CO-PO MAPPING & ATTAINMENTS

SAMPLE: DEPARTMENT OF CSE – CO-PO MAPPING & ATTAINMENTS

COURSE OUTCOMES AND PROGRAM OUTCOMES

Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs)

PROGRAM OUTCOMES	
PO	**DESCRIPTION**
PO1	**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design / Development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	**The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and Team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and

	write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

Program Specific Outcomes	
PSO 1	To develop software projects using standard practices and suitable programming environment.
PSO 2	To identify, formulate and solve the real life problems faced in the society, industry and other areas by applying the skills of the programming languages, networks and databases learned.
PSO 3	To apply computer science knowledge in exploring and adopting latest technologies in various inter-disciplinary research activities.

During every Academic year, before starting of the semester after completing the subject allocation to the faculties, well defined Course Outcomes were collected from individual subject handlers. The collective COs of all subjects was reviewed and redefined by the Programme Assessment Committee (PAC) during the brainstorming session to evaluate the relevance of COs are specific, measurable and achievable.

In advance lesson plan, lecture modules, Question Bank were prepared, and the strength of correlations were considered based on Cognitive, Affective domain levels for the proper mapping of course contents and Questions with COs and Revised Bloom's Taxonomy (RBT) Levels.

Also, to create awareness among faculty members on preparing CO-PO articulation matrix hands on sessions were conducted. PAC has conducted brainstorming session for the faculty members to detail CO-PO mapping Rubrics chart. Then, the articulation matrix of CO -PO mapping were carried out based on the AICTE examination reformation policy, using suggested key performance indicators and competencies.

(An Autonomous Institution Under 2(f) and 12(B) of UGC Act 1956, New Delhi)
II B.Tech - I Semester - I Mid Term Examinations, December - 2021
(R20CSE2102) COMPUTER ORGANIZATION and ARCHITECTURE
(For CSE, IT, CS, AIML, DS and CSIT)

Duration: 90Mins   **Date: 17-12-2021, Day-2 (AN)**   **Max Marks: 25M**

Section – A

Answer _All_ the questions   **Marks: 5Qx1M = 5M**
(*L1-Remembering, L2-Understanding, L3-Applying, L4-Analyzing, L5-Evaluating, L6-Creating)

		Blooms Taxonomy Level	Course Outcomes
1.	Define a Micro Program & Micro Instruction.	(L1)	(CO1)
2.	List Computer Registers.	(L1)	(CO1)
3.	What is control address register?	(L2)	(CO2)
4.	What is mapping instruction?	(L2)	(CO5)
5.	List out computer arithmetic operations.	(L1)	(CO3)

Section – B

Answer any _FOUR_ questions   **Marks: 4Qx5M = 20M**

6.	Explain in detail about the computer Instructions.	(L1)	(CO1)
7.	Draw the flowchart for interrupt cycle and experiment with it with explanation.	(L1)	(CO1)
8.	Compare the register direct and indirect addressing modes with direct and indirect addressing modes.	(L4)	(CO2)
9.	Evaluate the following program using two address instruction format $X=(A+B) * (C+D)$.	(L5)	(CO2)
10.	Demonstrate the different types of addressing modes with example.	(L3)	(CO2)
11.	Explain the booth's multiplication algorithm with neat sketch of hardware design.	(L2)	(CO3)

***

S.No	Workshop Name	Date	Participant
1.	CO-PO mapping interaction session	07-03-2019 & 08-03-2019	All the CSE faculty members.

Course Outcome Program Outcomes Mapping using - Competencies-Performance										
Subject Code / Name :										

PO/ CO	Competency		Performance Indicators		CO1	CO2	CO3	CO4	CO5	CO6
PO1: Engineering Knowledge: apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.	1.1	Demonstrate competence in mathematical modeling	1.1.1	Apply mathematical techniques such as linear algebra, differential calculus, differential equations and integral calculus to solve problems	y		y		y	y
			1.1.2	Apply concepts of Complex Variable, probability, linear algebra, vector integration and transformation techniques to model and solve electronics engineering problems.	y			y	y	y
	1.2	Demonstrate competence in basic sciences	1.2.1	Apply laws of natural science to an engineering problem	y		y	y		
	1.3	Demonstrate competence in engineering fundamentals	1.3.1	Apply engineering fundamentals	y		y		y	y
	1.4	Demonstrate competence in specialized engineering knowledge to the program	1.4.1	Apply electronics engineering concepts to solve engineering problems	y		y		y	y
				Average	3	0	2	1	2	2
				Average Final	3	-	2	1	2	2
PO2: Problem Analysis: identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	2.1	Demonstrate an ability to identify and formulate complex engineering problem	2.1.1	Articulate problem statements and identify objectives.	y			Y		
			2.1.2	Identify engineering systems, variables, and parameters to solve a problem	y			Y		
			2.1.3	Identify the mathematical, engineering and other relevant knowledge that applies to a given problem	y		Y	Y		
	2.2	Demonstrate an ability to formulate a solution plan and methodology for an engineering problem	2.2.1	Reframe complex problems into interconnected sub-problems.	y		Y	Y		
			2.2.2	Identify, assemble and evaluate information and	y		Y	Y		
			2.2.3	Identify existing solution/methods for solving the problem, including forming justified approximations and assumptions	y		Y	Y		
			2.2.4	Compare and contrast alternative solution/methods to	y		Y	Y		
	2.3	Demonstrate an ability to formulate and interpret a model	2.3.1	Combine scientific principles and engineering concepts to formulate model/s (mathematical or otherwise) of a system or process that is appropriate in terms of applicability and required accuracy.	y		Y	Y		
			2.3.2	Identify assumptions (mathematical and physical) necessary to allow modeling of a system at the level of accuracy required.	y		Y	Y		
	2.4	Demonstrate an ability to execute a solution process and analyze results	2.4.1	Apply engineering mathematics to implement solution	y					
			2.4.2	Analyze and interpret the results using contemporary	y					
			2.4.3	Identify the limitations of the solution and sources/causes	y					
			2.4.4	Arrive at conclusions with respect to the objectives.	y					
				Average	3	0	1	2	0	0
				Average Final	3	-	1	2	-	-

PROGRAM ARTICULATION MATRIX

Course	COURSE CODE & NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS01	PSO2	PSO3
							I - I									
C111	R16HAS1101 – English	-	-	2.8	3	3	2.8	3	3	3	2.3	-	2.7	-	-	-
C112	R16MTH1101 – Mathematics - I	2.33	2	2	1.83	2	1.5	-	-	-	-	2	2.33	2	2.5
C113	R16EPH1101 – Engineering Physics - I	3	2.3	1.2	1.8	1.7	-	-	-	-	-	1.3	-	1.7	2
C114	R16CSE1101 – Computer Programming	2	2.33	2.33	1.17	2	1	-	-	-	-	1.5	1	1.4	1
C115	R16MED1144 – Engineering Drawing	3	2	3	-	3	-	-	-	-	-	3	3	3	2
C116	R16HAS1201 – Engineering Language & Communication Skills Lab	1	3	2	2	-	2	2	2	2.3	2.8	2	2.8	2	2	2
C117	R16CSE1201 – Computer Programming Lab	2.16	1.83	2	1.6	2.5	-	-	-	-	-	-	-	1	1.4	1
C118	R16MED1201 – Workshop Practice	3	1.33	1.33	1	1.2	-	-	1.2	-	-	2	-	3	-	3
							I - II									
C121	R16MTH1102 – Mathematics - II	2.33	2.17	1.83	1.83	1.5	0.83	-	-	-	-	1	1.5	2.5	2	2.5
C122	R16MTH1103 – Numerical Methods	2.5	2.17	2	1.67	2.5	1	-	-	-	-	0.33	1.83	2.33	1.83	2.17
C123	R16EPH1102 – Engineering Physics - II	3	2.5	2.2	2	2.3	-	1.5	-	-	-	-	2	-	2	2.3
C124	R16CSE1102 – Data Structures through 'C'	2.67	1.83	2	1.5	2.33	-	-	-	-	-	-	-	1	1.6	1
C125	R16ECH1101 – Engineering Chemistry	1.6	1.8	2.1	-	-	-	1.5	-	-	-	-	-	1.3	1.1	-
C126	R16CSE1202 – Data Structures through 'C' Lab	2.17	1.83	2	1.8	2.5	-	-	-	-	-	1.33	-	1	1.33	1
C127	R16ECH1201 – Engineering Chemistry Lab	1.8	1.8	-	-	-	1.5	1.6	-	1.6	-	-	1.5	1.3	1.8	-

