Regulations 2017

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & I
Course Code & Name:	C101 & HS8151-Communicative English
Year of Study :	2022 – 2023

Course Code and Name : C101 & HS8151-Communicative English		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C101.1	**Enable** the development in sharing information about family and friends.	K3
C101.2	**Strengthen** general comprehending skills and present lucid skills in free writing.	K2
C101.3	**Understand** the basic grammar techniques and utilize it in enhancing language development.	K2
C101.4	**Foster** an environment for reading and develop good language skills.	K2
C101.5	**Develop** flair for any kind of writing with rich vocabulary and proper syntax.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & I
Course Code & Name:	C102 & MA8151-Engineering Mathematics -1
Year of Study :	2022 – 2023

Course Code and Name :C102 & MA8151-Engineering Mathematics -1		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C102.1	**Use** both the limit definition and rules of differentiation to differentiate functions	K3
C102.2	**Apply** differentiation to solve maxima and minima problems.	K3
C102.3	**Evaluate** integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus. Apply techniques of integration to compute multiple integrals and evaluate convergent improper Integrals	K3
C102.4	**Apply** integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables.	K3
C102.5	**Apply** various techniques in solving differential equations	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & I
Course Code & Name:	C103 & PH8151- Engineering Physics
Year of Study :	2022 – 2023

Course Code and Name :C103 & PH8151- Engineering Physics		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C103.1	**Gain** knowledge on the basics of properties of mater and its applications.	K2
C103.2	**Acquire** knowledge on the concepts of waves and optical devices and their application in fiber optic s	K2
C103.3	Have a**dequate** knowledge on the concepts of thermal properties of material and their in application in expansion joints and heat exchanger.	K3
C103.4	**Got** knowledge on advanced physics concepts of quantum theory and its applications in tunneling microscope.	K2
C103.5	**Understand** the basics of crystals, their structures and different crystal growth technique.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I& I
Course Code & Name:	C104 & CY8151- Engineering Chemistry
Year of Study :	2022 – 2023

Course Code and Name : C104 & CY8151- Engineering Chemistry		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C104.1	**Understand** about various water treatment technique and its uses.	K4
C104.2	**Know** the surface phenomena of molecules and its applications	K2
C104.3	**Understand** the phase diagram and predict the composition of alloys.	K2
C104.4	**Analyze** the quality of fuels and its various uses. Gain the knowledge about energy sources and its applications.	K4
C104.5	**Gain** the knowledge about energy sources and its applications.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & I
Course Code & Name:	C105 & GE8151-Problem solving and python programming
Year of Study :	2022 – 2023

Course Code and Name : C105 & GE8151-Problem solving and python programming		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C105.1	**Develop** algorithmic solutions to simple computational problems	K4
C105.2	**Read, write, execute** by hand simple Python programs and Structure simple Python programs for solving problems.	K4
C105.3	**Decompose** a Python program into functions.	K3
C105.4	**Represent** compound data using Python lists, tuples, dictionaries.	K3
C105.5	**Read and write** data from/to files in Python Programs.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & I
Course Code & Name:	C106 & GE8152- Engineering graphics
Year of Study :	2022 – 2023

Course Code and Name : C106 & GE8152- Engineering graphics		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C106.1	**Familiarize** with fundamentals and standards of engineering graphics	K2
C106.2	**Perform** freehand sketching of basic geometrical constructions and multiple view of objects	K3
C106.3	**Project** orthographic projections of lines and planer surfaces	K2
C106.4	**Draw** projections of solids and development of surfaces	K3
C106.5	**Visualize** and to project isometric and perspective sections of simple solids.	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & I
Course Code & Name:	C107 & GE8161-Problem solving and python programming laboratory
Year of Study :	2022 – 2023

Course Code and Name : C107 & GE8161-Problem solving and python programming laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C107.1	**Write**, test and debug simple python programs	K1
C107.2	**Implement** python programs with conditional and loops.	K3
C107.3	**Develop** python program step-wise by defining functions and calling them.	K4
C107.4	**Use python** list, tuples dictionaries for representing compound date.	K3
C107.5	**Read** and write the data from/ to files in pythons	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & I
Course Code & Name:	C108 & BS8161-Physics and chemistry laboratories
Year of Study :	2022 – 2023

Course Code and Name : C108 & BS8161-Physics and chemistry laboratories		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C108.1	**Determine** Young's modulus of beam and Rigidity modulus.	K3
C108.2	**Apply** the principle of optics and Laser in engineering field	K3
C108.3	**Calculate** conductivity, and band gap of a semiconductor and velocity of sound waves.	K3
C108.4	**Analyze** the effect of chlorides in water DO present in sample water	K3
C108.5	**Identify** basicity , acidity and pH of the material	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & II
Course Code & Name:	C109 & HS8251- Technical English
Year of Study :	2022 – 2023

