

**Program Outcomes (POs)
Program Specific Outcomes (PSO)
Course Outcomes (COs)
&
CO PO-PSO Articulation Matrices
(2025-26) Onwards**



**Department of Computer Science & Engineering
BRCM
College of Engineering & Technology**

Washington Accord Knowledge and Attitude Profiles (WK)

- WK1:** A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.
- WK2:** Conceptually-based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline.
- WK3:** A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.
- WK4:** Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.
- WK5:** Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design

and operations in a practice area.

WK6: Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.

WK7: Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development.

WK8: Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.

WK9: Ethics, inclusive behavior and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability etc. with mutual understanding and respect, and of inclusive attitudes.

Program Outcomes (POs)

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

Program Specific Outcomes (PSO)

At the end of the program, the student

PSO1: Should be able to apply the Concepts of Mathematics, Algorithms, Data Structures, Programming Languages, Databases, Multimedia, Operating Systems, Computer Networks, Computer Architecture, Big Data Analysis, Artificial Intelligence and Machine Learning to solve computation tasks and develop applications of varying complexity.

PSO2: Should be able to understand and make a contribution in the areas of Computer Science & Engineering through the design & planning of Software based real-world applications and also demonstrate professional ethics & concern for social well-being.

BRCM COLLEGE OF ENGINEERING & TECHNOLOGY (BRCMCET)
Department of Computer Science & Engineering

B.Tech. CSE 3rd Semester

Course: Database Management Systems (PCC-CSE-201G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To Describe the concepts of DBMS Architecture and database objects and their Applications.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L2): To Summarize transaction processing, concurrency control and database recovery protocols in databases.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO3 (L3): To Apply Relational algebra operation & Structured Query Language (SQL) for database manipulation.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L3): To Apply normalization algorithms using database design theory for different applications.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO5 (L6): To Design Relational database systems for different applications to interact with databases.	3	3	3	3	3	1	1	2	3	3	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.20	2.20	2.20	1.80	3.00	3.00

Course: Data Structures & Algorithms (PCC-CSE-203G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L1): To Explain the basic concepts such as Abstract Data Types, Linear and Non-Linear Data structures.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L2): To Describe insertion, deletion and traversing operations on Data Structures.	3	3	3	3	3	-	-	1	2	2	1	3	3
CO3 (L3): To Solve problems using Algorithms such as the sorting, searching and hashing.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L3): To Solve Problems using Data Structures such as Lists, Graphs, Queues.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO5 (L6): To Design programs using a variety of data structures such as stacks, queues, hash tables, binary trees, search trees, heaps, graphs, and B-trees.	3	3	3	3	3	1	1	2	3	3	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.20	2.20	2.20	1.60	3.00	3.00

Course: Digital Electronics (ESC-CSE-205G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L1): To Recall the basics of Digital Electronics	3	3	3	2	3	-	-	1	2	2	1	2	2
CO2 (L2): To Summarize the minimization techniques of Digital Circuits.	3	3	3	3	3	-	-	1	2	2	1	2	2
CO3 (L3): To Apply the working mechanism and design guidelines of different combinational, and sequential circuits.	3	3	3	3	3	1	1	2	2	2	2	3	2
CO4 (L4): To Analyze different types of Digital Electronic circuits using various Matrices and mathematical methods.	3	3	3	3	3	1	1	2	2	2	2	3	2
CO5 (L6): To Design different types of Digital Circuits.	3	3	3	3	3	1	1	2	3	3	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.60	2.20	2.20	1.60	2.60	2.20

Course: Python Programming (PCC-CSE-207G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L1): To Define the basic concepts of Python programming.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L2): To Explain the string manipulation and text files of Python programming.	3	3	3	3	3	-	-	1	2	2	1	3	3
CO3 (L3): To Apply various Lists, Dictionaries and Functions used in Python language.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L3): To Analyze Object-Oriented aspects in Python programming such as inheritance, polymorphism etc.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO5 (L6): To Design and plan software solutions to problems using an object-oriented strategy.	3	3	3	3	3	1	1	2	3	3	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.20	2.20	2.20	1.60	3.00	3.00

Course: Math-III (Multivariable Calculus, Differential Equations) (BSC-MATH-203G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1,2	WK2	WK2	WK3	WK2,3	-	-	WK8	WK9	WK9	WK1-4	WK2	WK2,3
CO1 (L1): To Recall the mathematical tools needed in evaluating multiple integrals and their usage.	3	3	2	2	2	-	-	1	1	1	1	3	2
CO2 (L2): To Understand the effective mathematical tools for the solutions of differential equations that model physical processes.	3	3	3	3	2	-	-	1	1	1	1	3	2
CO3 (L3): To Apply the tools of differentiation and integration of functions that are used in various techniques dealing engineering problems.	3	3	3	3	3	-	-	1	1	1	2	3	2
CO4 (L4): To Analyze how to deal with functions of several variables that are essential in most branches of engineering.	3	3	3	3	3	-	-	1	1	1	2	3	2
CO5 (L5): To Evaluate/solve the mathematical problems related to multivariable differentiation and integration.	3	3	3	3	3	-	-	1	1	1	2	3	2
CO Average Matrix Target	3.00	3.00	2.80	2.80	2.60	0.00	0.00	1.00	1.00	1.00	1.60	3.00	2.00

Course: Economics for Engineers (HSMC-01G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK1-4	WK7-9	WK7,9
CO1 (L1): To Describe the Basics of Economic Theories terminology, Cost concepts and Pricing Policies Used in Engineering Economics.	2	2	2	1	1	-	-	1	2	3	2	1	2
CO2 (L2): To Summarize the measures of national income, the functions of banks and concepts of globalization.	2	2	2	1	1	-	-	1	2	3	2	1	2
CO3 (L2): To Discuss how supply and demand change when a product's price changes.	2	2	2	1	1	-	-	1	2	3	2	1	2
CO4 (L4): To Use the Concept of Demand to explain the Outcomes of markets for individuals firms and society.	2	2	2	2	1	-	-	2	2	3	2	1	3
CO5 (L4): To Analyze how a change in price and income affects the behaviour of buyers and sellers.	2	2	2	2	1	-	-	2	2	3	2	1	3
CO Average Matrix Target	2.00	2.00	2.00	1.40	1.00	0.00	0.00	1.40	2.00	3.00	2.00	1.00	2.40