		II - I														
C211	R16MTH1105 – Probability and Statistics	2.5	2.2	2.17	2.5	3	-	-	-	-	-	-	1.67	-	1	1
C212	R16CSE1103 – Mathematical Foundations of Computer Science	2	2.25	2.5	2.33	2.2	-	-	-	-	-	-	-	1	-	1
C213	R16CSE1104 – Data Structures through C++	2.17	1.8	2.25	3	2.8	-	-	-	-	-	1.25	-	1.33	1.5	1
C214	R16ECE1136 – Digital Logic Design	2.2	2	1.83	1.8	2.67	-	-	-	1.33	1	-	-	1	1	1.2
C215	R16ECE1102 – Electronic Devices and Circuits	2.17	2	3	1.67	2	-	-	-	1	1	1	-	1.5	2	1.4
C216	R16EEE1130 – Basic Electrical Engineering	2.5	2.8	3	1.5	2	-	-	-	-	1	-	-	2	2	1.25
C21L7	R16EEE1212 – Electrical and Electronics Lab	2	2.5	2.5	2	2.75	-	-	-	-	-	-	-	2	1.6	2
C21L8	R16CSE1203 – Data Structures through C++ Lab	2.33	1.33	1.67	2	2.83	-	-	-	-	-	1.33	-	1.83	2	1.67
		II - II														
C221	R16CSE1105 – Computer Organization	2.4	2	2.5	2	2.6	-	-	-	-	-	1.33	1	1	1.5	1.5
C222	R16CSE1106 – Database Management Systems	1.8	2.33	2.2	2.5	3	-	-	-	2	1.75	2	2	2	2.33	1.83
C223	R16CSE1107 – Java Programming	2.5	2	2	2	3	-	-	-	2	1.5	1.75	2	1.33	1.25	2.2
C224	R16HAS1102 – Environmental Studies	2.5	2.4	3	2.33	2.25	2	2	-	-	1.67	1.5	2	1.67	1.6	3
C225	R16CSE1108 – Formal Languages and Automata Theory	2.4	2.5	3	2	2	-	-	-	1.67	2	2	2	1.67	2	1
C226	R16CSE1109 – Design and Analysis of Algorithms	2.4	2.5	3	2.67	3	-	-	-	-	-	-	2	1.33	1.33	1.75
C227	R16CSE1204 – Java Programming Lab	2.4	1.67	2	2.17	2.5	-	-	-	2	1.75	2	2	1.67	1.8	1.5
C228	R16CSE1205 – Database Management Systems Lab	2.33	2	2	2	2	-	-	-	2	1.4	1.6	1.5	1.6	1.67	1.8

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C311	R16CSE1110 - Principles of Programming Languages	2.6	1.8	2	2.5	2.8	-	-	-	-	-	-	-	-	1	-
C312	R16HAS1105 - HUMAN VALUES AND PROFESSIONAL ETHICS	1.17	1.83	1.83	1.2	1.4	-	-	-	1.5	-	-	-	1	1.6	1
C313	R16CSE1113 - Software Engineering	2	2.4	2.16	3	2.8	-	-	-	1.3	1.5	1	1	-	1	1.33
C314	R16CSE1118 - Compiler Design	2.5	2.6	2.6	3	1.5	-	-	-	-	1	1	-	1	-	-
C315	R16CSE1114 - Operating Systems	2.4	2.5	2.6	-	2.5	-	-	-	1	1	-	-	1	-	1.5
C316	R16CSE1139 - Computer Networks	2.5	2	2	3	2.6	-	-	-	-	-	-	-	-	1	1.3
C31L7	R16CSE1206 - Operating systems Lab	2.3	1.6	1.8	1.4	2.3	-	-	-	-	-	-	-	1.5	-	2
C31L8	R16CSE1207- Compiler Design Lab	2.3	1.6	1.8	1.6	2.8	-	-	-	2.0	-	-	1	1	-	-

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C321	R16CSE1143 - Distributed Systems	2.6	2.3	2	2.3	2.25	-	-	-	-	2	-	-	1	-	-
C322	R16CSE1117 - Information Security	1.6	2.3	2.75	2	2.5	1	-	1	-	1	1	1.5	2	1	1
C323	R16CSE1116 -Object Oriented Analysis and Design	2.5	2	2	3	2.6	-	-	-	-	-	-	-	-	1	-
C324	R16CSE1121 - Software Testing Methodologies	2.5	2	2	3	2.75	-	-	-	2	2	2	-	-	1	-
C325	R16CSE1103 - Managerial Economics Financial Analysis	2.3	2.1	2.5	3	-	-	-	-	-	2	-	-	-	-	-
C326	R16CSE1119 - Web Technologies	2.8	2.1	2.5	3	3	-	-	-	2	2	2	-	1	-	1.3
C32L7	R16CSE1215 - Case Tools & Web Technologies LAB	2.5	2.1	2.5	3	2.8	-	-	-	2	2	2	2	2	-	2

Code	Course															
C32L8	R16HAS1202 Advanced English language communication skills lab	2.5	2.3	2.3	-	-	-	-	-	2	2	1.5	1.6	-	-	-
	IV - I															
C411	R16CSE1120 - Linux Programming	2.67	2.33	2.33	1.8	2	-	-	-	-	-	1	-	1.67	1.4	-
C412	R16CSE1128 - Design Patterns	2.6	2	2	2	2.67	-	-	-	-	-	1	-	1	1.67	1.33
C413	R16CSE1122 - Data Warehousing and Data Mining	3	2.17	2	2.33	2.33	-	-	-	-	-	1	1	1.33	1.33	1
C414	R16CSE1125 - Cloud Computing	2.2	2	2.67	2.5	1.83	-	-	-	-	1	-	1	1.5	1.4	1.75
C415	R16CSE1127 - Mobile Computing	2.25	2.5	2.4	2.75	2.17	1	-	-	-	1	-	1	1.75	2	1.33
C416	R16CSE1112 - COMPUTER FORENSICS	2.6	2.4	2.33	2	2.5	1.75	-	-	-	-	-	-	1.66	1.66	1.8
C41L7	R16CSE1208 - Linux Programming lab	1.5	1.75	1.33	1.6	1.8	-	-	-	-	-	1.8	1.25	1.5	1.6	1.66
C41L8	R16CSE1216 - Data Warehousing and Mining LAB	1.83	2.25	2.2	2.5	1.6	-	-	-	-	-	-	1.67	1.25	2	2
	IV - II															
C421	R16HAS1104 - Management Science	-	2	1.8	1.8	-	1.25	-	-	-	-	-	-	-	-	1
C422	R16CSE1135 - Multimedia & Rich Internet Applications	1.8	2.6	2.4	2	2.75	-	-	-	-	1.5	-	-	1	1.4	1
C423	R16CSE1136 - AD hoc and Sensor Networks	2.2	1.8	2.25	1.75	2	-	-	-	-	-	-	1	-	1.66	1
	Curriculum average mapping	2.31	2.12	2.21	2.14	2.36	1.47	1.81	1.80	1.82	1.59	1.45	1.66	1.55	1.59	1.58
	No. of. courses mapped	57	58	59	54	53	12	6	4	18	24	26	30	46	46	47

Course Articulation Matrix

Course Code & Name: R16MTH1105 – Probability and Statistics II/I
Upon the completion of the course, Students will be able to:

ACADEMIC YEAR: 2018-2019

CO	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C211.1	Describe the properties of discrete and continuous distribution functions. (Apply)	3	2	1	2	3	-	-	-	-	-	-	-	-	-	-
C211.2	Discuss the method of moments and moment generating functions, correlate two random variables. (Apply)	3	-	2	-	3	-	-	-	-	-	-	-	-	-	-
C211.3	Analyze the consistency, efficiency and un biasedness of estimators. (Analyze)	2	3	3	-	-	-	-	-	-	-	-	2	-	-	-
C211.4	Determine statistical tests in testing hypotheses on data. (Evaluate)	-	2	2	3	3	-	-	-	-	-	-	-	-	1	1
C211.5	Analyze the waiting time & Service time of the customer by Queuing Theory. (Analyze)	-	3	3	-	-	-	-	-	-	-	-	2	-	-	-
C211.6	Design similar chain models using Stochastic Process. (Create)	2	1	2	-	3	-	-	-	-	-	-	1	-	1	1
C211		2.5	2.2	2.17	2.5	3	-	-	-	-	-	-	1.67	-	1	1

Course Code & Name: R16EEE1105 – Computer Organization II/II

Upon the completion of the course, Students will be able to:

CO	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C221.1	Describe the zero address, one address, two addresses, and three addresses using various addressing modes. (Apply)	3	2	-	-	3	-	-	-	-	-	-	1	-	-	-
C221.2	Justify the I/O interaction with the memory. (Evaluate)	2	3	3	-	1	-	-	-	-	-	-	-	-	-	-
C221.3	Explain the basic memory hierarchy along with their mapping associations. (Apply)	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C221.4	Illustrate the 8086 microprocessor architecture and justify the purpose of the associated register set. (Evaluate)	1	2	-	3	3	-	-	-	-	-	1	1	-	-	-
C221.5	Demonstrate the instruction set of 8086 microprocessor. (Apply)	3	1	-	1	3	-	-	-	-	-	1	1	1	2	2
C221.6	Design and implement simple systems using 8086 processor with the knowledge of pin diagram, registers and instruction formats of 8086 processor by writing assembly language programs. (Create)	-	2	2	-	3	-	-	-	-	-	2	1	-	1	1
C221		2.4	2	2.5	2	2.6	-	-	-	-	-	1.33	1	1	1.5	1.5

Course Code & Course Name: (R16CSE1110) - Principles of Programming Languages **III/I**

Year of study: 2019-2020

CO	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C311.1	Describe the syntax related concepts including context free grammars, parse trees, recursive descent parsing, and interpretation. (Apply)	3	1	-	-	3	-	-	-	-	-	-	-	-	-	-
C311.2	Illustrate the semantic issues associated with implementations, including variable binding, scoping rules, expression and assignment statement and control structures. (Apply)	3	2	2	2	3	-	-	-	-	-	-	-	-	-	-
C311.3	Justify the language abstraction constructs of functions, parameter passing and co-routines. (Evaluate)	2	1	1	3	2	-	-	-	-	-	-	-	-	-	-
C311.4	Classify the Abstract Data Types, concurrency and Exception handling in various programming languages. (Analyse)	2	3	3	-	-	-	-	-	-	-	-	-	-	-	-
C311.5	Describe the implementation of functional programming languages and scripting languages. (Apply)	3	2	2	-	3	-	-	-	-	-	-	-	-	1	-
C311.6	Describe the implementation model of logic programming language. (Apply)	3	-	-	-	3	-	-	-	-	-	-	-	-	-	-
C311		2.6	1.8	2	2.5	2.8	-	-	-	-	-	-	-	-	1	-