Course Code and Name : C109 & HS8251- Technical English		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C109.1	**Breakdown** the ideas in to its elementary constituents, analyze and act after a meaning full thought process.	K2
C109.2	**Analyze** the phrase and passage and explicitly pass on the ideas meaning fully.	K3
C109.3	**Manage** to interpret the given phrase or the graphical rendering and review the contents well individually or as a group.	K3
C109.4	**Concentrate** on the communication aspect of complicated ideas and respond positively.	K2
C109.5	**Debate** the issues and find the rudiments of the problem individually and as a group.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & II
Course Code & Name:	C110 & MA8251- Engineering Mathematics – II
Year of Study :	2022 – 2023

Course Code and Name : C110 & MA8251- Engineering Mathematics – II		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C110.1	**Understand** Eigen values and eigenvectors, diagonalization of a matrix, Symmetric matrices, Positive definite matrices and similar matrices.	K2
C110.2	**Understand** Gradient, divergence and curl of a vector point function and related identities	K2
C110.3	**Evaluation** of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification.	K2
C110.4	**Understand** Analytic functions, conformal mapping and complex integration.	K2
C110.5	**Understand** Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I& II
Course Code & Name:	C111 & PH8252- Materials Science
Year of Study :	2022 – 2023

Course Code and Name :C111 & PH8252- Materials Science		
Course Code	**CO Statements**	**Knowledge Level**
The students will have		
C111.1	**Knowledge** on the various phase diagrams and their applications	K2
C111.2	**Acquire** knowledge on Fe-Fe_3C phase diagram, various microstructures and alloys	K2
C111.3	**Get** knowledge on mechanical properties of materials and their measurement	K3
C111.4	**Gain** knowledge on magnetic, dielectric and superconducting properties of materials	K1
C111.5	**Understand** the basics of ceramics, composites and nanomaterials	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & II
Course Code & Name:	C112 & BE8255 Basic Electrical, Electronics and Measurement Engineering
Year of Study :	2022 – 2023

Course Code and Name : C112 & BE8255 Basic Electrical, Electronics and Measurement Engineering		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C112.1	**Discuss** the essentials of electric circuits and analysis.	K2
C112.2	**Discuss** the basic operation of electric machines and transformers	K2
C112.3	**State** the renewable sources and common domestic loads.	K2
C112.4	**Understand** the fundamentals of electronic circuit constructions	K2
C112.5	**Describe** the measurement and metering for electric circuits.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I& II
Course Code & Name:	C113 & GE8291-Environmental Science And Engineering
Year of Study :	2022 – 2023

Course Code and Name :C113 & GE8291-Environmental Science And Engineering		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C113.1	Realize the nature and facts of environment and bio-diversity.	K1
C113.2	Understand the Environmental Pollution (Causes, Effects and Control Measures)	K2
C113.3	Identify various natural recourses and save nature.	K2
C113.4	Inference on Social issues and the Environment.	K2
C113.5	Understand the population and technological effects on environment.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & II
Course Code & Name:	C114 & CS8251 Programming in C
Year of Study :	2022 – 2023

Course Code and Name : C114 & CS8251 Programming in C		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C114.1	**Develop** simple applications in C using basic constructs	K4
C114.2	**Design** and implement applications using arrays and strings	K4
C114.3	**Develop** and implement applications in C using functions and pointers	K4
C114.4	**Develop** applications in C using structures.	K4
C114.5	**Design** applications using sequential and random access file processing	K4

EASA COLLEGE
OF ENGINEERING & TECHNOLOGY (ECET)
ULTIMATE DESTINATION FOR TECHNICAL EXCELLENCE
APPROVED BY AICTE, NEW DELHI | AFFILIATED TO ANNA UNIVERSITY, CHENNAI
NH - 47, PALAKKAD MAIN ROAD, NAVAKKARAI (P.O), COIMBATORE, TAMIL NADU - 641105

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I& II
Course Code & Name:	C115 & GE8261- Engineering Practices Laboratory
Year of Study :	2022 – 2023

Course Code and Name : C115 & GE8261- Engineering Practices Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C115.1	**Fabricate** carpentry components and pipe connections including plumbing works and Use welding equipments to join the structures.	K4
C115.2	**Carry out** the basic machining operations and Make the models using sheet metal works	K4
C115.3	**Illustrate** on centrifugal pump, Air conditioner, operations of smithy, foundary and fittings.	K4
C115.4	**Carry out** basic home electrical works and appliances and Measure the electrical quantities	K4
C115.5	**Elaborate** on the components, gates, soldering practices.	K4