Course: Database Management Systems LAB (LC-CSE-209G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To List of various of SQL Command	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L2): To Demonstrate SQL queries using SQL operators.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO3 (L6): To Create a database by using data definition, data manipulation and control languages.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L6): To Create a Database application and retrieve the values with the help of queries using SQL.	3	3	3	3	3	1	1	2	3	3	2	3	3
CO5 (L6): To Create views, cursor and triggers.	3	3	3	3	3	1	1	2	3	3	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.40	2.40	2.40	1.80	3.00	3.00

Course: Digital Electronics LAB (LC-ESC-211G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L1): To Recall the basic knowledge about measuring instrument and kit.	3	3	3	2	3	-	-	1	2	2	1	2	2
CO2 (L2): To Explain the asynchronous, synchronous digital circuit and Flip-Flop conversion. Also basic knowledge about TTL and Flip-Flop Gates.	3	3	3	3	3	-	-	1	2	2	1	2	2
CO3 (L4): To Analyze the function using k-maps and operation of shift register	3	3	3	3	3	1	1	2	2	2	2	3	2
CO4 (L6): To Verify the operation of Multiplexer, Demultiplexer & counter.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO5 (L6): To Design counter and seven segment display unit.	3	3	3	3	3	1	1	2	3	3	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.60	2.20	2.20	1.60	2.60	2.40

Course: Data Structures & Algorithms LAB Using C (LC-CSE-213G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To Choose appropriate data structure while designing the applications.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L2): To Solve the problems of various data structures such as stack, queue and tree.	3	3	3	3	3	-	-	1	2	2	1	3	3
CO3 (L4): To Analyze the complexity of the algorithms.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L6): To Implement various searching and sorting techniques.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO5 (L6): To Implement linear and non-linear data structures using linked list	3	3	3	3	3	1	1	2	3	3	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.20	2.20	2.20	1.60	3.00	3.00

Course: Python Programming LAB (LC-CSE-215G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L1): To Recall the basic concepts of Python Programming.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L2): To Describe the core data structures like lists, dictionaries, tuples and sets in Python to store, process and sort the data.	3	3	3	3	3	-	-	1	2	2	1	3	3
CO3 (L3): To Apply the external modules and import specific methods from the package	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L3): To Demonstrate proficiency in handling Strings and File Systems	3	3	3	3	3	-	-	1	2	2	2	3	3
CO5 (L6): To Design a dynamic application through Python Programming.	3	3	3	3	3	1	1	2	3	3	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.20	2.20	2.20	1.60	3.00	3.00

B.Tech. CSE 4th Semester

Course: Discrete Mathematics (PCC-CSE-202G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	-	-	-	-	-	-	WK1-4	WK1-4	WK5
CO1 (L1): Recall the Concepts, design and implementation of Discrete mathematics	3	-	-	-	-	-	-	-	-	-	1	3	1
CO2 (L2): Perform the operations associated with sets, relations, functions and discrete structures.	3	2	-	-	-	-	-	-	-	-	1	3	1
CO3 (L3): Apply mathematical logic to solve problems.	3	3	2	2	-	-	-	-	-	-	1	3	2
CO4 (L3): Apply the properties of Boolean algebra to simplify or convert a Boolean expression	2	3	3	2	-	-	-	-	-	-	1	3	2
CO5 (L4): Solve real world problems using graphs and trees.	2	3	3	2	-	-	-	-	-	-	3	3	3
CO Average Matrix Target	2.60	2.75	2.67	2.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	3.00	1.80

Course: Computer Organization & Architecture (PCC-CSE-204G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	-	-	-	-	-	-	WK1-4	WK1-4	WK5
CO1 (L1): Describe the basics of Computer Organization and Architecture and functionality of central processing unit.	3	-	-	-	-	-	-	-	-	-	1	3	1
CO2 (L2): Explain the basics of Data representation, components, and fixed point representation.	3	2	-	-	-	-	-	-	-	-	1	3	1
CO3 (L4): Analyze different modes of data transfer, classify interconnection structures and distinguish CPU vs. ALU architectures.	2	3	2	2	-	-	-	-	-	-	1	3	2
CO4 (L4): Classify cache memory Matrices techniques and examine register transfer between processor, memory & I/O.	2	3	3	2	-	-	-	-	-	-	1	3	2
CO5 (L5): Compare Hardwired & CISC style processors of parallel processing, pipelining and inter-processor communication.	2	2	3	2	-	-	-	-	-	-	3	2	3
CO Average Matrix Target	2.40	2.50	2.67	2.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	2.80	1.80

Course: Operating System (PCC-CSE-206G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	-	-	-	-	-	-	WK1-4	WK1-4	WK5
CO1 (L1): Recall the basic knowledge about the Operating System and Process.	3	-	-	-	-	-	-	-	-	-	1	3	1
CO2 (L2): Describe the concepts of memory management including virtual memory.	3	2	-	-	-	-	-	-	-	-	1	3	1
CO3 (L3): Apply the concept of the different scheduling algorithms used for process management.	2	3	2	2	-	-	-	-	-	-	1	3	1
CO4 (L4): Analyze the issues related to file system interface and implementation, disk management.	2	3	2	2	-	-	-	-	-	-	1	3	2
CO5 (L5): Compare various types of operating systems including Unix.	2	2	2	2	-	-	-	-	-	-	3	2	2
CO Average Matrix Target	2.40	2.50	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	2.80	1.40

Course: Object Oriented Programming (PCC-CSE-208G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	-	-	-	WK1-4	WK1-4	WK5
CO1 (L1): Recall the basic concept of OOPs and C++ language features.	3	-	-	-	-	-	-	-	-	-	1	3	1
CO2 (L2): Demonstrate the use of constructors, destructors and the behaviour of inheritance.	3	2	2	-	2	-	-	-	-	-	1	3	2
CO3 (L3): Apply the concept of Function overloading, operator overloading, inheritance, virtual functions.	2	2	3	2	3	-	-	-	-	-	1	3	2
CO4 (L4): Analyze runtime Polymorphism and Generic Programming.	2	3	2	2	-	-	-	-	-	-	1	3	3
CO5 (L5): Evaluate Exception handling.	2	2	3	2	-	-	-	-	-	-	3	2	3
CO Average Matrix Target	2.40	2.25	2.50	2.00	2.50	0.00	0.00	0.00	0.00	0.00	1.40	2.80	2.20

