- **Course Outcomes: HCT1.1 Digital Logic:**

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Examine the structure of number systems and perform the conversion among different numbersystems.	**PO1, PO3**	**K4**
CO2	Illustrate reduction of logical expressions using Boolean algebra, k-map and tabulation method and implement the functions using logic gates.	**PO3, PSO5**	**K3**
CO3	Design and analyses synchronous and asynchronous sequential circuits using flip-flops	**PO4, PO5, PO6**	**K6**
CO4	Implement combinational logic circuits usingprogrammable logic devices.	**PO9, PO7**	**K3**
CO5	Examine the structure of various number systemsand its application in digital design.	**PO8**	**K4**
CO6	Ability to identify basic requirements for a designapplication and propose a cost-effective solution	**PO10**	**K3**

Course Outcomes: HCT1.2 OOP's Using C++

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Create simple programs using classes and objects inC++.	**PO3, PSO5**	**K6**
CO2	Implement Object Oriented Programming Conceptsin C++.	**PO2, PSO6**	**K3**
CO3	Develop applications using stream I/O and file I/O**.**	**PO6, PO8, PSO2**	**K6**
CO4	Implement Object Oriented Programs usingtemplates and exceptional Handling concepts.	**PO1, PSO3**	**K3**

CO5	Identify importance of object-oriented programmingand difference between structured oriented and object-oriented programming features.	**PO2, PSO6**	**K2**

Course Outcomes: HCT1.3 Programming in VB.NET

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Constructing .NET Framework and describe some of the major enhancements to the newversion of Visual Basic.	**PO2, PSO3, PO5**	**K2**
CO2	Describe the basic structure of a Visual Basic.NET project and use main features of the integrated development environment (IDE).	**PO3, PO8**	**K2**
CO3	Create applications using Microsoft WindowsForm.	**PO4, PO6, PSO3**	**K6**
CO4	Create applications that use ADO. NET.	**PO2**	**K6**

Course Outcomes: SCT1.1 Operating system principle

Sl No.	Outcome Statement	PO/PSO	Cognitive Level
CO1	Analyze various scheduling algorithms.	**PSO1, PO3, PSO4**	**K4**
CO2	Understand deadlock, prevention, and avoidancealgorithms.	**PO7, PO10**	**K2**
CO3	Compare and contrast various memorymanagement schemes.	**PSO2, PO4**	**K4**
CO4	Perform administrative tasks on Linux Servers.	**PSO1**	**K3**
CO5	Compare iOS and Android Operating Systems	**PO1, PO2**	**K4**

CO6	Understand the functionality of file systems.	**PO9, PSO3**	**K2**

Course Outcomes: HCT2.1 Data Structures using C++

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Understand basic and data structures dealingwith algorithm development using C++.	PO1, PSO2	K2
CO2	Apply search and sort techniques concord withreal-time computational problems.	PO2, PSO2	K3
CO3	Analyze data structures dealing with algorithmdevelopment viz. stacks, queues, lists, trees, andgraphs.	PO2, PSO4	K4
CO4	Construct algorithmic approaches in real timecomputational environment.	PO2	K6
CO5	Analyze non-linear data structure tree.	PO9, PSO3	K4
CO6	Understand representation, operations, and traversal mechanisms to implement the conceptof a graph.	PO3, PSO4	K2

Course Outcomes: HCT2.2 Relational Database and management system

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Describe the fundamental elements of relationaldatabase management systems	PO2, PSO2	K2
CO2	Explain the basic concepts of relational data model, entity-relationship model, relationaldatabase design, relational algebra, and SQL.	PO2, PO4	K2
CO3	Design ER-models to represent simple databaseapplication scenarios	PO6, PSO4, PSO6	K6
CO4	Design the ER-model to relational tables, populate relational database and formulate SQLqueries on data	PO2	K6

CO5	Construct the database design by normalization,Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing	**PO7, PSO4**	**K6**

Course Outcomes: SCT 2.1: Data communication and networks

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Understand the basics of data communication,networking, internet, and their importance.	**PO4, PSO2**	**K2**
CO2	Analyze the services and features of variousprotocol layers in data networks.	**PO2, PSO3**	**K4**
CO3	Differentiate wired and wireless computernetworks	**PO5**	**K4**
CO4	Analyze TCP/IP and their protocols	**PO2, PSO5**	**K4**
CO5	Recognize the different internet devices andtheir functions.	**PO6, PSO1**	**K2**
CO6	Identify the basic security threats of a network.	**PO2**	**K2**

Course Outcomes: HCT 3.1: Advance java

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Understandthe concepts related to Java Technology.	**PO2, PSO3**	**K2**
CO2	Analyze and understand use of Java Server Programming	**PO6, PSO4**	**K4**
CO3	Create dynamic web pages, using Servlets and JSP Make a reusable software component, using Java Bean	**PO7, PO3**	**K6**
CO4	Examine skills to develop real time applications	**PSO1**	**K4**

CO5	Construct database through Java programs,using Java Database Connectivity (JDBC)	**PO4, PSO5**	**K6**
CO6	Develop advanced skills for programming inJava	**PO3**	**K6**

