INFORMATION SYSTEM

CO	STATEMENT
C313.1	Summarize the fundamentals of GIS
C313.2	Explain the information categories of data models.
C313.3	Describe the kinds of Data inputs and Topologies.
C313.4	Analyze the GIS Data by using Data Analytical tools.
C313.5	Design the Application and case studies of GIS.



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Course Name: C331 **Year of Study:** 2021-2022 **Semester:** V

Subject Code & Subject Name: EC8681 MICROPROCESSORS AND
MICROCONTROLLERS LAB

CO	STATEMENT
C331.1	Write ALP to perform arithmetic and logical operations with 8086 processor.
C331.2	Analyze the interfacing of I/O with 8086 processor.
C331.3	Write ALP to perform arithmetic and logical operations with 8051.
C331.4	Analyze the interfacing of I/O with 8051 microcontroller.
C331.5	Write a program to perform arithmetic and logical operations using MASM.

Course Name: C332 **Year of Study:** 2021-2022 **Semester:** V

Subject Code & Subject Name: CS8581 NETWORKS LABORATORY

CO	STATEMENT
C332.1	Analyze the basic commands using network protocol.
C332.2	Write a program using TCP sockets to download webpage, chat and file transfer.
C332.3	Write a program to stimulate using UDP sockets and ARP/RARP protocols.
C332.4	Write a program using network simulator for congestion control and TCP/UDP performance.
C332.5	Write a program using simulation tool for routing algorithm and CRC.



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Course Name: C333

Year of Study: 2021-2022

Semester: V

Subject Code & Subject Name: IT8511 WEB ECHNOLOGY LABORATORY

CO	STATEMENT
C333.1	Design simple web page using markup languages like HTML and XHTML.
C333.2	Design Dynamic Web page using DHTML and Javascripts.
C333.3	Write programs for server side web pages that have to process request from client side web pages.
C333.4	Design web pages using JSP and represent web data using XML.
C333.5	Design various web services and their interaction

Course Name: C334

Year of Study: 2021-2022

Semester: VI

Subject Code & Subject Name: IT8061 COMPUTATIONAL INTELLIGENCE

CO	STATEMENT
C334.1	Summarize the concepts of AI and Expert system
C334.2	Describe the various search strategies and reasoning
C334.3	Summarize the concepts of fuzzy logic and neural networks
C334.4	Describe the various Learning methods in AI
C334.5	Analyze concept of Natural language processing and Machine learning



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Course Name: C335

Year of Study: 2021-2022

Semester: VI

Subject Code & Subject Name: CS8592 OBJECT ORIENTED ANALYSIS AND DESIGN

CO	STATEMENT
C335.1	Summarize the fundamentals of object oriented model with UML diagram.
C335.2	Analyze various software requirements to design static UML diagram.
C335.3	Evaluate UML dynamic and implementation diagram.
C335.4	Apply UML based software design in to pattern based design using design patterns.
C335.5	Analyze the various testing methodologies for object oriented software.

Course Name: C336

Year of Study: 2021-2022

Semester: VI

Subject Code & Subject Name: IT8602 MOBILE COMMUNICATION

CO	STATEMENT
C336.1	Explain the basic of mobile telecommunication system
C336.2	Solve the Generation of telecommunication system an wireless network
C336.3	Summarize the architecture on wireless Lan technology
C336.4	Describe the functionality of network layer and identified the routing protocol for given ad hoc network
C336.5	Explain the functionality of transport and application layer



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Course Name: C337

Year of Study: 2021-2022

Semester: VI

Subject Code & Subject Name: CS 8091 BIG DATA ANALYTICS

CO	STATEMENT
C337.1	Summarize the concepts of Big data, Analytics and Big data tools.
C337.2	Analyze Big Data by using clustering and classification Algorithms.
C337.3	Evaluate Association Rule mining Algorithm and Recommendation Systems for large volumes of data.
C337.4	Analyze Big data using stream computing and Real time Analytical platforms.
C337.5	Comprehend NOSQL Databases and Visualization.

Course Name: C338

Year of Study: 2021-2022

Semester: VI

Subject Code & Subject Name: CS8092 COMPUTER GRAPHICS AND MULTIMEDIA

CO	STATEMENT
C338.1	Describe the concepts of illumination and color model techniques.
C338.2	Analyze two dimensional geometric transformation and clipping techniques.
C338.3	Apply three dimensional transformations and viewing techniques.
C338.4	Summarize different types of multimedia file format.
C338.5	Design basic 3D Scenes using Blender Graphics.