Course Code & Course Name: (**R16CSE1143**) - Distributed Systems **III/II**

Year of study: 2019-20

CO	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C321.1	Demonstrate the importance, advantages, challenges and the architectural models of distributed systems. (Apply)	3	2	1	-	3	-	-	-	-	-	-	-	-	-	-
C321.2	Illustrate the synchronization of physical and logical clocks w.r.to process execution in a distributed environment. (Analyze)	2	3	3	-	-	-	-	-	-	-	-	-	-	-	-
C321.3	Justify the Inter process communication (IPC) in a distributed system under UNIX environment as a case study. (Evaluate)	2	2	-	3	-	-	-	-	-	2	-	-	-	-	-
C321.4	Examines the file system structure, name and directory services w.r.to various domains of a distributed system. (Apply)	3	3	-	1	1	-	-	-	-	-	-	-	1		-
C321.5	Explain the design and implementation issues of a shared memory in a distributed environment. (Evaluate)	3	2	2	3	3	-	-	-	-	-	-	-	-	-	-
C321.6	Demonstrate the transaction and concurrency control mechanisms within a distributed system environment. (Apply)	3	2	-	-	2	-	-	-	-	-	-	-	1	-	-
C321		2.6	2.3	2	2.3	2.25	-	-	-	-	2	-	-	1	-	-

Course Code & Course Name: (R16CSE1120) - Linux Programming IV/I

Year of study: 2020-2021

CO	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C411.1	Explain the functions, structure and history of operating systems &Work confidently in Linux environment. (Evaluate)	2	-	-	3	3	-	-	-	-	-	1	-	-	2	-
C411.2	Illustrate the file system structure and directories along with the respective commands to perform manipulations on them. (Apply)	3	-	2	1	2	-	-	-	-	-	-	-	2	1	-
C411.3	Analyze the various process management concepts in utilities of process environment in Linux operating system. (Analyse)	-	3	3	-	-	-	-	-	-	-	1	-	-	1	-
C411.4	Justify the IPC by using various software tools. (Evaluate)	-	2	-	3	3	-	-	-	-	-	1	-	-	1	-
C411.5	Describe the memory management under UNIX domain and internet domain. (Apply)	3	-	-	1	1	-	-	-	-	-	1	-	1	-	-
C411.6	Design a program to work with shell script for specified task. (Create)	-	2	2	1	1	-	-	-	-	-	-	-	2	2	-
C411		2.67	2.33	2.33	1.8	2	-	-	-	-	-	1	-	1.67	1.4	-

Course Code & Course Name: (R16HAS1104) - Management Science IV/II

Year of study: 2020-2021

CO	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C421.1	Describe the Principles of management, theory of motivation and leadership styles in the view of several management experts. (Apply)	-	-	2	1	-	1	-	-	-	-	-	-	-	-	1
C421.2	Illustrate the various plant layout methods for production, inventory control, stores management and supply chain management w.r.to marketing the product. (Apply)	-	2	1	2	-	2	-	-	-	-	-	-	-	-	-
C421.3	Justify the role of HRM in various aspects w.r.to the successful functioning of any organization. (Evaluate)	-	3	2	1	-	-	-	-	-	-	-	-	-	-	1
C421.4	Assess the impact of project management through the use of project performance evaluation techniques like PERT/CPM. (Evaluate)	-	2	2	3	-	-	-	-	-	-	-	-	-	-	1
C421.5	Describe the various issues relating to strategic management and contemporary strategic issues. (Apply)	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-
C421.6	Derive the quality metrics for establishing and functioning of an organization successfully. (Create)	-	2	2	2	-	1	-	-	-	-	-	-	-	-	-
C421		-	2	1.8	1.8	-	1.25	-	-	-	-	-	-	-	-	1

Attainment of Course Outcomes

The process adopted to map the assessment questions, parameters of assessment rubrics etc. to the course outcomes are explained with examples. The process of data collection from different assessment tools and the analysis of collected data to arrive at CO attainment levels are explained with examples

In the Outcome Based Education (OBE), assessment is done through one or more than one processes, carried out by the institution, that identify, collect, and prepare data to evaluate the achievement of course outcomes (CO's).

CO Assessment Processes

Assessment tools are categorized into two methods to assess the course outcomes as:

Direct methods and indirect methods.

Direct method display the student's knowledge and skills from their performance in the continuous internal assessment tests, semester examinations, seminars, and class room and laboratory assignments etc. These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning.

Indirect method includes student feedback on facilities, learning artifacts and course end survey that reflects the student's learning.

ASSESSMENT

DIRECT

INDIRECT

THEORY

LABORATORY

STUDENT FEEDBACK

INTERNAL ASSESSMENT

ASSIGNMENT

END EXAM

DAY-TO-DAY

LAB INTERNAL

END SEMESTER

SEMINAR

COMPREHENSIVE

MINI PROJECT

MAJOR PROJECT
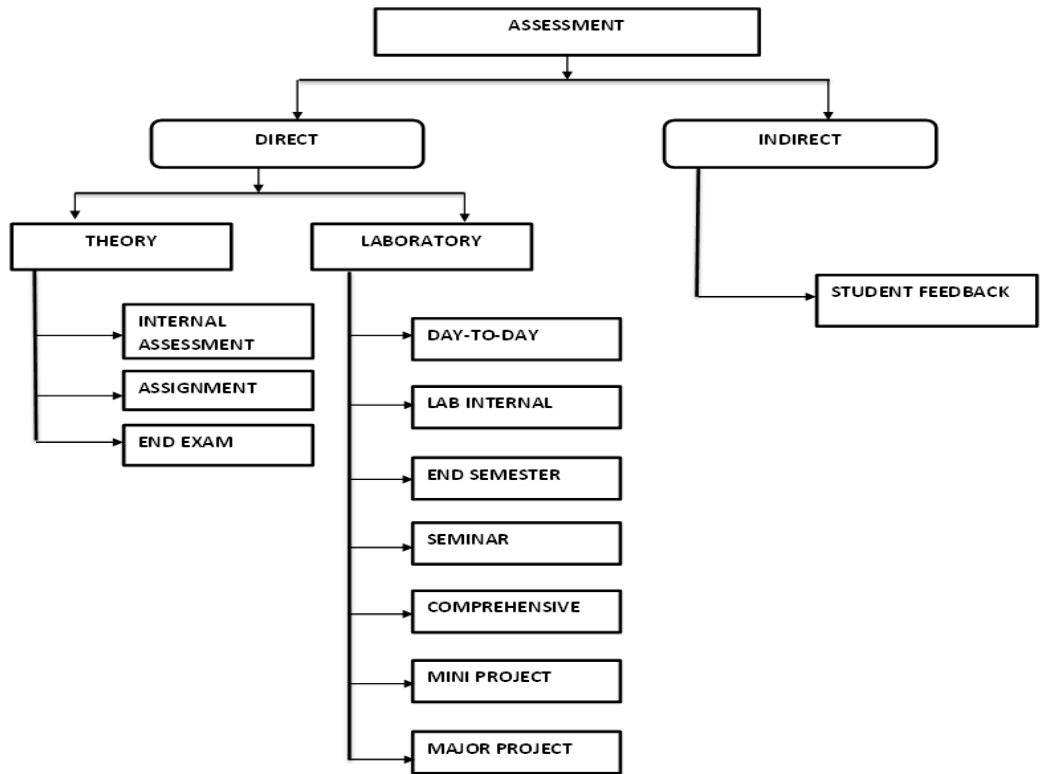
CO Assessment Processes

Course Outcome is assessed in view of the performance of students in internal assessment, university examination of a course and Course end survey. Direct assessment contributes 80% and indirect assessment contributes 20%. From direct assessment internal assessment contributes 30% and university assessment contributes 70% to the aggregate attainment of a Course Outcome.

1. Direct Assessment Method:

Direct Assessment Procedure:

Direct assessment is taken from two internal mid exams, two assignments and external exam of each student.

I) Internal assessment is calculated based upon the class average of mid marks and assignment marks i.e the students who got more than class average can have attained the CO

II) External assessment   is calculated based upon class average of marks. i.e the students who got more than class average can have attained the CO.

III) Distribution of question wise mid marks, assignment marks and external exam marks are taken into consideration for CO attainment calculation

IV) CO attainment is calculated by considering 70% of external assessment and 30% internal assessment.

2. Direct Assessment Method

S. No	Direct Assessment	Method Description
Theory Course		
1	Internal assessment test	Theory course comprises of 2 mid tests. Each of 25 marks and 90 minutes duration. Each internal assessment will be covering 2 ½ units. **Question paper contains:** **Part- I** having 5 questions each 1 carrying 1 mark, student should answer all the questions. • Out of 5 questions 2 questions covered from one unit and another 2 questions from next unit and remaining 1 question covers from the half unit. **Part- II** contains 6 questions each of 5 marks. The student should answer any 4 questions. • Here 2 or 3 questions covered from each unit and remaining questions from the half unit.

		The **average of the two mid marks** will be obtained. And it is the internal assessment marks for the relevant subject.
2	Assignment	This assignment is given 2 times before each mid exam. Each assignment comprises of 5 questions from 2 ½ units, carrying 1 mark for each question. • 2 questions are covered from one unit and other 2 questions are from another 2 units, 1 question from half unit. • These marks will be added to each mid mark.
3	Semester End Examination	Semester examination comprises of 15 questions, the time duration is 3 hours and the max. marks is 70. It consisting of section A and B. **Section A** consisting of 5 questions each carrying 4 Marks. • These 5 questions covered from 5 units; the student has to answer all questions. **Section B** consisting of 10 questions each carrying 10 mark. • Here 2 questions are posed from 1 unit. The student has internal choice in these questions. Student should write any one question from these 2 questions. Finally students' needs to answer 5 complete questions.
Laboratory Course		
4	Lab day-to-day evaluation	For every lab session student's performance is evaluated based on attendance, behavior, and experiment execution. 10 marks are given for evaluation. 2 or 3 marks are given for each experiment.
5	Internal Evaluation of Lab	Two internal assessment tests are conducted on 8th and 16th week per semester. Each test covers half of the prescribed laboratory syllabus. Internal assessment test is allocated for 25 marks. Test marks can be split as {table} The Average is taken for two internal lab assessment tests.