Course Outcomes: HCT 3.2: Software Engineering

Sl No.	Outcome Statement	PO/PSO	Cognitive Level
CO1	Identify, formulate, and solve complex engineering problems by applying principles ofengineering, science, and mathematics	**P01, PSO3**	**K2**
CO2	Apply engineering design to produce solutionsthat meet specified needs with consideration ofpublic health, safety, and welfare, as well asglobal, cultural, social, environmental, and economic factors	**PO3**	**K3**
CO3	Recognize ethical and professional responsibilities in engineering situations andmake informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	**PO2, PSO4**	**K2**
CO6	Develop and conduct appropriate experimentation, analyze, and interpret data, anduse engineering judgment to draw conclusions	**PO9, PO10**	**K6**
	Apply new knowledgeas needed, usingappropriate learning strategies	**PO1, PSO2**	**K3**

Course Outcomes: SCT 3.2: Computer graphics

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Explain the applications, areas, and graphicpipeline, display and hardcopy technologies.	PO2, PSO2	K2
CO2	Apply and compare the algorithms fordrawing 2D images also explain aliasing,anti-aliasing, and half toning techniques	PO2, PO6	K3
CO3	Discuss Open GL application programming Interface and apply it for 2D & 3D computergraphics.	PO3, PSO4	K2
CO4	Analyze and apply clipping algorithms andtransformation on 2D images	PO4, PSO3	K2
C05	Solve the problems on viewing transformations and explain the projection and hidden surface removal algorithms.	PSO2	K3
CO6	Explain basic ray tracing algorithm, shading,shadows, curves, and surfaces and also solve the problems of curves	PO1, PO9	K2

Course Outcomes: HCT 4.1: Web Designing

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Describe the concepts of World Wide Web and the requirements of effective web design	PO10, PSO3	K2
CO2	Develop web pages using the HTML and CSS features with different layouts as per need of applications.	PO2, PO7	K6
CO3	Develop dynamic web pages	PSO1, PO3	K6
CO4	Construct simple web pages in PHP and torepresent data in XML format	P02, PSO5	K6

CO5	Apply server-side scripting with PHP to generate the web pages dynamically using the database connectivity	**PO8, PO9**	**K3**

Course Outcomes: HCT 4.2: Problem Solving using Python

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Apply a new computational problem and develop a plan to solve it through problem understanding and decomposition.	**PO2, PSO4**	**K3**
CO2	Design creation process that includes specifications, algorithms, and testing.	**PO3, PSO5**	**K6**
CO3	Develop Code, test, and debug a program in Python, based on your design. Importantcomputer science concepts such as problem solving (computational thinking), problem decomposition, algorithms, abstraction, and software quality are emphasized throughout.	**PO9, PSO3**	**K6**
CO4	Apply application development and prototyping using Python.	**PO3, PO6**	**K3**
CO5	Apply fundamental problem-solving techniques.	**PO7, PSO3**	

Course Outcomes: SCT 4.1: Digital Image Processing

Sl No.	Outcome Statement	PO/PSO	Cognitive Level
CO1	Understand application of digital image processing.	**PO1, PSO5**	**K2**
CO2	Describe digital image representation, manipulation and illustrate the use of histograms.	**PO9, PO10**	**K2**

CO3	Applying various Geometric transformations on image and Illustrate Two - dimensional Fouriertransform.	**PO7, PSO2**	**K3**
CO4	Understand image transformation techniques viz. Fourier transform, Walsh Hadamard, DCT and Hotelling transform.	**PO6, PSO5**	**K2**
CO5	Understand image enhancement techniques -histogram processing and various image filters viz. Laplacian filter, smoothing and sharpening filters, spatial filters, and homomorphic filters.	**P03, P06**	**K2**
CO6	Applying various Ideal filters in the frequency domain and understand the concept of edgedetection.	**PO3**	**K3**
CO7	Understand concept of segmentation in images.	**PSO2, PSO4**	**K2**

Course Outcomes: HCMP 4.3: Major Project

Sl.No	Outcome Statement	PO/PSO	Cognitive Level
CO1	Develop an innovative software application that addresses a specific real-world problem in the field of computer science.	**PO2, PSO2**	**K6**
CO2	Implement a scalable and efficient algorithm to optimize data processing and analysis for large datasets.	**PO2, PO6**	**K6**
CO3	Create a user-friendly and interactive interface for thecomputer science project, enhancing user experience and engagement.	**PO3, PSO4**	**K6**
CO4	Conduct rigorous testing and debugging to ensure thereliability and accuracy of the computer program.	**PO4, PSO3**	**K6**

CO5	Demonstrate proficient coding skills and apply best practices in software development throughout themajor project.	**PSO2**	**K6**
CO6	Collaborate effectively within a team, showcasingstrong communication and teamwork abilities.	**PO1, PO9**	**K2**
CO7	Employ advanced machine learning techniques todevelop a predictive model for a given dataset.	**PO2, PSO2**	**K6**