Programme: B.E. Computer Science & Engineering	
Year & Semester:	I & II
Course Code & Name:	C116 & CS8261 C Programming Laboratory
Year of Study :	2022 – 2023

Course Code and Name : C116 & CS8261 C Programming Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C116.1	**Develop** C programs for simple applications making use of basic constructs, arrays and strings.	K4
C116.2	**Develop** C programs involving functions, recursion	K4
C116.3	**Develop** C programs involving pointers, and structures.	K4
C116.4	**Design** applications using sequential and random access file processing.	K4
C116.5	**Design** applications like railway reservation system.	K4

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & III
Course Code & Name:	C201 & MA 8351 DISCRETE MATHEMATICS
Year of Study :	2022 – 2023

Course Code and Name : C201 &		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C201.1	Have knowledge of the concepts needed to test the logic of a program.	K2
C201.2	Have an understanding in identifying structures on many levels	K3
C201.3	Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science	K5
C201.4	Be aware of the counting principles.	K2
C201.5	Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.	K5

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & III
Course Code & Name:	C201 & CS8351 - Digital principles and system design
Year of Study :	2022 – 2023

Course Code and Name : C201 & CS8351 - Digital principles and system design		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C201.1	**Develop** C programs for simple applications making use of basic constructs, arrays and strings.	K4
C201.2	**Develop** C programs involving functions, recursion	K4
C201.3	**Develop** C programs involving pointers, and structures.	K4
C201.4	**Design** applications using sequential and random access file processing.	K4
C201.5	**Design** applications like railway reservation system.	K4

EASA COLLEGE
OF ENGINEERING & TECHNOLOGY (ECET)
ULTIMATE DESTINATION FOR TECHNICAL EXCELLENCE
APPROVED BY AICTE, NEW DELHI | AFFILIATED TO ANNA UNIVERSITY, CHENNAI
NH - 47, PALAKKAD MAIN ROAD, NAVAKKARAI (P.O), COIMBATORE, TAMIL NADU - 641105

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & III
Course Code & Name:	C203 & CS8391- Data Structures
Year of Study :	2022 – 2023

Course Code and Name : C203 & CS8391- Data Structures		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C203.1	**Understand** & Implement abstract data types for linear data structures - Lists	K2
C203.2	**Understand** & Apply the different linear(Stack & Queue) data structures to problem solutions	K2
C203.3	**Understand** & Apply the different Non-Linear(Tree) data structures to problem solutions	K2
C203.4	**Understand** & Apply the different Non-Linear(Graph) data structures to problem solutions	K2
C203.5	Critically **analyze** the various sorting algorithms and Hashing Techniques	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & III
Course Code & Name:	C204 & CS8392 - Object Oriented Programming
Year of Study :	2022 – 2023

Course Code and Name : C204 & CS8392 - Object Oriented Programming		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C204.1	**Develop** Java programs using OOP Principles.	K3
C204.2	**Develop** Java programs with the concepts inheritance and interfaces.	K3
C204.3	**Build** Java applicatios using exceptions and I/O streams.	K3
C204.4	**Develop** java applications with threads and generic classes.	K3
C204.5	**Develop** interactive Java program using Swings.	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & III
Course Code & Name:	C205 & EC8395 - Communication Engineering
Year of Study :	2022 – 2023

Course Code and Name : C204 & EC8395 - Communication Engineering		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C205.1	**Comprehend** and appreciate the significance and role of this course in the present contemporary world	K2
C205.2	**Apply** analog and digital communication techniques.	K3
C205.3	**Use** data and pulse communication techniques.	K2
C205.4	**Analyze** Source and Error control coding.	K3
C205.5	**Design** Spread spectrum and multiple access	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & III
Course Code & Name:	C206 & CS8381 – Data Structures Laboratory
Year of Study :	2022 – 2023

Course Code and Name : C206 & CS8381 – Data Structures Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C206.1	**Gain knowledge** about fundamental concepts of Linear Data Structures.	K2
C206.2	**Gain knowledge** about nonlinear data structures (Tree).	K2
C206.3	**Gain knowledge** about nonlinear data structures (Graphs)	K2
C206.4	**Gain knowledge** about nonlinear data structures for Sorting and Searching Algorithms	K2
C206.5	**Apply** appropriate hash functions that result in a collision free scenario for data storage and retrieval	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & III
Course Code & Name:	C207 & CS8383 - Object Oriented Programming Laboratory
Year of Study :	2022 – 2023