Internal Evaluation of Lab table:

Algorithm	5 marks
Program Coding	5 marks
Viva	5 marks
Execution	10 marks

6	Semester Lab End Examination	At the end of the course laboratory end examination is conducted. Each laboratory is evaluated for 50 marks. Performance of the student is evaluated as 	Experiment write up	15 marks
Experiment setup	5 marks
Experiment conduction	20 marks
Viva voce	10 marks	
7	Seminar	Seminar is conducted for 50 marks in the 8th semester, Out of them, | Content and organizing PPT	20 marks
English fluency	15 marks
Body language and gestures	05 marks
Viva voce	05 marks
Report	05 marks	 The student can select a topic in the up- coming trends in the field of ME.
8	Comprehensive viva	The comprehensive viva is conducted for 100 marks. ➢ All core subjects from 2nd year to 4th year are categorized into 5 domains. ➢ The student can choose minimum 5 subjects from all domains. ➢ Each domain contains 20 marks so the experts should pose 20 questions from each domain. ➢ Each question carries 1 mark. ➢ The questionnaire uplifts the creative thinking of the student.

9	Mini project	Mini project allotted for 50 marks. For this project 3 reviews has to be conducted. Those are abstract review, design review, final review.

Abstract Review	10 marks
Design Review	20 marks
Final Review	20 marks

10	Major project	**Major project allotted for 200 marks.**
		
		• Internal review:
		Three reviews have conducted for this project.
		
		    (1) abstract explanation
		    (2) implementation
		    (3) Results and discussion.
		Total 50 marks are allocated for internal review. For each review 10 marks are allocated and responsible persons for these internal reviews are Head of the Department, Project supervisor and senior faculty member of the Department.
		
		Day-to-day evaluation: Total 20 marks are allotted day to day evaluation. This evaluation is done thrice in a week. The evaluation is done based on three days attendance and day to day project work involvement. Responsible person is Project guide.
		
		• External Viva: Total 150 marks are allocated for external viva the external Viva is conducted once in semester. Responsible person is University appointed Examiner.

S. No.	Theory course		
	Tool Used	**Frequency**	**Parameter of assessment**
1	**Assignment**	**2 per semester**	**Students scored above the Target Value**
2	**Internal Assessment Test**	**2 per semester**	**Students scored above the Target Value**
3	**End Semester Exam**	**One per semester**	**Students scored above the Target Value**
	Laboratory course		
4	**Lab day-to-day evaluation**	**conduction of the lab every week**	**Students scored above the Target Value**
5	**Internal Evaluation of Lab**	**2 per semester**	**Students scored above the Target Value**
6	**Semester Lab EndExamination**	**One per semester**	**Students scored above the Target Value**

7	Seminar	1 time per program	Students scored above the Target Value
8	Comprehensive viva	1 time per program	Students scored above the Target Value
9	Mini project	1 time per program	Students scored above the Target Value
10	Major project	1 time per program	Students scored above the Target Value

3. Indirect Assessment Method

S. No.	Indirect Assessment Method	Method description
1	CO Feedback	Assessment of Learning Outcomes feedback Survey conducted about course outcomes of each subject on the Satisfaction of the students at the end of each semester from the existing students.

	Tool Used	Frequency	Parameter of assessment
1	CO Feedback	2 times in the academic year	Average of all CO feedbacks collected

Overall course attainment = 0.8*Direct attainment+0.2*Indirect attainment

The attainment of Course Outcomes of all courses with respect to set attainment levels

Measuring Course Outcomes attained through Semester End Examinations (SEE):

External assessment is calculated based upon class average of marks. i.e the students who got more than class average can attained the CO.

Measuring CO attainment through Cumulative Internal Examinations (CIE):

Internal assessment is calculated based upon the class average of mid marks and assignment marks i.e the students who got more than class average can attained the CO. Distribution of question wise mid marks, assignment marks and external exam marks are taken into consideration for CO attainment calculation. CO Direct attainment is calculated by considering 70% of external assessment (SEE) and 30% internal assessment (CIE). Indirect assessment is taken from students' feedback on each course Cos. 80% of direct assessment and 20% of indirect assessment is considered for calculating the Overall CO attainment.

Target Setting: It is set based upon the average of the number of students scoring above the Average Class marks during the previous three years' performances. Benchmark Rubrics were set for each course based on its nature for calculating the attainments.

4. Direct Assessment Method

S. No	Direct Assessment	Method Description
		Theory Course
1	Internal assessment test	Theory course comprises of 2 mid tests. Each of 25 marks and 90 minutes duration. Each internal assessment will be covering 2 ½ units. **Question paper contains:** **Part- I** having 5 questions each 1 carrying 1 mark, student should answer all the questions. • Out of 5 questions 2 questions covered from one unit and another 2 questions from next unit and remaining 1 question covers from the half unit. **Part- II** contains 6 questions each of 5 marks. The student should answer any 4 questions. • Here 2 or 3 questions covered from each unit and remaining questions from the half unit. The **average of the two mid marks** will be obtained. And it is the internal assessment marks for the relevant subject.
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		Laboratory Course

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10	Major project	**Major project allotted for 200 marks.** • Internal review: Three reviews have conducted for this project. (1) abstract explanation (2) implementation (3) Results and discussion. Total 50 marks are allocated for internal review. For each review 10 marks are allocated and responsible persons for these internal reviews are Head of the Department, Project supervisor and senior faculty member of the Department. Day-to-day evaluation: Total 20 marks are allotted day to day evaluation. This evaluation is done thrice in a week. The evaluation is done based on three days attendance and day to day project work involvement. Responsible person is Project guide. • External Viva: Total 150 marks are allocated for external viva the external Viva is conducted once in semester. Responsible person is University appointed Examiner.

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Target Setting: It is set based upon the average of the number of students scoring above the Average Class marks during the previous three years performances. Benchmark Rubrics were set for each course based on its nature for calculating the attainments.

➢ II Year-I Semester Data Structures Through C++ Course (2017-2021):

CIE Calculation:

SRI INDU COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COURSE: DATA STRUCTURES THROUGH C++

COURSE CODE :R16CSE1104

A.Y:2018-2019

YEAR/SEM: II / I

Course Instructor :   Dr.N.SADHASIVAM

Course Outcomes				CO1				CO2				CO3				CO4				CO5				CO6		
Event Name				MID I											MID II											
Question Numbers				PA	Q6	Q7	AQ1	Q8	Q9	AQ2	Q10	Q11	AQ3	PA	Q6	Q7	AQ1	Q8	Q9	AQ2	Q10	Q11	AQ3
Sl.No	registerno.	Name	Max.Marks	5	5	5	2	5	5	2	5	5	1	5	5	5	2	5	5	2	5	5	1
Marks Scored more than 60%				186	156	102	212	181	167	228	115	78	228	182	192	178	228	159	161	228	112	105	228
Students attempted				214	165	129	228	187	173	228	171	151	228	228	228	225	228	227	228	228	176	166	228
Assessment Eventwise(%)				89				97			76			81				80			78		
Assessment Questionswise(%)				86	94	79	92	96	96	100	67	51	100	79	84	79	100	70	70	100	63	63	100
Overall Percentage				87				97			72			85				80			75		

SEE Calculation & Target Setting:

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY
(An Autonomous Institution under UGC, New Delhi)
Recognized under 2(f) and 12(B) of UGC Act 1956
NBA Accredited, Approved by AICTE and Permanently affiliated to JNTUH
Sheriguda (V), Ibrahimpatnam, R.R.Dist, Hyderabad - 501 510

D4

BR-18

2001

DEPARTMENT OF COMPUTERSCIENCE AND ENGINEERING

S. No.	A.Y	Batch	Year / Sem	Sub. Code.	Sub. Name.	Total no of Students	Pass	Pass Percentagr	Fail (< 40 %)	C	B	B+	A	A+	O	Rubrics target for next sem	Students Secured > 60%	No of Students scored > class Average	Claas Average	Class Average based on Total no. of	SEE	Previous Target
2	2018-2019	2017-2021		R16MTH1105	P&S		171	73%	27%	16%	20%	12%	13%	9%	4%	L1=50-59%, L2=60 -79%, L3->80%	73%	171	53.93	0.73	2.6	2.1
				R16CSE1103	MFCS		205	88%	12%	18%	20%	20%	20%	7%	4%	L1=60-69%, L2=70 -79%, L3->80%	70%	163	58.65	0.70	2	2
			II/I	R16CSE1104	DS THROUGH	234	218	93%	7%	15%	16%	23%	24%	14%	1%	L1=50-59%, L2=60 -69%, L3->70%	62%	145	63.96	0.62	2.2	2
				R16CSE1136	DLD		188	80%	20%	20%	23%	21%	11%	4%	1%	L1=60-79%, L2=80 -89%, L3->90%	80%	187	54.03	0.8	2	2
				R16ECE1102	EDC		175	75%	25%	16%	24%	15%	15%	3%	2%	L1=50-69%, L2=70 -79%, L3->80%	75%	175	52.57	0.747	2.5	1.9
				R16EEE1130	BEE		195	83%	17%	8%	15%	23%	17%	11%	9%	L1=60-69%, L2=70 -79%, L3->80%	75%	176	62.47	0.75	2.5	1.7
				R16CSE1105	CO		196	84%	16%	20%	25%	24%	13%	2%	NIL	L1=50-59%, L2=60 -69%, L3->70%	64%	148	55.41	0.64	2.4	2.1
				R16CSE1106	DBMS		222	96%	4%	17%	23%	24%	23%	9%	NIL	L1=60-69%, L2=70 -79%, L3->80%	79%	183	63.16	0.79	2.9	2.4
			II/II	R16CSE1107	JAVA PROGR	232	193	83%	17%	19%	20%	20%	15%	6%	3%	L1=50-59%, L2=60 -69%, L3->70%	64%	148	56.9	0.64	2.4	2.1
				R16HAS1102	ES		223	96%	4%	10%	20%	23%	24%	16%	3%	L1=60-79%, L2=80 -89%, L3->90%	86%	200	66.24	0.86	2.6	2.2
				R16CSE1108	FLAT		213	92%	8%	15%	18%	25%	17%	9%	8%	L1=60-69%, L2=70 -79%, L3->80%	77%	179	63.81	0.77	2.7	2.5
				R16CSE1109	DAA		220	95%	5%	12%	17%	27%	20%	16%	3%	L1=65-74%, L2=75 -84%, L3->85%	83%	193	65.52	0.83	2.8	2.1

CO Direct attainment (ACE) is calculated by considering 70% of external assessment (SEE) and 30% internal assessment (CIE).