Course: Organizational Behaviour (HSMC-02G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	-	WK5	-	-	-	WK7,8	WK8	-	-	-	-	-	WK7,8
CO1 (L1): Be able to resolve the conflicts within an organization.	-	-	-	-	-	2	2	3	2	2	1	-	2
CO2 (L2): Learn how effectively and efficiently a manager manages their employees.	-	1	-	-	-	2	2	2	2	3	1	-	2
CO3 (L2): Understand students their own behaviour, attitudes and ethical views.	-	1	-	-	-	2	3	2	2	1	2	-	3
CO4 (L4): Analyze how to improve the functional behaviour within an organization.	-	3	-	-	-	2	2	3	3	3	1	-	2
CO5 (L4): Develop the communication and administrative skills.	-	-	-	-	-	3	3	3	3	3	3	-	3
CO Average Matrix Target	0.00	1.67	0.00	0.00	0.00	2.20	2.40	2.60	2.40	2.40	1.60	0.00	2.40

Course: Environmental Sciences (MC-106G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	-	WK5	-	-	-	WK7,8	WK8	-	-	-	-	-	WK7,8
CO1 (L2): Understand the core concepts and methods from ecological/physical sciences in problem-solving.	-	1	-	-	-	3	2	-	-	-	1	-	2
CO2 (L2): Discuss Living Organisms, and various issues related to Environment.	-	1	-	-	-	3	3	1	1	-	1	-	2
CO3 (L3): Apply the environment friendly techniques for healthy environment.	-	2	-	-	-	3	3	1	1	-	2	-	3
CO4 (L4): Analyze problems associated with environmental degradation including pollution.	-	3	-	-	-	2	3	1	1	-	2	-	2
CO5 (L4): Assess the contribution of human behaviour in environmental degradation.	-	3	-	-	-	3	3	2	2	-	3	-	3
CO Average Matrix Target	0.00	2.00	0.00	0.00	0.00	2.80	2.80	1.25	1.25	0.00	1.80	0.00	2.40

Course: Web Technologies (PCC-CSE-210G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	-	-	-	WK1-4	WK2-6	WK5
CO1 (L1): Recall the basic concept of internet & protocols of internet.	3	-	-	-	-	-	-	-	-	-	1	2	1
CO2 (L2): Understand HTML, CSS, XML & PHP for website preparation.	3	2	2	-	2	-	-	-	-	-	1	3	2
CO3 (L3): Implement AJAX with PHP for database connectivity.	2	2	3	2	3	-	-	-	-	-	1	2	3
CO4 (L4): Analyze different tools & Web development languages for Attractive Website.	2	3	2	2	3	-	-	-	-	-	1	3	3
CO5 (L6): Design web pages using HTML, XML and DHTML.	1	2	3	2	-	-	-	-	-	-	3	3	3
CO Average Matrix Target	2.20	2.25	2.50	2.00	2.67	0.00	0.00	0.00	0.00	0.00	1.40	2.60	2.40

Course: Operating System LAB (LC-CSE-212G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	-	-	-	-	WK1-4	WK5
CO1 (L2): Discuss UNIX File System & Commands for working in UNIX environment.	3	2	-	-	2	-	-	-	-	-	1	3	1
CO2 (L3): Apply the basic concepts of Shell Programming and control structures.	2	2	2	2	2	-	-	1	1	1	1	3	2
CO3 (L4): Analyze LINUX kernel, shell, basic commands, pipe and filter commands.	2	3	3	2	3	-	-	1	1	1	1	3	2
CO4 (L4): Analyze CPU Scheduling Algorithms (FCFS, RR, SJF, Priority, etc.).	2	2	3	2	3	-	-	2	2	2	3	2	3
CO5 (L5): Evaluate simulating FIFO, LRU, and OPTIMAL page replacement algorithms.	1	3	3	2	3	-	-	2	2	2	3	2	3
CO Average Matrix Target	2.00	2.40	2.75	2.00	2.60	0.00	0.00	1.50	1.50	1.50	1.80	2.60	2.20

Course: OOP Using C++ LAB (LC-CSE-214G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	-	-	-	-	WK1-4	WK5
CO1 (L2): Explain C++ compiler and translate basic C programs into C++ programs.	3	2	-	-	2	-	-	-	-	-	1	3	1
CO2 (L3): Apply inheritance and polymorphism features to implement code reusability.	2	2	2	2	2	-	-	1	1	1	1	3	2
CO3 (L4): Analyze Exception handling concepts to handle runtime errors.	2	3	3	2	3	-	-	1	1	1	1	3	2
CO4 (L6): Create programs on classes, objects, constructors and utilize access specifiers.	2	2	3	2	3	-	-	2	2	2	3	2	3
CO5 (L6): Create programs using different operators, function overloading and operator overloading.	1	3	3	2	3	-	-	2	2	2	3	2	3
CO Average Matrix Target	2.00	2.40	2.75	2.00	2.60	0.00	0.00	1.50	1.50	1.50	1.80	2.60	2.20

Course: Web Technologies LAB (LC-CSE-216G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	-	-	-	-	WK1-4	WK5
CO1 (L2): Describe different commands of HTML, CSS, XML & PHP for website preparation.	3	2	-	-	2	-	-	-	-	-	1	3	1
CO2 (L3): Use AJAX with PHP for database connectivity.	2	2	2	2	2	-	-	1	1	1	1	3	2
CO3 (L4): Analyze a web page and identify its elements and attributes.	2	3	3	2	3	-	-	1	1	1	1	3	2
CO4 (L6): Create XML documents and Schemas.	2	2	3	2	3	-	-	2	2	2	3	2	3
CO5 (L6): Design an Application with Back-end use PHP.	1	3	3	2	3	-	-	2	2	2	3	2	3
CO Average Matrix Target	2.00	2.40	2.75	2.00	2.60	0.00	0.00	1.50	1.50	1.50	1.80	2.60	2.20

B.Tech. CSE 5th Semester**Course: Microprocessor (ESC-CSE-301G) - Course Articulation Matrix**