Course Code and Name : C207 & CS8383 - Object Oriented Programming Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C207.1	**Develop** and implement Java programs for simple applications that make use of classes.	K3
C207.2	**Develop** and implement Java programs for packages and interfaces.	K3
C207.3	**Develop** and implement Java programs with array list.	K3
C207.4	**Develop** and implement Java programs exception handling and multithreading.	K3
C207.5	**Design** applications using file processing, generic programming and event handling.	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & III
Course Code & Name:	C208 & CS8382 Digital Systems Laboratory
Year of Study :	2022 – 2023

Course Code and Name : C208 & CS8382 Digital Systems Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C208.1	**Implement** simplified combinational circuits using basic logic gates	K2
C208.2	**Implement** combinational circuits using MSI devices	K2
C208.3	**Implement** sequential circuits like registers and counters	K2
C208.4	**Simulate** combinational and sequential circuits using HDL	K2
C208.5	**Design** and implementation of a simple digital system	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & III
Course Code & Name:	C209 & HS8381 - Interpersonal Skills/Listening & Speaking
Year of Study :	2022 – 2023

Course Code and Name : C209 & HS8381 - Interpersonal Skills/Listening & Speaking		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C209.1	**Listen** and respond appropriately especially in academic contexts	K1
C209.2	**Participate** in group discussions with special emphasis on stress and intonation	K2
C209.3	**Develop** lexical accuracy and fluency in articulation	K3
C209.4	**Assess** conversations and offer Verbal and Non-Verbal feedbacks	K3
C209.5	**Plan** and devise effective presentations	K4

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & IV
Course Code & Name:	C210 & MA8402- Probability & Queueing Theory
Year of Study :	2022 – 2023

Course Code and Name : C210 & MA8402- Probability & Queueing Theory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C210.1	**Gain** knowledge on Probability and various distributions	K2
C210.2	**Solve** the Joint distributions, Covariance, Correlation and Linear regression Problems.	K2
C210.3	**Gain** knowledge on Stationary process, Markov process, Poisson process and its Applications.	K2
C210.4	**Acquire** skills in analyzing and Solving the Various types of Morkovian Queue Problems.	K2
C210.5	**Gain** knowledge on General Queueing Models (Non Morkovian)	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & IV
Course Code & Name:	C211 & CS8491 – Computer Architecture
Year of Study :	2022 – 2023

Course Code and Name : C211 & CS8491 – Computer Architecture		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C211.1	**Understand** the basics structure of computers, operations and instructions.	K2
C211.2	**Design** arithmetic and logic unit.	K3
C211.3	**Understand** pipelined execution and design control unit.	K2
C211.4	**Understand** parallel processing architectures. I	K2
C211.5	**Understand** the various memory systems and I/O communication	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & IV
Course Code & Name:	C212 & CS8492- Database Management Systems
Year of Study :	2022 – 2023

Course Code and Name : C212 & CS8492- Database Management Systems		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C212.1	**Learn** the fundamentals of Data Models and to represent a database system using ER diagrams.	K2
C212.2	**Study** SQL and Relational Database design.	K1
C212.3	**Understand** the internal storage structures using different File and Indexing techniques which will help in physical DB design.	K2
C212.4	**Understand** the fundamental concept of transaction processing-concurrency control techniques and recovery procedures.	K2
C212.5	**Understand** an introductory knowledge about the storage and Query processing technique.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & IV
Course Code & Name:	C213 & CS8451 - Design And Analysis of Algorithms
Year of Study :	2022 – 2023

Course Code and Name : C213 & CS8451 - Design And Analysis of Algorithms		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C213.1	**Design** algorithms for various computing problems.	K4
C213.2	**Analyze** the search and sorting complexity of algorithms.	K3
C213.3	**Analyze** the time and space complexity of algorithms.	
C213.4	Critically **analyze** the different algorithm design techniques for a given problem.	
C213.5	**Modify** existing algorithms to improve efficiency.	

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & IV
Course Code & Name:	C214 & CS8493 – Operating System
Year of Study :	2022 – 2023

Course Code and Name : C214 & CS8493 – Operating System		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C214.1	**Understand** the basic concepts and functions of operating systems.	K2
C214.2	**Understand** and analyze Processes, Threads and Scheduling algorithms.	K2
C214.3	**Understand** the concept of Deadlocks.	K2
C214.4	**Analyze** various memory management schemes and understand I/O management and File systems.	K4
C214.5	**Understand** Linux basic concepts and Mobile OS like iOS and Android.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & IV
Course Code & Name:	C215 & CS8494 Software Engineering
Year of Study :	2022 – 2023

Course Code and Name : C215 & CS8494 Software Engineering		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C215.1	**Identify** the key activities in managing a software project.	K2
	Compare different process models.	K4
C215.2	**Compare** different process models.	K4
C215.3	**Concepts** of requirements engineering and Analysis Modeling.	K2
C215.4	**Apply** systematic procedure for software design and deployment.	K3
C215.5	**Compare** and contrast the various testing and maintenance and Manage project schedule, estimate project cost and effort required	K4