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Course Name: C339

Year of Study: 2021-2022

Semester: VI

Subject Code & Subject Name: IT8076 SOFTWARE TESTING

CO	STATEMENT
C339.1	Summarize The Basic Concepts Of Software Principles And Defects.
C339.2	Comprehended various test cases design strategies.
C339.3	Analyze different level of testing.
C339.4	Describe the test plan and test management techniques.
C339.5	Summaries test automation techniques.

Course Name: C346

Year of Study: 2021--2022

Semester: VI

Subject Code & Subject Name: CS8662 MOBILE APPLICATION DEVELOPMENT

LABORATORY

CO	STATEMENT
C346.1	Create mobile application using GUI and layouts, Event Listeners graphical Primitives
C346.2	Create mobile application using database and notification Manager
C346.3	Create mobile application using Multithreading, GPS and Internal/External Storage.
C346.4	Create mobile application using SMS, RSS feed and Email.
C346.5	Develop own Mobile application for simple needs.



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Course Name: C347

Year of Study: 2021-2022

Semester: VI

Subject Code & Subject Name: CS8582 OBJECT ORIENTED ANALYSIS AND DESIGN
LABORATORY

CO	STATEMENT
C347.1	Explain Object Oriented analysis and design concept for a given problem specification
C347.2	Describe the basic software requirements in UML mapping
C347.3	Analyze the interactions between objects and represent them using UML Sequence and Collaboration Diagrams for the given scenario
C347.4	Evaluate software quality using design patterns
C347.5	Evaluate the modified system and test it for various scenarios

Course Name: C349

Year of Study: 2021-2022

Semester: VI

Subject Code & Subject Name: HS8581 PROFESSIONAL COMMUNICATION

CO	STATEMENT
C349.1	Analyze skills to be a professional in all contexts.
C349.2	Describe oral presentation effectively.
C349.3	Analyze group discussion in a professional context.
C349.4	Analyze personal interview skills and different types of interview.
C349.5	Analyze time and stress management with respect to career.



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Course Name: C401

Year of Study: 2022-2023

Semester: VII

Subject Code & Subject Name: MG8591 PRINCIPLES OF MANAGEMENT

CO	STATEMENT
C401.1	Describe the evolution of management thoughts and challenges of managerial activities in a global business environment.
C401.2	Explain the types of planning and decision making methodologies in organization.
C401.3	Summarize various types of organization structures and human resource activities for man power utilization.
C401.4	Explain about motivation theories, behavior, leadership theories and communication for effective directing.
C401.5	Describe various controlling techniques to maintain standard in organization.

Course Name: C402

Year of Study: 2022-2023

Semester: VII

Subject Code & Subject Name: CS8792 CRYPTOGRAPHY AND NETWORK SECURITY

CO	STATEMENT
C402.1	Summarize the fundamentals of Networks security, Security Architecture, threats and Vulnerabilities.
C402.2	Apply the different cryptographic operations of DES , SDES , AES and RC4 symmetric cryptographic algorithms
C402.3	Apply the different cryptographic operations by using Chinese Remainder Theorem, Euler's totient and Fermat's theorem for RSA algorithm and Key distributions in public key cryptography.
C402.4	Describe the various Authentication schemes MAC, HASH, HMAC, CMAC , SHA and Digital Signature to simulate different applications. BT2
C402.5	Describe the various Security practices and Standards of Email, IP, PGP, S/MIME and Firewalls.



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Course Name: C403 **Year of Study:** 2022-2023

Semester: VII

Subject Code & Subject Name: CS8791 CLOUD COMPUTING

CO	STATEMENT
C403.1	Describe the basic concepts of Cloud Computing.
C403.2	Comprehend the Cloud Existing Technology.
C403.3	Summarize the various Cloud Architecture.
C403.4	Comprehend the Cloud Resource Management and Security.
C403.5	Describe the Cloud Advanced Technologies.

Course Name: C415 **Year of Study:** 2022-2023

Semester: VII

Subject Code & Subject Name: OBM752 HOSPITAL MANAGEMENT

CO	STATEMENT
C415.1	Explain the principles of hospital administration.
C415.2	Describe the importance of human resource management.
C415.3	Explain varies requirements and training session in hospital.
C415.4	Comprehend the various relative supportive services.
C415.5	Describe the safety procedures followed in hospitals.