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK9	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L1): To Recall the basic knowledge of microprocessor and interfacing devices.	3	-	-	-	2	-	-	-	-	-	1	3	1
CO2 (L2): To Understand the construction, principle of operation and pin configuration and architecture of microprocessor (8085, 8086 processor) and peripheral devices.	3	2	2	1	2	-	-	-	-	-	1	3	2
CO3 (L3): To Experiment the programming by the understanding of instruction sets of microprocessor.	3	2	3	2	3	-	-	-	1	1	1	3	2
CO4 (L4): To Analyze the interfacing of devices like 8255, 8259, 8237, 8254.	3	3	3	2	3	-	-	-	1	1	1	3	2
CO5 (L6): To Create the programming of 8085 and 8086 microprocessor and interfacing the devices.	3	3	3	2	3	-	-	1	1	1	2	3	3
CO Average Matrix Target	3.00	2.50	2.75	1.75	2.75	0.00	0.00	1.00	1.00	1.00	1.20	3.00	2.00

Course: Computer Networks (PCC-CSE-303G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	-	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L1): To Explain Basic Computer Network Terms and Principles.	3	-	-	-	2	-	-	-	-	-	1	3	1
CO2 (L2): To Summarize different protocols used at Application Layer i.e. FTP, DNS, HTTP, SNMP, SMTP.	3	2	2	1	3	-	-	-	-	1	1	3	2
CO3 (L4): To Examine the functions of different layers in OSI and TCP/IP model.	3	3	3	2	3	-	-	-	1	2	1	3	3
CO4 (L4): To Analyze the different types of Network Topologies and Protocols.	3	3	3	2	3	-	-	-	1	2	1	3	3
CO5 (L4): To Compare different Network Layer Protocols and Routing Algorithms.	3	3	3	2	3	-	-	-	2	2	1	3	3
CO Average Matrix Target	3.00	2.75	2.75	1.75	2.80	0.00	0.00	0.00	1.33	1.75	1.00	3.00	2.40

Course: Formal Languages & Automata (PCC-CSE-305G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L2): To Understand designing of various kinds of Finite State Machines.	3	2	-	1	1	-	-	-	-	1	-	3	1
CO2 (L4): To Analyze various types of grammars i.e. Context Free Grammars.	3	3	2	2	1	-	-	-	-	1	1	3	2
CO3 (L2): To Describe the basic concepts of computability using Turing Machines and Undecidability.	3	3	2	1	1	-	-	-	-	1	-	3	1
CO4 (L4): To Examine the Regular Expressions and Properties of Regular languages.	3	3	2	2	1	-	-	-	-	1	-	3	2
CO5 (L5): To Conceptualize about parsing of grammars, finding out ambiguities and removing ambiguities from grammars.	3	3	3	2	2	-	-	1	1	2	1	3	2
CO Average Matrix Target	3.00	2.80	2.25	1.60	1.20	0.00	0.00	1.00	1.00	1.20	1.00	3.00	1.60

Course: Design & Analysis of Algorithms (PCC-CSE-307G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L1): To Recall the concept of algorithm designs and non-linear data structures.	3	3	2	1	1	-	-	-	-	1	-	3	2
CO2 (L2): To Describe NP Hard and NP Complete Problems.	3	3	2	2	1	-	-	-	-	1	1	3	2
CO3 (L3): To Apply Divide and Conquer, Greedy and Dynamic Programming algorithmic methods.	3	3	3	2	2	-	-	-	1	1	1	3	3
CO4 (L3): To Apply efficient algorithms based on Backtracking and Branch & Bound approach in solving real time problems.	3	3	3	2	2	-	-	-	2	2	1	3	3
CO5 (L4): To Analyze the asymptotic performance of algorithms.	3	3	3	3	2	-	-	1	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	2.60	2.00	1.60	0.00	0.00	1.00	1.67	1.40	1.25	3.00	2.60

Course: Programming in Java (PCC-CSE-309G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK9	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L2): To Describe the basics of object-oriented programming using JAVA.	3	2	2	1	2	-	-	-	1	1	-	3	2
CO2 (L3): To Apply the concept of classes, Java, JDK Components and develop Simple Java Programs.	3	2	3	2	3	-	-	-	1	1	1	3	3
CO3 (L4): To Analyze Multi-threading Programming and Interfaces.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO4 (L6): To Develop Simple Java Programs using Inheritance and Exception.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO5 (L6): To Develop GUI applications using Applet classes, Swing components and Event handling programs.	3	3	3	2	3	-	-	1	2	3	1	3	3
CO Average Matrix Target	3.00	2.60	2.80	1.80	2.80	0.00	0.00	1.00	1.60	1.80	1.00	3.00	2.80

Course: Software Engineering (Elective-I) (PEC-CSE-311G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7,9	WK7	WK9	WK9	WK9	WK9	WK4-6	WK5,9
CO1 (L2): To Understand the Basics Terms of Software Engineering.	2	2	2	1	1	1	1	1	1	2	1	-	2
CO2 (L2): To Discuss Various Software Testing Techniques, Software Quality Assurance activities, ISO standards and Software configuration management.	2	2	2	2	2	1	1	2	2	2	2	-	2
CO3 (L3): To Apply the software engineering lifecycle by demonstrating competence in requirement analysis, planning, analysis, design, construction, testing and deployment.	3	3	3	2	3	2	2	2	2	2	3	2	3
CO4 (L4): To Analyze and lay down software requirements through a productive association with various stakeholders of the software project.	3	3	3	2	2	2	2	2	3	3	3	2	3
CO5 (L4): To Analyze and plan software solutions to problems using an object-oriented strategy.	3	3	3	2	3	2	2	2	2	2	3	2	3
CO Average Matrix Target	2.60	2.60	2.60	1.80	2.20	1.60	1.60	1.80	2.00	2.20	2.40	2.00	2.60