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & IV
Course Code & Name:	C216 & CS8481- DBMS Laboratory
Year of Study :	2022 – 2023

Course Code and Name : C216 & CS8481- DBMS Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C216.1	**Use** typical data definitions and manipulation commands.	K2
C216.2	**Design** applications to test Nested, Join Queries and views	K4
C216.3	**Implement** applications that require a Front-end Tool.	K3
C216.4	Critically **analyze** the use of Tables, Views, Functions and Procedures	K4
C216.5	**Design** and implement real time applications.	K4

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & IV
Course Code & Name:	C217 & CS8461 - Operating Systems Laboratory
Year of Study :	2022 – 2023

Course Code and Name : C217 & CS8461 - Operating Systems Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C217.1	**Compare** the performance of various CPU Scheduling Algorithms	K4
C217.2	**Implement** page replacement algorithms, file organization and allocation techniques	K3
C217.3	**Implement** Deadlock avoidance and Detection Algorithms	K3
C217.4	**Implement** Semaphores and to Create processes and implement IPC	K3
C217.5	**Analyze** the performance of the various Page Replacement Algorithms and Implement File Organization and File Allocation Strategies	K4

Programme: B.E. Computer Science & Engineering	
Year & Semester:	II & IV
Course Code & Name:	C218 & HS8461 Advanced Reading And Writing
Year of Study :	2022 – 2023

Course Code and Name : C218 & HS8461 Advanced Reading And Writing		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C218.1	**Strengthen** the reading and writing skills of the students	K2
C218.2	**Comprehend** and interpret data into coherent paragraphs	K3
C218.3	**Evaluate** texts critically	K3
C218.4	**Draft** winning Job applications	K4
C218.5	**Write** impressive project proposals with critical acumen	K1

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & V
Course Code & Name:	C301 & MA8551 Algebra and Number Theory
Year of Study :	2022 – 2023

Course Code and Name : C301 & MA8551 Algebra and Number Theory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C301.1	**Apply** the basic notions of groups, rings, fields which will then be used to solve related problems.	K3
C301.2	**Explain** the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts.	K2
C301.3	**Demonstrate** accurate and efficient use of advanced algebraic techniques	K3
C301.4	**Demonstrate** their mastery by solving non - trivial problems related to the concepts, and by proving simple theorems about the, statements proven by the text.	K3
C301.5	**Apply** integrated approach to number theory and abstract algebra, and provide a firm basis for further reading and study in the subject.	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & V
Course Code & Name:	C302 & CS8591 - Computer Networks
Year of Study :	2022 – 2023

Course Code and Name : C302 & CS8591 - Computer Networks		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C302.1	**Understand** the basic layers and its functions in computer networks.	K2
C302.2	**Evaluate** the performance of a network.	K2
C302.3	**Understand** the basics of how data flows from one node to another.	K2
C302.4	**Analyze** and design routing algorithms.	K3
C302.5	**Design** protocols for various functions in the network and Understand the working of various application layer protocols	K4

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & V
Course Code & Name:	C303 & EC8691 Microprocessors and Microcontrollers
Year of Study :	2022 – 2023

Course Code and Name :		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C303.1	**Understand** and execute programs based on 8086 microprocessor.	K2
C303.2	**Design** Memory Interfacing circuits.	K5
C303.3	**Design** and interface I/O circuits.	K5
C303.4	**Design** and implement 8051 microcontroller based systems.	K5
C303.5	**Design** and develop Traffic Light control, LED display, LCD display and Alarm Controller.	K5

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & V
Course Code & Name:	C304 & CS8501 - Theory of Computation
Year of Study :	2022 – 2023

Course Code and Name : C304 & CS8501 - Theory of Computation		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C304.1	**Build** automata for any pattern.	K5
C304.2	**Construct** regular expression for any pattern.	K5
C304.3	**Write** Context free grammar for any construct and Develop PDA for any CFL.	K1
C304.4	**Design** Turing machines for any language and Propose computation solutions using it.	K5
C304.5	**Derive** whether a problem is decidable or not.	K5

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & V
Course Code & Name:	C305 & CS8592 - Object Oriented Analysis and Design
Year of Study :	2022 – 2023

Course Code and Name : C305 & CS8592 - Object Oriented Analysis and Design		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C305.1	**Express** software design with UML diagrams	K2
C305.2	**Design** software applications using OO concepts.	K5
C305.3	**Identify** various scenarios based on software requirements	K2
C305.4	**Transform** UML based software design into pattern based design using design patterns	K3
C305.5	**Understand** the various testing methodologies for OO software	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & V
Course Code & Name:	C306 & OCE551 Air Pollution and Control Engineering
Year of Study :	2022 – 2023