	ATT	CIE	SEE	ACE
CO1	83	3	2.2	2.44
CO2	92	3	2.2	2.44
CO3	75	3	2.2	2.44
CO4	84	3	2.2	2.44
CO5	77	3	2.2	2.44
CO6	73	3	2.2	2.44

(i)   CO InDirect Calculation:

5/7/22, 2:19 PM   Sri Indu College of Engineering & Technology Autonomous Institution

Sri Indu College of Engineering & Technology Autonomous Institution

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COURSE END SURVEY

CAY 2018 - 2019

csecriteria03@gmail.com (not shared) Switch account

* Required

II YEAR CSE SEM – I (REGULATION –R16)

Please evaluate on the following Scale:

Very Good	Satisfactory	Need Improvement
3	2	1

Your answer

SECTION *

Choose

GENERAL OBJECTIVES:

1. Has the course achieved its stated objectives? *

	1	2	3
	○	○	○

2. Have you gained the stated skills? *

	1	2	3
	○	○	○

3. Whether the syllabus is adequate to achieve the objectives? *

	1	2	3
	○	○	○

4. Whether the teacher has helped in acquiring the stated skills? *

	1	2	3
	○	○	○

5. Whether the teacher has given real life applications of the course? *

	1	2	3
	○	○	○

ASSESSMENT OF COURSE OUTCOMES:

1) Number of Students, who had given the feedbacks: N
2) **Number of Questions = Q (General objectives + specific outcomes)**
3) Find the Number of Very Good(VG), Satisfactory(S), Need Improvement(NI)
4) Assessment of Course Outcomes (ACO) will be as per the following formula:

$$ACO = (3 \times VG + 2 \times S + 1 \times NI) / (N \times Q)$$

Course Outcome (CO) in %age = (ACO/3) *100

General Objectives					SUBJECT 1: R16EEE1105 – Computer Organization					
1. Has the course achieved its stated objectives?	2. Have you gained the stated skills?	3. Whether the syllabus is adequate to achieve the objectives?	4. Whether the teacher has helped in acquiring the stated skills?	5. Whether the teacher has given real life applications of the course?	1. Your ability to Describe the zero address, one address, two addresses, and three addresses using various addressing modes.	2.Your ability to Justify the I/O interaction with the memory.	3. Your ability to Explain the basic memory hierarchy along with their mapping associations.	4. Your ability to Illustrate the 8086 microprocessor architecture and justify the purpose of the associated register set.	5. Your ability to Demonstrate the instruction set of 8086 microprocessor.	6.Your ability to Design and implement simple systems using 8086 processor with the knowledge of pin diagram, registers and instruction formats of 8086 processor by writing assembly language programs.
3	3	2	1	3	3	2	1	3	3	2
2	2	1	3	2	2	1	3	2	2	1
1	3	3	2	3	1	3	2	1	3	3
3	2	2	2	2	3	2	2	3	2	2
2	1	1	3	3	2	1	3	2	1	1
3	3	2	1	2	3	2	1	3	3	2
2	2	1	2	3	2	1	2	2	2	1
3	3	3	1	3	3	3	1	3	3	3
1	2	2	3	2	1	2	3	1	2	2
3	3	3	2	3	3	3	2	3	3	3
2	2	2	3	2	2	2	3	2	2	2
3	1	3	2	2	3	3	2	3	1	3
2	2	3	1	1	2	3	1	2	2	3
3	1	2	2	3	3	2	2	3	1	2
2	3	3	2	2	2	3	2	2	3	3
3	1	2	1	3	3	2	1	3	1	2
2	3	2	1	3	2	2	1	2	3	2
2	2	1	3	2	2	1	3	2	2	1
1	3	3	2	3	1	3	2	1	3	3
3	2	1	1	1	3	1	1	3	2	1

CO Overall Calculation:

80% of direct assessment and 20% of indirect assessment is considered for calculating the Overall CO attainment.

SRI INDU COLLEGE OF ENGINEERING AND TECHNOLOGY

Autonomous (D4) Sheriguda (V), R.R.Dist

Department of Computer Science and Engineering

Data Structures through C++

CO-PO CORRELATION LEVEL MATRIX

BATCH:2017-2021
AY:2018-2019
Course Instructor : Dr.N.SADHASIVAM
Year/Sem:II/II

REMARKS
IF ATTAINMENT % >=50 AND <=59 THEN SIGNIFICANCE LEVEL IS 1
IF ATTAINMENT % >=60 AND <=69 THEN SIGNIFICANCE LEVEL IS 2
IF ATTAINMENT % >=70 SIGNIFICANCE LEVEL IS 3

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	-	-	3	-	-	-	-	-	1	-	1	1	1
2	3	3	3	-	3	-	-	-	-	-	-	-	1	-	-
3	1	2	3	-	2	-	-	-	-	-	-	-	-	-	-
4	1	1	2	-	3	-	-	-	-	-	2	-	-	-	-
5	3	2	1	-	3	-	-	-	-	-	1	-	2	2	-
6	2	-	-	3	-	-	-	-	-	-	1	-	-	-	-
W.A	2.17	1.80	2.25	3.00	2.80	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.25	#DIV/0!	1.33	1.50	1.00

Exa.SEE=62%

	ATT	CIE	SEE	ACE
CO1	83	3	2.2	2.44
CO2	92	3	2.2	2.44
CO3	75	3	2.2	2.44
CO4	84	3	2.2	2.44
CO5	77	3	2.2	2.44
CO6	73	3	2.2	2.44

PROGRAM OUTCOME AND PROGRAM SPECIFIC OUTCOME ATTAINMENT

COs	PO1 1	PO1 2	PO1 3	PO2 1	PO2 2	PO2 3	PO3 1	PO3 2	PO3 3	PO4 1	PO4 2	PO4 3	PO5 1	PO5 2	PO5 3	PO6	PO7	PO8	PO9	PO10	PO11 1	PO11 2	PO11 3	PO12	PSO1 1	PSO1 2	PSO1 3	PSO2 1	PSO2 2	PSO2 3	PSO3 1	PSO3 2	PSO3 3
CO1	-	-	2.44	2.44	-	-	-	-	-	-	-	-	-	-	2.44	-	-	-	-	-	2.44	-	-	-	2.44	-	-	2.44	-	-	2.44	-	-
CO2	-	-	2.44	-	-	2.44	-	-	2.44	-	-	-	-	-	2.44	-	-	-	-	-	-	-	-	-	2.44	-	-	-	-	-	-	-	-
CO3	2.44	-	-	-	2.44	-	-	-	2.44	-	-	-	-	2.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	2.44	-	-	2.44	-	-	-	2.44	-	-	-	-	-	-	2.44	-	-	-	-	-	-	2.44	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	2.44	-	2.44	-	2.44	-	-	-	-	-	-	-	2.44	-	-	-	-	-	2.44	-	-	-	-	2.44	-	-	2.44	-	-	-	-
CO6	-	2.44	-	-	-	-	-	-	-	-	-	2.44	-	-	-	-	-	-	-	-	2.44	-	-	-	-	-	-	-	-	-	-	-	-
	0.4067	0.8133	1.22	0.40667	0.81	1.22	0.40667	0.81	1.22	-	-	1.22	-	0.81	1.22	-	-	-	-	-	0.4067	0.81	-	-	0.4067	0.81	-	0.4067	-	-	0.4067	-	-

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Attainment	2.44	2.44	2.44	1.22	2.03	#VALUE!	#VALUE!	-	#VALUE!	#VALUE!	1.22	#VALUE!	1.22	0.4	0.4

COURSE OUTCOME ATTAINMENT

CO's	End Exam Target %	End Exam Attained %	End Exam Attained level	Internal Assessment Attained %	Internal Assessment Attained level	CO Attainment	Overall Attainment
CO1	62%	2.2		83	3	2.6	
CO2	62%	2.2		92	3	2.6	
CO3	62%	2.2		75	3	2.6	2.6 (Attained)
CO4	62%	2.2		84	3	2.6	
CO5	62%	2.2		77	3	2.6	
CO6	62%	2.2		73	3	2.6	

Target: 2 / 1

Action plan

HEAD OF THE DEPARTMENT   SUBJECT HANDLER   PROGRAM COORDINATOR

Course Outcome CIE Attainments (2017-21)