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Course Name: C436

Year of Study: 2022-2023

Semester: VII

Subject Code & Subject Name: GE8077 TOTAL QUALITY MANAGEMENT

CO	STATEMENT
C436.1	Explain basic concepts of Total Quality Management & Customer Services
C436.2	Demonstrate the Principles of Total Quality Management in leadership, employee involvement, Performance Appraisal Supplier Partnership
C436.3	Apply traditional and new management tools such as Six sigma, Benchmarking, FMEAR & TQM service process.
C436.4	Apply additional sets of tools & Techniques such as quality loss functions and total productivity maintenance to performance measures
C436.5	Comprehend quality management system for industry environment through states & ISO Series sectors.

Course Name: C439

Year of Study: 2022-2023

Semester: VII

Subject Code & Subject Name: CS8088 WIRELESS ADHOC AND SENSOR
NETWORKS

CO	STATEMENT
C439.1	Explain the working of MAC and routing protocol in adhoc.
C439.2	Describe the transport layer protocols and their QOS in adhoc.
C439.3	Describe the issues and challenges of MAC and routing protocol in sensor network.
C439.4	Summarize the transport layer protocols and QOS in sensor.
C439.5	Apply the security issues in adhoc and sensor networks.



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Course Name: C444 **Year of Study:** 2022-2023

Semester: VII

Subject Code & Subject Name: IT8711 FOSS and CLOUD COMPUTING LABORATORY

CO	STATEMENT
C444.1	Design various virtualization tools such as Virtual Box, VMware workstation.
C444.2	Create web application in a PaaS environment
C444.3	Describe how to simulate a cloud environment to implement new schedulers
C444.4	Design a generic cloud environment that can be used as a private cloud
C444.5	Apply large data sets in a parallel environment.

Course Name: C445 **Year of Study:** 2022-2023

Semester: VII

Subject Code & Subject Name: IT8761 SECURITY LAB

CO	STATEMENT
C445.1	Write encryption and decryption programs using substitution and transposition ques.
C445.2	Apply AES and DES algorithm for key generation and encryption
C445.3	Write programs for authentication algorithms
C445.4	Write programs for signature schemes using digital signature standards.
C445.5	Create network security system using open source tools



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Course Name: C452

Year of Study: 2022-2023

Semester: VIII

Subject Code & Subject Name: GE8076 PROFESSIONAL ETHICS IN ENGINEERING

CO	STATEMENT
C452.1	Summarize the human values with regard to the individual lifestyle for the society.
C452.2	Explain the role of ethics to the engineering field.
C452.3	Describe how engineering is applied in association with ethics based on engineering experimentation.
C452.4	Comprehend the engineering ethics-based safety responsibilities and rights.
C452.5	Apply the professional ethics in engineering based product development.

Course Name: C458

Year of Study: 2022-2023

Semester: VIII

Subject Code & Subject Name: IT8005 ELECTRONIC COMMERCE

CO	STATEMENT
C458.1	Describe the overview of Web, HTML & HTML 5
C458.2	Apply Responsive Websites for Mobile Apps
C458.3	Analyze the security threats and establish a secure payment system
C458.4	Analyze the different marketing and advertising techniques
C458.5	Summarize the E-Commerce business model using a case study.



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Course Name: C457

Year of Study: 2020-2021

Semester: VIII

Subject Code & Subject Name: IT8078 WEB DESIGN AND MANAGEMENT

CO	STATEMENT
C457.1	Explain the elementary concepts of Web and HTML page, links, images, tables and markups.
C457.2	Design the website with CSS and Javascript using Margins, Page Layout, and Animation.
C457.3	Design the website with CSS Grids, CSS Frameworks, and UI kits.
C457.4	Analyze the concepts of Web Project Management.
C457.5	Design a website project using HTML, CSS, JS or Word press.

Course Name: C434

Year of Study: 2020-2021

Semester: VII

Subject Code & Subject Name: IT8075 SOFTWARE PROJECT MANAGEMENT

CO	STATEMENT
C434.1	Explain Project Management principles while developing software.
C434.2	Summarize the knowledge about the basic project management concepts, framework and the process models.
C434.3	Comprehend the knowledge about software process models and software effort estimation techniques.
C434.4	Evaluate the risks involved in various project activities.
C434.5	Describe the checkpoints, project reporting structure, project progress and tracking mechanisms using project management principles.