Course Code and Name : C306 & OCE551 Air Pollution and Control Engineering		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C306.1	**Understanding** of the nature and characteristics of air pollutants, noise pollution and basic concepts of air quality management.	K2
C306.2	**Identify**, formulate and solve air and noise pollution problems	K3
C306.3	**Design** stacks and particulate air pollution control devices to meet applicable standards.	K3
C306.4	**Select** control equipments.	K3
C306.5	**Ensure** quality, control and preventive measures.	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & V
Course Code & Name:	C307 & EC8681microprocessors and Microcontrollers Laboratory
Year of Study :	2022 – 2023

Course Code and Name : EC8681microprocessors and Microcontrollers Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C307.1	**Write** ALP Programmes for fixed and Floating Point and Arithmetic operations	K1
C307.2	**Interface** different I/Os with processor	K2
C307.3	**Generate** waveforms using Microprocessors	K3
C307.4	**Execute** Programs in 8051	K2
C307.5	**Explain** the difference between simulator and Emulator	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & V
Course Code & Name:	C308 & CS8582 Object Oriented Analysis and Design Lab
Year of Study :	2022 – 2023

Course Code and Name : CS8582 Object Oriented Analysis and Design Lab		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C308.1	**Perform** OO analysis and design for a given problem specification.	K4
C308.2	**Identify** and map basic software requirements in UML mapping.	K2
C308.3	**Improve** the software quality using design patterns and to explain the rationale behind applying specific design patterns	K3
C308.4	**Test** the compliance of the software with the SRS.	K2
C308.5	**Implement** the forward and reverse engineering	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & V
Course Code & Name:	C309 & CS8581 Networks Laboratory
Year of Study :	2022 – 2023

Course Code and Name : C309 & CS8581 Networks Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C309.1	**Implement** various protocols using TCP and UDP.	K3
C309.2	**Compare** the performance of different transport layer protocols.	K4
C309.3	**Use** simulation tools to analyze the performance of various network protocols.	K4
C309.4	**Analyze** various routing algorithms.	K4
C309.5	**Implement** error correction codes.	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VI
Course Code & Name:	C310 & CS 8651 Internet Programming
Year of Study :	2022 – 2023

Course Code and Name : C310 & CS 8651 Internet Programming		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C310.1	**Construct** a basic website using HTML and Cascading Style Sheets.	K3
C310.2	**Build** dynamic web page with validation using Java Script objects and by applying different event handling mechanisms.	K3
C310.3	**Develop** server side programs using Servlets and JSP.	K3
C310.4	**Construct** simple web pages in PHP and to represent data in XML format.	K3
C310.5	**Use** AJAX and web services to develop interactive web applications	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VI
Course Code & Name:	C311 & CS8691 Artificial Intelligence
Year of Study :	2022 – 2023

Course Code and Name : C311 & CS8691 Artificial Intelligence		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C311.1	**Use** appropriate search algorithms for any AI problem	K3
C311.2	**Represent** a problem using first order and predicate logic	K2
C311.3	**Provide** the apt agent strategy to solve a given problem	K2
C311.4	**Design** software agents to solve a problem	K4
C311.5	**Design** applications for NLP that use Artificial Intelligence	K4

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VI
Course Code & Name:	C312 & CS8601 – Mobile Computing
Year of Study :	2022 – 2023

Course Code and Name : C312 & CS8601 – Mobile Computing		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C312.1	**Understand** the basic concepts of mobile computing	K2
C312.2	**Learn** the basics of mobile telecommunication system	K2
C312.3	**Familiar** with the network layer protocols and Ad-Hoc networks	K2
C312.4	**Understand** the basis of transport and application layer protocols	K2
C312.5	**Gain** knowledge about different mobile platforms and application development	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VI
Course Code & Name:	C313 & CS 8602 Compiler Design
Year of Study :	2022 – 2023

Course Code and Name : C313 & CS 8602 Compiler Design		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C313.1	**Understand** the different phases of compiler and Design a lexical analyzer for a sample language.	K2
C313.2	**Apply** different parsing algorithms to develop the parsers for a given grammar.	K3
C313.3	**Understand** syntax-directed translation and run-time environment.	K2
C313.4	**Learn** to implement code optimization techniques and a simple code generator.	K2
C313.5	**Design** and implement a scanner and a parser using LEX and YACC tools.	K4

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VI
Course Code & Name:	C314 & CS8603– Distributed System
Year of Study :	2022 – 2023