Course	Subject Code & (Subject Name)	CO1	CO2	CO3	CO4	CO5	CO6	Overall CIE Attainment
C111	R16HAS1101 – English	3	3	3	3	3	3	3
C112	R16MTH1101 – Mathematics - I	3	3	3	3	3	3	3
C113	R16EPH1101 – Engineering Physics - I	3	1.7	3	3	3	2.4	2.68
C114	R16CSE1101 – Computer Programming	3	3	3	3	3	3	3
C115	R16MED1144 – Engineering Drawing	3	3	2.5	3	3	1.5	2.66
C116	R16HAS1201 – Engineering Language & Communication Skills Lab	2	3	2	3	3	2	2.5
C117	R16CSE1201 – Computer Programming Lab	3	3	3	3	3	3	3
C118	R16MED1201 – Workshop Practice	3	3	3	3	3	3	3
C121	R16MTH1102 – Mathematics - II	3	3	3	3	3	3	3
C122	R16MTH1103 – Numerical Methods	3	3	3	3	3	3	3
C123	R16EPH1102 – Engineering Physics - II	3	3	3	3	3	3	3
C124	R16CSE1102 – Data Structures through 'C'	3	3	3	3	3	3	3
C125	R16ECH1101 – Engineering Chemistry	3	3	3	3	3	3	3
C126	R16CSE1202 – Data Structures through 'C' Lab	3	3	3	3	3	3	3
C127	R16ECH1201 – Engineering Chemistry Lab	3	3	3	3	3	3	3
C121	R16EPH1201 – Engineering Physics II Lab	1.8	1.8	1.8	3	3	3	2.4
C211	R16MTH1105 – Probability and Statistics	3	2.2	2.3	2.5	3	2.2	2.53
C212	R16CSE1103 – Mathematical Foundations of Computer Science	3	3	1.6	3	3	3	2.76
C213	R16CSE1104 – Data Structures through C++	3	3	3	3	3	3	3
C214	R16ECE1136 – Digital Logic Design	2.5	2.4	1.8	2.2	1.9	1.8	2.1
C215	R16ECE1102 – Electronic Devices and Circuits	2.7	3	2.9	2.5	2.7	2.7	2.75
C216	R16EEE1130 – Basic Electrical Engineering	3	3	1.4	3	2.5	1.6	2.41
C21L7	R16EEE1212 – Electrical and Electronics Lab	3	3	3	3	3	3	3
C21L8	R16CSE1203 – Data Structures through C++ Lab	2.9	3	3	3	3	2.7	2.93
C221	R16CSE1105 – Computer Organization	3	3	3	3	3	2.8	2.96
C222	R16CSE1106 – Database Management Systems	3	3	2.6	3	3	2.7	2.88
C223	R16CSE1107 – Java Programming	3	3	3	3	3	3	3
C224	R16HAS1102 – Environmental Studies	2.1	2.8	2	2.3	2.5	2.7	2.4
C225	R16CSE1108 – Formal Languages and Automata Theory	2	1.8	2	1.9	2.6	2.4	2.11
C226	R16CSE1109 – Design and Analysis of Algorithms	3	2.3	2.2	2.3	2.3	3	2.51
C227	R16CSE1204 – Java Programming Lab	3	3	2.9	3	2.8	3	2.95
C228	R16CSE1205 – Database Management Systems Lab	3	3	3	3	3	3	3

C311	R16CSE1110 - Principles of Programming Languages	3	2.9	2.7	3	3	3	2.9
C312	R16HAS1105 - Human Values and Professional Ethics	2.8	1.1	1.2	3	2.6	3	2.28
C313	R16CSE1113 - Software Engineering	3	1.9	3	3	3	2.9	2.8
C314	R16CSE1118 - Compiler Design	2.2	1.9	3	3	2.9	3	2.66
C315	R16CSE1114 - Operating Systems	1.9	3	3	3	3	3	2.81
C316	R16CSE1139 - Computer Networks	2.7	1.7	2.5	3	3	3	2.65
C31L7	R16CSE1206 - Operating systems Lab	3	3	3	3	3	3	3
C31L8	R16CSE1207- Compiler Design Lab	3	3	3	3	3	3	3
C321	R16CSE1143 - Distributed Systems	3	3	1.6	3	3	3	2.76
C322	R16CSE1117 - Information Security	3	3	3	3	3	3	3
C323	R16CSE1116 -Object Oriented Analysis and Design	2.9	2.5	3	3	3	3	2.9
C324	R16CSE1121 - Software Testing Methodologies	2.2	2.1	3	3	3	3	2.71
C325	R16CSE1103 - Managerial Economics Financial Analysis	3	1.4	2	3	3	3	2.56
C326	R16CSE1119 - Web Technologies	1.8	3	2	3	3	3	2.63
C32L7	R16CSE1215 - Case Tools & Web Technologies Lab	3	3	3	3	3	3	3
C32L8	R16HAS1202 Advanced English language Communication Skills Lab	3	3	3	3	3	3	3
C411	R16CSE1120 - Linux Programming	3	3	3	3	3	3	3
C412	R16CSE1128 - Design Patterns	3	3	3	2.4	2.6	3	2.83
C413	R16CSE1122 - Data Warehousing and Data Mining	3	3	3	2.7	2.7	3	2.9
C414	R16CSE1125 - Cloud Computing	3	3	3	2.9	3	3	2.98
C415	R16CSE1127 - Mobile Computing	3	3	3	3	3	3	3
C416	R16CSE1112 - COMPUTER FORENSICS	3	3	3	2.8	2.9	3	2.95
C41L7	R16CSE1208 - Linux Programming lab	3	3	3	3	3	3	3
C41L8	R16CSE1216 - Data Warehousing and Mining LAB	3	3	3	3	3	3	3
C421	R16HAS1104 - Management Science	3	3	3	3	3	3	3
C422	R16CSE1135 - Multimedia & Rich Internet Applications	3	3	3	3	3	3	3
C423	R16CSE1136 - AD hoc and Sensor Networks	3	3	3	3	3	3	3

Course Outcome SEE Attainment (2017-21):

Course	Subject Code & (Subject Name)	CO1	CO2	CO3	CO4	CO5	CO6	Overall SEE Attainment
C111	R16HAS1101 – English	2.1	2.1	2.1	2.1	2.1	2.1	2.1
C112	R16MTH1101 – Mathematics - I	2	2	2	2	2	2	2
C113	R16EPH1101 – Engineering Physics - I	2.1	2.1	2.1	2.1	2.1	2.1	2.1
C114	R16CSE1101 – Computer Programming	1.5	1.5	1.5	1.5	1.5	1.5	1.5
C115	R16MED1144 – Engineering Drawing	2.7	2.7	2.7	2.7	2.7	2.7	2.7
C116	R16HAS1201 – Engineering Language & Communication Skills Lab	2.3	2.3	2.3	2.3	2.3	2.3	2.3
C117	R16CSE1201 – Computer Programming Lab	2.6	2.6	2.6	2.6	2.6	2.6	2.6
C118	R16MED1201 – Workshop Practice	2	2	2	2	2	2	2
C121	R16MTH1102 – Mathematics - II	2.3	2.3	2.3	2.3	2.3	2.3	2.3
C122	R16MTH1103 – Numerical Methods	2.6	2.6	2.6	2.6	2.6	2.6	2.6
C123	R16EPH1102 – Engineering Physics - II	2.2	2.2	2.2	2.2	2.2	2.2	2.2
C124	R16CSE1102 – Data Structures through 'C'	2.3	2.3	2.3	2.3	2.3	2.3	2.3
C125	R16ECH1101 – Engineering Chemistry	2.2	2.2	2.2	2.2	2.2	2.2	2.2
C126	R16CSE1202 – Data Structures through 'C' Lab	2.3	2.3	2.3	2.3	2.3	2.3	2.3
C127	R16ECH1201 – Engineering Chemistry Lab	2.1	2.1	2.1	2.1	2.1	2.1	2.1
C121	R16EPH1201 – Engineering Physics II Lab	1.4	1.4	1.4	1.4	1.4	1.4	1.4
C211	R16MTH1105 – Probability and Statistics	2.6	2.6	2.6	2.6	2.6	2.6	2.6
C212	R16CSE1103 – Mathematical Foundations of Computer Science	2	2	2	2	2	2	2
C213	R16CSE1104 – Data Structures through C++	2.2	2.2	2.2	2.2	2.2	2.2	2.2
C214	R16ECE1136 – Digital Logic Design	2	2	2	2	2	2	2
C215	R16ECE1102 – Electronic Devices and Circuits	2.5	2.5	2.5	2.5	2.5	2.5	2.5
C216	R16EEE1130 – Basic Electrical Engineering	2.5	2.5	2.5	2.5	2.5	2.5	2.5
C21L7	R16EEE1212 – Electrical and Electronics Lab	3	3	3	3	3	3	3
C21L8	R16CSE1203 – Data Structures through C++ Lab	3	3	3	3	3	3	3
C221	R16CSE1105 – Computer Organization	2.4	2.4	2.4	2.4	2.4	2.4	2.4
C222	R16CSE1106 – Database Management Systems	2.9	2.9	2.9	2.9	2.9	2.9	2.9