Course: Microprocessor Lab (LC-ESC-321G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK9	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L3): To Understand and apply the fundamentals of assembly level programming of microprocessors and microcontroller.	3	2	2	2	3	-	-	-	1	1	-	3	2
CO2 (L3): To Solve basic binary math operations using the instructions of microprocessor 8085.	3	3	2	2	3	-	-	-	1	1	-	3	2
CO3 (L6): To Design, code and debug Assembly Language programs to implement simple programs.	3	3	3	3	3	-	-	1	1	1	1	3	3
CO4 (L3): To Apply programming knowledge using the capabilities of the stack and the program counter.	3	2	3	2	3	-	-	-	1	1	-	3	2
CO5 (L6): To Troubleshoot interactions between software and hardware.	3	3	3	3	3	1	1	1	2	2	1	3	3
CO Average Matrix Target	3.00	2.60	2.60	2.40	3.00	1.00	1.00	1.00	1.20	1.20	1.00	3.00	2.40

Course: Computer Networks Lab (LC-CSE-323G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK9	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L3): To Demonstrate the functions of each layer of the OSI model and TCP/IP.	3	2	2	2	3	-	-	-	1	2	-	3	2
CO2 (L2): To Describe the different types of network topologies and protocols.	3	2	2	1	3	-	-	-	1	1	-	3	2
CO3 (L4): To Analyze the various routing algorithms.	3	3	3	3	3	-	-	-	1	2	1	3	3
CO4 (L6): To Construct a simple network by using a modern Open Source Network Simulation Tool.	3	3	3	3	3	1	1	1	2	2	1	3	3
CO5 (L6): To Design and implement a peer-to-peer file sharing application utilizing application-layer protocols such as HTTP, DNS, SMTP and transport-layer protocol.	3	3	3	3	3	1	2	1	3	3	2	3	3
CO Average Matrix Target	3.00	2.60	2.60	2.40	3.00	1.00	1.50	1.00	1.60	2.00	1.33	3.00	2.60

Course: Design & Analysis of Algorithms Using C++ (LC-CSE-325G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L3): To Apply the Divide and Conquer method to solve various problems.	3	3	3	2	2	-	-	-	1	1	-	3	3
CO2 (L3): To Apply the Backtracking method to solve various problems.	3	3	3	2	2	-	-	-	1	1	-	3	3
CO3 (L4): To Compare different Sorting and Searching algorithms which provide the same solution.	3	3	3	3	2	-	-	-	1	1	1	3	3
CO4 (L6): To Create programs to solve problems using algorithm design techniques.	3	3	3	3	3	-	-	1	2	2	1	3	3
CO5 (L6): To Create programs to solve problems using Greedy and Dynamic programming techniques.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.60	2.40	0.00	0.00	1.00	1.40	1.40	1.33	3.00	3.00

Course: Programming in Java Lab (LC-CSE-327G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK9	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L2): To Identify the structure and model of the Java programming language.	3	2	2	1	2	-	-	-	1	1	-	3	2
CO2 (L2): To Identify classes, objects, members of a class and relationships among them needed for a specific problem.	3	2	3	2	3	-	-	-	1	1	1	3	3
CO3 (L3): To Demonstrate the concepts of polymorphism and inheritance.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO4 (L6): To Design Java programs to implement error handling techniques using exception handling.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO5 (L6): To Design Java application programs using OOP principles and proper program structuring.	3	3	3	2	3	-	-	1	2	3	1	3	3
CO Average Matrix Target	3.00	2.60	2.80	1.80	2.80	0.00	0.00	1.00	1.60	1.80	1.00	3.00	2.80

B.Tech. CSE 6th Semester

Course: Compiler Design (PCC-CSE-302G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L1): To Recall the concepts, design and implementation of language processors i.e. compilers.	3	3	2	2	2	-	-	-	-	1	-	3	2
CO2 (L2): To Illustrate the various aspects like grammars, languages and phases of compilers etc.	3	3	2	2	2	-	-	-	1	1	-	3	2
CO3 (L3): To Applying concept of First and follow of non-terminals and the ambiguity of Grammar.	3	3	3	2	2	-	-	-	1	1	1	3	2
CO4 (L4): To Analyze the syntax directed translations with syntax trees.	3	3	3	3	2	-	-	1	2	2	1	3	3
CO5 (L5): To Evaluate the Code Optimization and Code Generation.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	2.60	2.40	2.20	0.00	0.00	1.00	1.50	1.40	1.33	3.00	2.40

Course: Artificial Intelligence (PCC-CSE-304G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To Describe the concept of Artificial Intelligence.	3	2	2	1	2	-	-	-	1	1	-	3	2
CO2 (L3): To Solve the basic AI based problem solving, inference perception, knowledge representation and learning.	3	3	3	2	3	-	-	-	1	2	1	3	3
CO3 (L4): To Break down real-world problems as state space problems, optimization problems or constraint satisfaction problems.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L4): To Analyze AI techniques to real-world problems to develop intelligent systems.	3	3	3	3	3	1	1	1	2	2	2	3	3
CO5 (L6): To Design an expert system by using appropriate tools and techniques for implementing the intelligent system.	3	3	3	3	3	1	1	2	2	2	3	3	3
CO Average Matrix Target	3.00	2.80	2.80	2.40	2.80	1.00	1.00	1.33	1.60	1.80	2.00	3.00	2.80

Course: Advanced Java (PCC-CSE-306G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK9	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L2): To Describe the role of Servlet & JSP for Web designing.	3	2	2	1	3	-	-	-	1	1	-	3	2
CO2 (L3): To Demonstrate the role of Spring & Struts.	3	3	3	2	3	-	-	1	1	2	1	3	3
CO3 (L4): To Differentiate between Hibernate & Spring.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO4 (L4): To Analyze Design Pattern of J2EE & Android.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO5 (L6): To Create Mail API for understanding of mail system.	3	3	3	2	3	-	-	1	2	2	2	3	3
CO Average Matrix Target	3.00	2.80	2.80	1.80	3.00	0.00	0.00	1.00	1.60	1.80	1.25	3.00	2.80

Course: Mobile and Wireless Communication (ESC-CSE-308G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK9	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L2): To Describe the key concepts of cellular communication and Satellite Systems.	3	2	2	1	2	-	-	-	1	1	-	3	2
CO2 (L3): To Demonstrate the standards like GSM, Bluetooth, 802.11, WAP etc.	3	3	3	2	3	-	-	1	1	2	1	3	3
CO3 (L4): To Differentiate various multiple-access techniques for mobile communications like FDMA, TDMA, and CDMA.	3	3	3	3	3	-	-	1	2	2	1	3	3
CO4 (L4): To Analyze various routing algorithms and applications of Mobile Ad-Hoc Networks.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO5 (L5): To Assess Mobile IP Standard with packet delivery concept.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO Average Matrix Target	3.00	2.80	2.80	2.40	2.80	1.00	1.00	1.50	1.60	1.80	1.50	3.00	2.80