Course Code and Name : C301 & CS8603– Distributed System		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C314.1	**Elucidate** the foundations and issues of distributed systems Understand the various synchronization issues and global state for distributed systems	K2
C314.2	**Understand** the various synchronization issues and global state for distributed systems	K2
C314.3	**Understand** the Mutual Exclusion and Deadlock detection algorithms in distributed systems	K2
C314.4	**Describe** the agreement protocols and fault tolerance mechanisms in distributed systems	K2
C314.5	**Describe** the features of peer-to-peer and distributed shared memory systems	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VI
Course Code & Name:	C315 & IT8076 Software Testing
Year of Study :	2022 – 2023

Course Code and Name : C315 & IT8076 Software Testing		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C315.1	**Design** the test cases suitable for a software development for different domains	K6
C315.2	**Prepare** test planning based on the document. Identify suitable tests to be carried out	K2
C315.3	**Explain** the various level of testing	K2
C315.4	**Design** test plans and test cases.	K6
C315.5	**Develop and validate** a test plan. Make use of automatic testing tools.	K6

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VI
Course Code & Name:	C316 & CS8661 Internet Programming Laboratory
Year of Study :	2022 – 2023

Course Code and Name : C316 & CS8661 Internet Programming Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C316.1	**Construct** Web pages using HTML/XML and style sheets.	K5
C316.2	**Build** dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms.	K5
C316.3	**Develop** dynamic web pages using server side scripting.	K6
C316.4	**Use** PHP programming to develop web applications.	K2
C316.5	**Construct** web applications using AJAX and web services	K6

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VI
Course Code & Name:	C317 & CS8662 Mobile Application Development Laboratory
Year of Study :	2022 – 2023

Course Code and Name : C317 & CS8662 Mobile Application Development Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C317.1	**Develop** mobile applications using GUI and Layouts.	K6
C317.2	**Develop** mobile applications using Event Listener.	K6
C317.3	**Develop** mobile applications using Databases.	K6
C317.4	**Develop** mobile applications using RSS Feed, Internal/ External Storage, SMS, Multi-threading and GPS.	K6
C317.5	**Analyze** and discover own mobile app for simple needs.	K4

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VI
Course Code & Name:	C318 & CS Mini Project
Year of Study :	2022 – 2023

Course Code and Name : C318 & CS Mini Project		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C318.1	**Develop** the concept for the project.	K4
C318.2	**Apply** the Engineering knowledge in design.	K3
C318.3	**Estimate** the time frame and cost for the project execution and completion.	K3
C318.4	**Implement** Economically manufacturing of components to support the society need.	K3
C318.5	**Demonstrate** the project functionality along with report and presentation.	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VI
Course Code & Name:	C319 & HS8581 Professional Communication
Year of Study :	2022 – 2023

Course Code and Name : C319 & HS8581 Professional Communication		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C319.1	**Make** effective presentations	K2
C319.2	**Participate** confidently in Group Discussions.	K2
C319.3	**Attend** job interviews and be successful in them.	K2
C319.4	**Develop** adequate Soft Skills required for the workplace	K5
C319.5	**Implement** the protocols for career management	K3

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VII
Course Code & Name:	C401 & MG8591- Principles of Management
Year of Study :	2021 – 2022

Course Code and Name : C401 & MG8591- Principles of Management		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C401.1	**Understand** about Management principles and Organizations.	K2
C401.2	**Understanding** about planning of management	K2
C401.3	**Understanding** about organizing and staffing of Organisation	K2
C401.4	**Understanding** about leading and directing of Management	K2
C401.5	**Understanding** about controlling and have same basic knowledge on international aspect of management	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VII
Course Code & Name:	C402 & CS8792 - Cryptography and Network Security
Year of Study :	2021 – 2022

Course Code and Name : CS8792 - Cryptography and Network Security		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C402.1	**Understand** the fundamentals of networks security, security architecture, threats and vulnerabilities	K2
C402.2	**Apply** the different cryptographic operations of symmetric cryptographic algorithms	K3
C402.3	**Apply** the different cryptographic operations of public key cryptography	K3
C402.4	**Apply** the various Authentication schemes to simulate different applications	K3
C402.5	**Understand** various Security practices and System security standards	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VII
Course Code & Name:	C403 & CS8791- Cloud Computing
Year of Study :	2021 – 2022

Course Code and Name : C403 & CS8791- Cloud Computing		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C403.1	**Articulate** the main concepts, key technologies, strengths and limitations of cloud computing	K2
C403.2	**Learn** the key and enabling technologies that help in the development of cloud	K1
C403.3	**Develop** the ability to understand and use the architecture of compute and storage cloud, service and delivery models	K4
C403.4	**Explain** the core issues of cloud computing such as resource management and security	K2
C403.5	**Evaluate** and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud	K5

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VII
Course Code & Name:	C404 & OME752 Supply Chain Management
Year of Study :	2021 – 2022