C223	R16CSE1107 – Java Programming	2.4	2.4	2.4	2.4	2.4	2.4	2.4
C224	R16HAS1102 – Environmental Studies	2.6	2.6	2.6	2.6	2.6	2.6	2.6
C225	R16CSE1108 – Formal Languages and Automata Theory	2.7	2.7	2.7	2.7	2.7	2.7	2.7
C226	R16CSE1109 – Design and Analysis of Algorithms	2.8	2.8	2.8	2.8	2.8	2.8	2.8
C227	R16CSE1204 – Java Programming Lab	3	3	3	3	3	3	3
C228	R16CSE1205 – Database Management Systems Lab	3	3	3	3	3	3	3
C311	R16CSE1110 - Principles of Programming Languages	2.1	2.1	2.1	2.1	2.1	2.1	2.1
C312	R16HAS1105 - Human Values and Professional Ethics	2.8	2.8	2.8	2.8	2.8	2.8	2.8
C313	R16CSE1113 - Software Engineering	2.5	2.5	2.5	2.5	2.5	2.5	2.5
C314	R16CSE1118 - Compiler Design	2.7	2.7	2.7	2.7	2.7	2.7	2.7
C315	R16CSE1114 - Operating Systems	2	2	2	2	2	2	2
C316	R16CSE1139 - Computer Networks	2.5	2.5	2.5	2.5	2.5	2.5	2.5
C31L7	R16CSE1206 - Operating systems Lab	2.4	2.4	2.4	2.4	2.4	2.4	2.4
C31L8	R16CSE1207- Compiler Design Lab	3	3	3	3	3	3	3
C321	R16CSE1143 - Distributed Systems	2.7	2.7	2.7	2.7	2.7	2.7	2.7
C322	R16CSE1117 - Information Security	2.6	2.6	2.6	2.6	2.6	2.6	2.6
C323	R16CSE1116 -Object Oriented Analysis and Design	2.5	2.5	2.5	2.5	2.5	2.5	2.5
C324	R16CSE1121 - Software Testing Methodologies	2.6	2.6	2.6	2.6	2.6	2.6	2.6
C325	R16CSE1103 - Managerial Economics Financial Analysis	2.8	2.8	2.8	2.8	2.8	2.8	2.8
C326	R16CSE1119 - Web Technologies	2.7	2.7	2.7	2.7	2.7	2.7	2.7
C32L7	R16CSE1215 - Case Tools & Web Technologies Lab	3	3	3	3	3	3	3
C32L8	R16HAS1202 Advanced English language Communication Skills Lab	3	3	3	3	3	3	3
C411	R16CSE1120 - Linux Programming	1.6	1.6	1.6	1.6	1.6	1.6	1.6
C412	R16CSE1128 - Design Patterns	2.5	2.5	2.5	2.5	2.5	2.5	2.5

C413	R16CSE1122 - Data Warehousing and Data Mining	2.9	2.9	2.9	2.9	2.9	2.9	2.9
C414	R16CSE1125 - Cloud Computing	2.9	2.9	2.9	2.9	2.9	2.9	2.9
C415	R16CSE1127 - Mobile Computing	2.4	2.4	2.4	2.4	2.4	2.4	2.4
C416	R16CSE1112 - COMPUTER FORENSICS	2.7	2.7	2.7	2.7	2.7	2.7	2.7
C41L7	R16CSE1208 - Linux Programming lab	2.4	2.4	2.4	2.4	2.4	2.4	2.4
C41L8	R16CSE1216 - Data Warehousing and Mining LAB	3	3	3	3	3	3	3
C421	R16HAS1104 - Management Science	2.8	2.8	2.8	2.8	2.8	2.8	2.8
C422	R16CSE1135 - Multimedia & Rich Internet Applications	2.9	2.9	2.9	2.9	2.9	2.9	2.9
C423	R16CSE1136 - AD hoc and Sensor Networks	2.3	2.3	2.3	2.3	2.3	2.3	2.3

Course Outcome Attainment Rubrics (2017-21):

Course	Subject Code & (Subject Name)	Rubrics
C111	R16HAS1101 – English	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C112	R16MTH1101 – Mathematics - I	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C113	R16EPH1101 – Engineering Physics - I	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C114	R16CSE1101 – Computer Programming	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C115	R16MED1144 – Engineering Drawing	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C116	R16HAS1201 – Engineering Language & Communication Skills Lab	If attainment % >=50 and <=59 then significance level is 1 if attainment % >=60 and <=69 then significance level is 2 If attainment % >=70 significance level is 3

C117	R16CSE1201 – Computer Programming Lab	If attainment % >=50 and <=59 then significance level is 1 if attainment % >=60 and <=69 then significance level is 2 If attainment % >=70 significance level is 3
C118	R16MED1201 – Workshop Practice	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C121	R16MTH1102 – Mathematics - II	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C122	R16MTH1103 – Numerical Methods	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C123	R16EPH1102 – Engineering Physics - II	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C124	R16CSE1102 – Data Structures through 'C'	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C125	R16ECH1101 – Engineering Chemistry	If attainment % >=40 and <=49 then significance level is 1 if attainment % >=50 and <=59 then significance level is 2 If attainment % >=60 significance level is 3
C126	R16CSE1202 – Data Structures through 'C' Lab	If attainment % >=50 and <=59 then significance level is 1 if attainment % >=60 and <=69 then significance level is 2 If attainment % >=70 significance level is 3
C127	R16ECH1201 – Engineering Chemistry Lab	If attainment % >=50 and <=59 then significance level is 1 if attainment % >=60 and <=69 then significance level is 2 If attainment % >=70 significance level is 3
C121	R16EPH1201 – Engineering Physics II Lab	If attainment % >=50 and <=59 then significance level is 1 if attainment % >=60 and <=69 then significance level is 2 If attainment % >=70 significance level is 3
C211	R16MTH1105 – Probability and Statistics	If attainment % >=50 and <=59 then significance level is 1 if attainment % >=60 and <=79 then significance level is 2 If attainment % >=80 significance level is 3

C212	R16CSE1103 – Mathematical Foundations of Computer Science	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C213	R16CSE1104 – Data Structures through C++	If attainment % >=50 and <=59 then significance level is 1 if attainment % >=60 and <=69 then significance level is 2 If attainment % >=70 significance level is 3
C214	R16ECE1136 – Digital Logic Design	If attainment % >=60 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C215	R16ECE1102 – Electronic Devices and Circuits	If attainment % >=50 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C216	R16EEE1130 – Basic Electrical Engineering	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C21L7	R16EEE1212 – Electrical and Electronics Lab	If attainment % >=70 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C21L8	R16CSE1203 – Data Structures through C++ Lab	If attainment % >=70 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C221	R16CSE1105 – Computer Organization	If attainment % >=50 and <=59 then significance level is 1 if attainment % >=60 and <=69 then significance level is 2 If attainment % >=70 significance level is 3
C222	R16CSE1106 – Database Management Systems	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C223	R16CSE1107 – Java Programming	If attainment % >=50 and <=59 then significance level is 1 if attainment % >=60 and <=69 then significance level is 2 If attainment % >=70 significance level is 3
C224	R16HAS1102 – Environmental Studies	If attainment % >=60 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3

C225	R16CSE1108 – Formal Languages and Automata Theory	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C226	R16CSE1109 – Design and Analysis of Algorithms	If attainment % >=65 and <=74 then significance level is 1 if attainment % >=75 and <=84 then significance level is 2 If attainment % >=85 significance level is 3
C227	R16CSE1204 – Java Programming Lab	If attainment % >=70 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C228	R16CSE1205 – Database Management Systems Lab	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C311	R16CSE1110 - Principles of Programming Languages	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C312	R16HAS1105 - Human Values and Professional Ethics	If attainment % >=60 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C313	R16CSE1113 - Software Engineering	If attainment % >=55 and <=74 then significance level is 1 if attainment % >=75 and <=84 then significance level is 2 If attainment % >=85 significance level is 3
C314	R16CSE1118 - Compiler Design	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C315	R16CSE1114 - Operating Systems	If attainment % >=50 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C316	R16CSE1139 - Computer Networks	If attainment % >=55 and <=64 then significance level is 1 if attainment % >=65 and <=84 then significance level is 2 If attainment % >=85 significance level is 3
C31L7	R16CSE1206 - Operating systems Lab	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3

C31L8	R16CSE1207- Compiler Design Lab	If attainment % >=70 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C321	R16CSE1143 - Distributed Systems	If attainment % >=55 and <=64 then significance level is 1 if attainment % >=65and <=74 then significance level is 2 If attainment % >=85 significance level is 3
C322	R16CSE1117 - Information Security	If attainment % >=55 and <=64then significance level is 1 if attainment % >=65 and <=84 then significance level is 2 If attainment % >=85 significance level is 3
C323	R16CSE1116 -Object Oriented Analysis and Design	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C324	R16CSE1121 - Software Testing Methodologies	If attainment % >=55 and <=64 then significance level is 1 if attainment % >=65 and <=74 then significance level is 2 If attainment % >=75 significance level is 3
C325	R16CSE1103 - Managerial Economics Financial Analysis	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=79 then significance level is 2 If attainment % >=80 significance level is 3
C326	R16CSE1119 - Web Technologies	If attainment % >=65 and <=64 then significance level is 1 if attainment % >=75 and <=84 then significance level is 2 If attainment % >=85 significance level is 3
C32L7	R16CSE1215 - Case Tools & Web Technologies Lab	If attainment % >=70 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C32L8	R16HAS1202 Advanced English language Communication Skills Lab	If attainment % >=70 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C411	R16CSE1120 - Linux Programming	If attainment % >=60 and <=69then significance level is 1 if attainment % >=70and <=79then significance level is 2 If attainment % >=80 significance level is 3
C412	R16CSE1128 - Design Patterns	If attainment % >=55and <=74 then significance level is 1 if attainment % >=75and <=84 then significance level is 2 If attainment % >=85 significance level is 3

C413	R16CSE1122 - Data Warehousing and Data Mining	If attainment % >=65 and <=74 then significance level is 1 if attainment % >=75 and <=84then significance level is 2 If attainment % >=85 significance level is 3
C414	R16CSE1125 - Cloud Computing	If attainment % >=55 and <=79 then significance level is 1 if attainment % >=75 and <=89 then significance level is 2 If attainment % >=85 significance level is 3
C415	R16CSE1127 - Mobile Computing	If attainment % >=60 and <=70 then significance level is 1 if attainment % >=70 and <=80then significance level is 2 If attainment % >=80 significance level is 3
C416	R16CSE1112 - COMPUTER FORENSICS	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C41L7	R16CSE1208 - Linux Programming lab	If attainment % >=70 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C41L8	R16CSE1216 - Data Warehousing and Mining LAB	If attainment % >=70 and <=79 then significance level is 1 if attainment % >=80 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C421	R16HAS1104 - Management Science	If attainment % >=60 and <=69 then significance level is 1 if attainment % >=70 and <=89 then significance level is 2 If attainment % >=90 significance level is 3
C422	R16CSE1135 - Multimedia & Rich Internet Applications	If attainment % >=55 and <=74 then significance level is 1 if attainment % >=75 and <=84 then significance level is 2 If attainment % >=85 significance level is 3
C423	R16CSE1136 - AD hoc and Sensor Networks	If attainment % >=65 and <=74 then significance level is 1 if attainment % >=75 and <=84 then significance level is 2 If attainment % >=85 significance level is 3