Course: Advanced Database Management System (Elective-II) (PEC-CSE-310G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L2): To Describe Basic Components, Terms, Advantages and Disadvantages of DBMS.	3	2	2	1	3	-	-	-	1	1	-	3	2
CO2 (L2): To Illustrate the Transactions issues and concurrency control.	3	3	2	2	3	-	-	1	1	2	1	3	3
CO3 (L3): To Demonstrate the ER, EER, Network, Hierarchical and Relational data models.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO4 (L4): To Analyze Parallel and Distributed Databases and Query Processing and Optimization.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO5 (L4): To Compare Object Oriented and Object Relational Databases.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO Average Matrix Target	3.00	2.80	2.60	2.20	3.00	0.00	0.00	1.00	1.60	1.80	1.50	3.00	2.80

Course: Distributed System (Elective-III) (PCC-CSE-316G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L1): To Recall the Goals, Issues, hardware & software concepts of the Distributed system.	3	2	2	2	3	-	-	-	1	1	1	3	2
CO2 (L2): To Discuss the Communication & Synchronization Algorithms in Distributed System.	3	3	3	2	3	-	-	1	1	2	1	3	3
CO3 (L3): To Apply Scheduling & Processor Allocation Techniques for Load balancing.	3	3	3	3	3	-	-	1	2	2	1	3	3
CO4 (L4): To Analyze the Design & functioning of Distributed file System & Shared Memory.	3	3	3	3	3	1	1	1	2	2	2	3	3
CO5 (L4): To Examine the security issues of Distributed System & Distributed Web-based System.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO Average Matrix Target	3.00	2.80	2.80	2.60	3.00	1.00	1.00	1.25	1.60	1.80	1.40	3.00	2.80

Course: PROJECT-I (PROJECT-I) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK9	WK4-6	WK5,9
CO1 (L2): To Define the problem identification, requirements and analyze the feasibility.	3	3	3	3	2	1	1	1	2	2	2	3	3
CO2 (L3): To Demonstrate knowledge, skills of professional engineer and applying hypothesis on Problem.	3	3	3	3	3	2	2	2	2	3	3	3	3
CO3 (L6): To Design and develop the solution for real-life engineering problems.	3	3	3	3	3	2	2	2	3	3	3	3	3
CO4 (L5): To Evaluate the developed system to solve real world problems.	3	3	3	3	3	2	2	2	3	3	3	3	3
CO5 (L3): Ability to use formal & informal communication with team members and guide.	2	2	2	2	2	3	3	3	3	3	3	2	3
CO Average Matrix Target	2.80	2.80	2.80	2.80	2.60	2.00	2.00	2.00	2.60	2.80	2.80	2.80	3.00

Course: Compiler Design Lab (LC-CSE-324-G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L2): To Describe the concept of Lex/Yacc Compilers.	3	2	2	2	2	-	-	-	1	1	-	3	2
CO2 (L3): To Use various aspects like grammar, languages, operators, left recursion using practical experiments.	3	3	3	2	2	-	-	-	1	1	1	3	2
CO3 (L4): To Analyze whether Regular Expressions belong to Grammar or not.	3	3	3	3	2	-	-	-	1	2	1	3	3
CO4 (L4): To Analyze Lexical Analyzer for validating operators.	3	3	3	3	3	-	-	1	2	2	1	3	3
CO5 (L5): To Evaluate the implementation of Operator Precedence Parser.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO Average Matrix Target	3.00	2.80	2.80	2.60	2.40	0.00	0.00	1.00	1.40	1.60	1.25	3.00	2.60

Course: Artificial Intelligence Lab using Python (LC-CSE-326G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L3): To Use Control Structures and Operators to write basic Python programming.	3	3	3	2	3	-	-	-	1	1	-	3	3
CO2 (L4): To Analyze object-oriented concepts in Python.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO3 (L5): To Evaluate the AI models pre-processed through various feature engineering algorithms by Python Programming.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L6): To Develop the code for the recommender system using Natural Language processing.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO5 (L6): To Design various reinforcement algorithms to solve real-time complex problems.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.60	3.00	1.00	1.00	1.50	1.80	1.80	1.75	3.00	3.00

Course: Advanced Java Lab (LC-CSE-328-G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK9	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L2): To Explain the basics of the Java.Net package.	3	2	2	1	3	-	-	-	1	1	-	3	2
CO2 (L3): To Demonstrate client-server interaction using Servlets.	3	3	3	2	3	-	-	1	1	2	1	3	3
CO3 (L4): To Analyze applications to implement database interaction using JDBC.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO4 (L6): To Develop Java Beans applications.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO5 (L6): To Create server communication using TCP-IP and UDP.	3	3	3	2	3	-	-	1	2	2	2	3	3
CO Average Matrix Target	3.00	2.80	2.80	1.80	3.00	0.00	0.00	1.00	1.60	1.80	1.25	3.00	2.80

Course: Constitution of India (MC-317-G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK7	WK9	WK9	WK7	-	WK7
CO1 (L2): To Understand the basic features of Constitution of India.	1	1	1	1	1	3	3	3	2	2	2	-	1
CO2 (L2): To Understand about salient features of the Constitution of India.	1	1	1	1	1	3	3	3	2	2	2	-	1
CO3 (L2): To Understand fundamental duties and federal structure of Constitution of India.	1	1	1	1	1	3	3	3	2	2	2	-	2
CO4 (L2): To Understand about emergency provisions in Constitution of India.	1	1	1	1	1	3	3	3	2	2	2	-	2
CO5 (L2): To Understand about fundamental rights under Constitution of India.	1	1	1	1	1	3	3	3	2	2	2	-	2
CO Average Matrix Target	1.00	1.00	1.00	1.00	1.00	3.00	3.00	3.00	2.00	2.00	2.00	0.00	1.60