Course Code and Name : C404 & OME752 Supply Chain Management		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C404.1	**Understand** fundamental supply chain management concepts.	K2
C404.2	**Understand** the design factors and various design options of distribution networks in industries.	K2
C404.3	**Understand** the foundational role of logistics as it relates to transportation and warehousing.	K2
C404.4	**Understand** the various sourcing decisions in supply chain	K2
C404.5	**Understand** the supply chain management in IT industries	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VII
Course Code & Name:	C405 & IT8075 - Software Project Management
Year of Study :	2021 – 2022

Course Code and Name : C405 & IT8075 - Software Project Management		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C405.1	**Gain** extensive knowledge about the basic project management concepts, framework and the process models	K2
C405.2	**Obtain** adequate knowledge about software process models and software effort estimation techniques	K2
C405.3	**Estimate** the risks involved in various project activities	K3
C405.4	**Define** the checkpoints, project reporting structure, project progress and tracking mechanisms using project management principles	K1
C405.5	**Learn** staff selection process and the issues related to people management	K1

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VII
Course Code & Name:	C406 & CS8079 - Human Computer Interaction
Year of Study :	2021 – 2022

Course Code and Name : C406 & CS8079 - Human Computer Interaction		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C406.1	**Design** effective dialog for HCI	K5
C406.2	**Design** effective HCI for individuals and persons with disabilities	K5
C406.3	**Assess** the importance of user feedback	K2
C406.4	**Explain** the HCI implications for designing multimedia/ ecommerce/ e-learning Web sites	K2
C406.5	**Develop** meaningful user interface	K5

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VII
Course Code & Name:	C407 & CS8711 - Cloud Computing Laboratory
Year of Study :	2021 – 2022

Course Code and Name : C407 & CS8711 - Cloud Computing Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C407.1	**Configure** various virtualization tools such as Virtual Box, VMware workstation	K2
C407.2	**Design** and deploy a web application in a PaaS environment.	K5
C407.3	**Learn** how to simulate a cloud environment to implement new schedulers	K1
C407.4	**Install** and use a generic cloud environment that can be used as a private cloud	K4
C407.5	**Manipulate** large data sets in a parallel environment	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VII
Course Code & Name:	C408 & IT8761 - Security Laboratory
Year of Study :	2021 – 2022

Course Code and Name : C408 & IT8761 - Security Laboratory		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C408.1	**Develop** code for classical Encryption Techniques to solve the problems	K5
C408.2	**Build** cryptosystems by applying symmetric and public key encryption algorithms	K5
C408.3	**Construct** code for authentication algorithms	K5
C408.4	**Develop** a signature scheme using Digital signature standard	K5
C408.5	**Demonstrate** the network security system using open source tools	K5

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VIII
Course Code & Name:	C409 & CS8080 Information Retrieval Techniques
Year of Study :	2021 – 2022

Course Code and Name : C409 & CS8080 Information Retrieval Techniques		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C409.1	**Use** an open source search engine framework and explore its capabilities	K2
C409.2	**Apply** appropriate method of Modeling and Retrieval Evaluation	K3
C409.3	**Apply** appropriate method of classification or clustering.	K3
C409.4	**Design** and implement innovative features in a search engine.	K5
C409.5	**Design** and implement a recommender system.	K5

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VII
Course Code & Name:	C410 & CS8076 GPU Architecture and Programming
Year of Study :	2021 – 2022

Course Code and Name : C410 & CS8076 GPU Architecture and Programming		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C410.1	**Describe** GPU Architecture	K2
C410.2	**Write** programs using CUDA, identify issues and debug them.	K2
C410.3	**Implement** efficient algorithms in GPUs for common application kernels, such as matrix multiplication	K3
C410.4	**Write** simple programs using OpenCL	K2
C410.5	**Identify** efficient parallel programming patterns to solve problems	K2

Programme: B.E. Computer Science & Engineering	
Year & Semester:	III & VII
Course Code & Name:	C411 & CS8811 - Project Work
Year of Study :	2021 – 2022

Course Code and Name :		
Course Code	**CO Statements**	**Knowledge Level**
The students should be able to		
C411.1	**Identify** the problem by applying acquired knowledge.	K2
C411.2	**Analyze** and categorize executable project modules after considering risks.	K2
C411.3	**Choose** efficient tools for designing project modules.	K2
C411.4	**Combine** all the modules through effective team work after efficient testing	K2
C411.5	**Elaborate** the completed task and compile the project report.	K2

ABBREVIATIONS

C101.1 **C stands for Course**
1 stands for year of study
01 stands for first paper as per the curriculum
.1 stands for Outcomes for particular course

***The same format is followed for remaining years and courses**