B.Tech. CSE 7th Semester
Course: Neural Networks (PCC-CSE-401G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To Understand the concept of Biological neurons and Activation function.	3	3	3	2	2	-	-	1	2	2	1	3	3
CO2 (L2): To Describe the concepts ANN architecture in single and multi-layer Network.	3	3	3	2	2	-	-	1	2	2	1	3	3
CO3 (L4): To Analyze various types of Models: MCP Model and Perceptron Network.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L4): To Identify the types of Learning and their Learning concepts.	3	3	3	3	3	1	1	1	2	2	2	3	3
CO5 (L5): To Conceptualize about different types of Associative Memory.	3	3	3	3	3	1	1	1	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.60	2.60	1.00	1.00	1.00	2.00	2.00	1.60	3.00	3.00

Course: Software Project Management (Professional Elective-IV) (PEC-CSE-403G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK7	WK9	WK9	WK7	-	WK5,9
CO1 (L1): To Recall the fundamental principles of software project management.	2	2	2	2	2	2	2	2	3	3	2	-	2
CO2 (L2): To Understand Estimation, Planning, And Tracking.	2	2	2	2	2	2	2	2	3	3	3	-	2
CO3 (L2): To Recognize good knowledge of responsibilities of a project manager.	2	2	2	2	2	3	3	3	3	3	3	-	2
CO4 (L3): To Interpret the importance of software quality and techniques to enhance software quality.	2	2	2	2	2	3	3	3	3	3	3	-	2
CO5 (L4): To Compare and differentiate organization structures and project structures.	2	2	2	2	2	3	3	3	3	3	3	-	2
CO Average Matrix Target	2.00	2.00	2.00	2.00	2.00	2.60	2.60	2.60	3.00	3.00	2.80	0.00	2.00

Course: Software Testing (PEC-CSE-413G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To Understand software Testing and quality as a fundamental component of software development life cycle.	2	1	1	-	-	1	1	-	-	2	1	1	1
CO2 (L2): To Understand and design the Test cases for a given problem.	2	2	3	1	1	-	-	1	1	-	1	2	2
CO3 (L3): To List a range of different software testing techniques and strategies and be able to apply specific(automated) unit testing method to the projects.	3	2	3	2	3	-	-	2	1	1	2	2	2
CO4 (L4): To Differentiate between different Testing Techniques.	2	3	2	2	1	-	-	-	-	-	1	2	1
CO5 (L4): To Develop the knowledge of selection of appropriate test cases for execution during testing.	3	3	2	2	2	-	-	1	1	1	2	3	2
CO Average Matrix Target	2.40	2.20	2.20	1.75	1.75	1.00	1.00	1.33	1.00	1.33	1.40	2.00	1.60

Course: Web Mining (Professional Elective-IV) (PEC-CSE-405G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L1): To Recall the basic concepts and techniques of Web Mining, Data Mining, and Web Mining Challenges.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L2): To Discuss the application of Swarm Intelligence Techniques in real-world problems.	3	3	3	2	3	-	-	1	2	2	2	3	3
CO3 (L3): To Illustrate Information retrieval models and Web Content Mining.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L4): To Classify the concept of Computational Intelligence and Optimization algorithms.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO5 (L5): To Assess the performance of different Swarm Intelligence Techniques.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.60	3.00	0.00	0.00	1.00	2.00	2.00	1.80	3.00	3.00

Course: Advanced Computer Architecture (Professional Elective-V) (PEC-CSE-417G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5
CO1 (L2): To Discuss the computational model and micro architectural design of Advance Computer Architecture.	3	3	3	2	3	-	-	1	1	2	1	3	2
CO2 (L2): To Describe various parallel processing techniques, performance measures and code scheduling.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO3 (L3): To Interpret the role of VLIW Superscalar processor and branch handling techniques for performance improvement.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L4): To Analyze various MIMD architecture, various static and dynamic networks for realizing the efficient network.	3	3	3	3	3	1	1	1	2	2	2	3	3
CO5 (L4): To Distinguish advance processor technology, memory hierarchy and cache tolerance using directory based and snoopy class of protocols.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.20	1.80	2.00	1.80	3.00	2.80

Course: Network Security and Cryptography (Professional Elective-V) (PEC-CSE-411G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK7	WK1-4	WK5,9
CO1 (L2): To Understand various attacks and need of Cryptography.	3	3	3	2	3	2	2	2	2	2	3	3	3
CO2 (L3): To Apply various substitution and transposition ciphers for securing a message.	3	3	3	3	3	2	2	2	2	2	3	3	3
CO3 (L4): To Analyze the need and functioning of various block ciphers.	3	3	3	3	3	2	2	2	3	3	3	3	3
CO4 (L5): To Evaluate how to maintain the Confidentiality, Integrity and Availability.	3	3	3	3	3	3	3	3	3	3	3	3	3
CO5 (L6): To Create various public key algorithm for securing the message.	3	3	3	3	3	3	3	3	3	3	3	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	2.40	2.40	2.40	2.60	2.60	3.00	3.00	3.00

Course: Fundamentals of Management (Open Elective-I) (HSMC-08G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK7	WK9	WK9	WK7	-	WK7
CO1 (L2): To Describe the Basics of Management and the role of Management in an organization.	1	1	1	1	1	3	3	3	3	3	2	-	1
CO2 (L2): To Explain the Importance of Staffing and Training.	1	1	1	1	1	3	3	3	3	3	2	-	1
CO3 (L2): To Discuss the concept of Material management and Inventory Control.	1	1	1	1	1	3	3	3	3	3	2	-	1
CO4 (L4): To Analyze the components of Marketing and Advertising.	1	1	1	1	1	3	3	3	3	3	3	-	1
CO5 (L5): To Assess the Various sources of Finance and Capital Structure.	1	1	1	1	1	3	3	3	3	3	3	-	1
CO Average Matrix Target	1.00	1.00	1.00	1.00	1.00	3.00	3.00	3.00	3.00	3.00	2.40	0.00	1.00

Course: NEURAL NETWORKS USING MATLAB (LC-CSE-421G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To Understand basic neuron models and learning algorithms by using Matlab's neural network toolbox.	3	3	3	2	2	-	-	1	2	2	1	3	3
CO2 (L2): To Describe about different activation function (transfer function).	3	3	3	2	2	-	-	1	2	2	1	3	3
CO3 (L4): To Analyze how weights & bias values affect the output of neuron.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L4): To Identify how weights & bias values are able to represent a decision boundary in the feature space.	3	3	3	3	3	1	1	1	2	2	2	3	3
CO5 (L5): To Conceptualize about perceptron learning rule works for linearly separable problems.	3	3	3	3	3	1	1	1	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.60	2.60	1.00	1.00	1.00	2.00	2.00	1.60	3.00	3.00

Course: PROJECT-II (PROJ-CSE-423G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK9	WK4-6	WK5,9
CO1 (L2): To Define the problem identification, requirements and analyze the feasibility.	3	3	3	3	2	1	1	1	2	2	2	3	3
CO2 (L3): To Demonstrate knowledge, skills of professional engineer and applying hypothesis on Problem.	3	3	3	3	3	2	2	2	2	3	3	3	3
CO3 (L6): To Design and develop the solution for real-life engineering problems.	3	3	3	3	3	2	2	2	3	3	3	3	3
CO4 (L5): To Evaluate the developed system to solve real world problems.	3	3	3	3	3	2	2	2	3	3	3	3	3
CO5 (L3): Ability to use formal & informal communication with team members and guide.	2	2	2	2	2	3	3	3	3	3	3	2	3
CO Average Matrix Target	2.80	2.80	2.80	2.80	2.60	2.00	2.00	2.00	2.60	2.80	2.80	2.80	3.00

B.Tech. CSE 8th Semester

Course: Machine Learning (PCC-CSE-402G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To Describe the basic concept and the importance of Machine Learning.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L2): To Explain the Machine Learning Models and features of machine learning to apply to real world problems.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO3 (L3): To Apply the concept of Machine Learning algorithms as supervised learning and unsupervised learning.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L4): To Analyze the Regression, Classification and Clustering Techniques of Machine learning.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO5 (L5): To Evaluate various machine learning algorithms through statistical learning techniques.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.60	3.00	1.00	1.00	1.20	2.00	2.00	1.60	3.00	3.00

Course: Big Data Analytics (PCC-CSE-404G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To Describe the need for Big Data challenges, applications and their Business Implications.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L3): To Demonstrate the conceptual, logical, and physical Big Data Model.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO3 (L4): To Analyze the Big Data framework like Hadoop, and NOSQL to efficiently store and process Big Data to generate analytics.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L4): To Classify the Workflow system for Big Data like Swift, Taverna, Kepler.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO5 (L6): To Develop all-purpose big data pipeline architecture.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.20	2.00	2.00	1.80	3.00	3.00

Course: Wireless Adhoc and Sensor Network (Open Elective-II) (OEC-ECE-430G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK1-4	WK1-4	WK5,7
CO1 (L2): To Describe the concepts, architectures, and applications of Wireless Ad Hoc and Sensor Networks.	3	3	3	2	3	2	2	2	2	2	1	3	3
CO2 (L2): To Describe the MANETs and WSNs for industry and research point of views.	3	3	3	3	3	2	2	2	2	2	1	3	3
CO3 (L4): To Classify the various Sensor Network Platforms, tools and applications.	3	3	3	3	3	2	2	2	2	2	2	3	3
CO4 (L5): To Evaluate the QoS related performance measurements of Wireless Ad Hoc and Sensor networks.	3	3	3	3	3	2	2	3	2	2	2	3	3
CO5 (L6): To Design routing protocols for ad hoc systems.	3	3	3	3	3	2	2	3	3	3	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	2.00	2.00	2.40	2.20	2.20	1.60	3.00	3.00

Course: Big Data Analytics Lab (LC-CSE-410G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To Describe the key issues in Big Data Management and experiment with the Hadoop framework.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L2): To Explain the structure and unstructured data by using NoSQL commands.	3	3	3	3	3	-	-	1	2	2	1	3	3
CO3 (L3): To Apply scientific computing algorithms for finding similar items and clustering.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L5): To Test fundamental enabling techniques and scalable algorithms for data stream mining.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO5 (L6): To Develop problem solving and critical thinking skills in fundamental enable techniques like Hadoop & MapReduce.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.40	2.00	2.00	1.60	3.00	3.00

Course: Machine Learning with Python Lab (LC-CSE-412G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	-	-	WK8	WK9	WK9	WK1-4	WK1-4	WK5,9
CO1 (L2): To Describe the implementation procedures for the Machine Learning algorithms.	3	3	3	2	3	-	-	1	2	2	1	3	3
CO2 (L3): To Apply appropriate data sets to the Machine Learning algorithms.	3	3	3	3	3	-	-	1	2	2	1	3	3
CO3 (L3): To Use Machine Learning algorithms to solve real-world problems.	3	3	3	3	3	-	-	1	2	2	2	3	3
CO4 (L4): To Outline predictions using machine learning algorithms.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO5 (L6): To Design Java/Python programs for various Machine Learning algorithms.	3	3	3	3	3	1	1	2	2	2	2	3	3
CO Average Matrix Target	3.00	3.00	3.00	2.80	3.00	1.00	1.00	1.40	2.00	2.00	1.60	3.00	3.00

Course: PROJECT-III (PROJ-CSE-422G) - Course Articulation Matrix

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
Associated WK Profiles	WK1-4	WK5	WK5	WK6	WK5,6	WK7	WK7	WK8	WK9	WK9	WK9	WK4-6	WK5,9
CO1 (L2): To Define the problem identification, requirements and analyze the feasibility.	3	3	3	3	2	1	1	1	2	2	2	3	3
CO2 (L3): To Demonstrate knowledge, skills of professional engineer and applying hypothesis on Problem.	3	3	3	3	3	2	2	2	2	3	3	3	3
CO3 (L6): To Design and develop the solution for real-life engineering problems.	3	3	3	3	3	2	2	2	3	3	3	3	3
CO4 (L6): To Evaluate the developed system to solve real world problems.	3	3	3	3	3	2	2	2	3	3	3	3	3
CO5 (L3): Ability to use formal & informal communication with team members and guide.	2	2	2	2	2	3	3	3	3	3	3	2	3
CO Average Matrix Target	2.80	2.80	2.80	2.80	2.60	2.00	2.00	2.00	2.60	2.80	2.80	2.80	3.00