Course Outcome Attainments (2017-21) (Direct Assessment)

Course	Subject Code & (Subject Name)	CO1	CO2	CO3	CO4	CO5	CO6	Overall Direct attainment
C111	R16HAS1101 – English	3.00	3.00	3.00	3	3	3	3.00
C112	R16MTH1101 – Mathematics - I	3	3	3	3	3	3	3.00
C113	R16EPH1101 – Engineering Physics - I	3	1.7	3	3	3	2.4	2.68
C114	R16CSE1101 – Computer Programming	2.7	3	3	3	3	3	2.95
C115	R16MED1144 – Engineering Drawing	3	3	2.5	3	3	1.5	2.67
C116	R16HAS1201 – Engineering Language & Communication Skills Lab	3	3	3	3	3	3	3.00
C117	R16CSE1201 – Computer Programming Lab	1.9	1.9	1.9	1.7	1.5	1.5	1.73
C118	R16MED1201 – Workshop Practice	3	3	3	3	3	3	3.00
C121	R16MTH1102 – Mathematics - II	3	3	3	3	3	3	3.00
C122	R16MTH1103 – Numerical Methods	3	3	3	3	3	3	3.00
C123	R16EPH1102 – Engineering Physics - II	3	3	3	3	3	3	3.00
C124	R16CSE1102 – Data Structures through 'C'	3	3	2.1	3	2.9	3	2.83
C125	R16ECH1101 – Engineering Chemistry	3	3	3	3	3	3	3.00
C126	R16CSE1202 – Data Structures through 'C' Lab	2	2	2	2	2	2	2.00
C127	R16ECH1201 – Engineering Chemistry Lab	3	3	3	3	3	3	3.00
C121	R16EPH1201 – Engineering Physics II Lab	1.8	1.8	1.8	3	3	3	2.40
C211	R16MTH1105 – Probability and Statistics	3	2.2	2.3	2.6	3	2.1	2.53
C212	R16CSE1103 – Mathematical Foundations of Computer Science	3	3	1.2	3	3	3	2.70
C213	R16CSE1104 – Data Structures through C++	3	3	3	3	3	3	3.00
C214	R16ECE1136 – Digital Logic Design	3	3	1.8	3	3	1.7	2.58
C215	R16ECE1102 – Electronic Devices and Circuits	2.9	3	2.7	2.6	2.6	2.8	2.77
C216	R16EEE1130 – Basic Electrical Engineering	3	3	1.3	3	2.7	1.6	2.43
C21L7	R16EEE1212 – Electrical and Electronics Lab	3	3	3	3	3	3	3.00
C21L8	R16CSE1203 – Data Structures through C++ Lab	3	3	3	3	3	3	3.00
C221	R16CSE1105 – Computer Organization	3	3	3	3	3	2.8	2.97
C222	R16CSE1106 – Database Management Systems	3	3	2.8	3	3	3	2.97
C223	R16CSE1107 – Java Programming	3	3	3	3	3	3	3.00
C224	R16HAS1102 – Environmental Studies	2.4	2	1.9	2.7	3	1.7	2.28
C225	R16CSE1108 – Formal Languages and Automata Theory	2	1.8	2.1	1.9	2.6	2	2.07
C226	R16CSE1109 – Design and Analysis of Algorithms	3	2.3	1.5	1.9	2.4	3	2.35
C227	R16CSE1204 – Java Programming Lab	3	3	3	3	3	3	3.00

C228	R16CSE1205 – Database Management Systems Lab	3	3	3	3	3	3	3.00
C311	R16CSE1110 - Principles of Programming Languages	3	2.8	2.9	3	3	3	2.95
C312	R16HAS1105 - Human Values and Professional Ethics	3	1.1	1.1	3	3	3	2.37
C313	R16CSE1113 - Software Engineering	3	2.1	3	3	3	3	2.85
C314	R16CSE1118 - Compiler Design	1.9	2	3	3	3	3	2.65
C315	R16CSE1114 - Operating Systems	1.9	3	3	3	3	3	2.82
C316	R16CSE1139 - Computer Networks	2.8	1.4	2.6	3	3	3	2.63
C31L7	R16CSE1206 - Operating systems Lab	3	3	3	3	3	3	3.00
C31L8	R16CSE1207- Compiler Design Lab	3	3	3	3	3	3	3.00
C321	R16CSE1143 - Distributed Systems	3	3	1.6	3	3	3	2.77
C322	R16CSE1117 - Information Security	3	3	3	3	3	3	3.00
C323	R16CSE1116 -Object Oriented Analysis and Design	2.9	2.5	3	3	3	3	2.90
C324	R16CSE1121 - Software Testing Methodologies	2.2	2.1	3	3	3	3	2.72
C325	R16CSE1103 - Managerial Economics Financial Analysis	3	1.4	2	3	3	3	2.57
C326	R16CSE1119 - Web Technologies	1.8	3	2	3	3	3	2.63
C32L7	R16CSE1215 - Case Tools & Web Technologies Lab	3	3	3	3	3	3	3.00
C32L8	R16HAS1202 Advanced English language Communication Skills Lab	3	3	3	3	3	3	3.00
C411	R16CSE1120 - Linux Programming	3	3	3	3	3	3	3.00
C412	R16CSE1128 - Design Patterns	3	3	3	2.9	2.9	3	2.97
C413	R16CSE1122 - Data Warehousing and Data Mining	3	3	3	2	2	3	2.67
C414	R16CSE1125 - Cloud Computing	3	3	3	3	3	3	3.00
C415	R16CSE1127 - Mobile Computing	3	3	3	3	3	3	3.00
C416	R16CSE1112 - COMPUTER FORENSICS	3	3	3	2.4	2.2	3	2.77
C41L7	R16CSE1208 - Linux Programming lab	3	3	3	3	3	3	3.00
C41L8	R16CSE1216 - Data Warehousing and Mining LAB	3	3	3	3	3	3	3.00
C421	R16HAS1104 - Management Science	3	3	3	3	3	3	3.00
C422	R16CSE1135 - Multimedia & Rich Internet Applications	3	3	3	3	3	3	3.00
C423	R16CSE1136 - AD hoc and Sensor Networks	3	3	3	3	3	3	3.00

Course Outcome Indirect Attainments (2017-21)

Course	Subject Code & (Subject Name)	CO1	CO2	CO3	CO4	CO5	CO6	Overall InDirect attainment
C111	R16HAS1101 – English	3	3	3	3	3	3	3.00
C112	R16MTH1101 – Mathematics - I	3	3	3	3	3	3	3.00
C113	R16EPH1101 – Engineering Physics - I	3	1.6	3	3	3	2.2	2.63
C114	R16CSE1101 – Computer Programming	2.6	3	3	3	3	3	2.93
C115	R16MED1144 – Engineering Drawing	3	3	2.7	2.8	3	1.4	2.65
C116	R16HAS1201 – Engineering Language & Communication Skills Lab	3	3	3	3	3	3	3.00
C117	R16CSE1201 – Computer Programming Lab	1	1	1	1	1	1	1.00
C118	R16MED1201 – Workshop Practice	3	3	3	3	3	3	3.00
C121	R16MTH1102 – Mathematics - II	3	3	3	3	3	3	3.00
C122	R16MTH1103 – Numerical Methods	3	3	3	3	3	3	3.00
C123	R16EPH1102 – Engineering Physics - II	3	3	3	3	3	3	3.00
C124	R16CSE1102 – Data Structures through 'C'	3	3	3	3	3	3	3.00
C125	R16ECH1101 – Engineering Chemistry	3	3	3	3	3	3	3.00
C126	R16CSE1202 – Data Structures through 'C' Lab	2.7	2.6	2.7	2.9	2.7	2.6	2.70
C127	R16ECH1201 – Engineering Chemistry Lab	3	3	3	3	3	3	3.00
C121	R16EPH1201 – Engineering Physics II Lab	1.7	1.6	1.7	3	3	3	2.33
C211	R16MTH1105 – Probability and Statistics	2.3	2.1	2.3	2.3	2.5	2.7	2.37
C212	R16CSE1103 – Mathematical Foundations of Computer Science	2	1.7	3	1.3	1.2	2.2	1.90
C213	R16CSE1104 – Data Structures through C++	2.7	3	3	3	2.7	2.3	2.78
C214	R16ECE1136 – Digital Logic Design	1.1	1.1	2.3	2.8	1.3	2.2	1.80
C215	R16ECE1102 – Electronic Devices and Circuits	2.1	2.7	3	2.1	3	2.4	2.55
C216	R16EEE1130 – Basic Electrical Engineering	2	2.3	1.6	1.6	1.7	1.5	1.78
C21L7	R16EEE1212 – Electrical and Electronics Lab	1.2	1.1	1.6	1.5	1.6	1.5	1.42
C21L8	R16CSE1203 – Data Structures through C++ Lab	1.1	1.5	1.2	2.9	2.7	2.3	1.95
C221	R16CSE1105 – Computer Organization	3	2.7	2.6	3	3	2.7	2.83
C222	R16CSE1106 – Database Management Systems	1.6	2.4	2	2	1.7	1.6	1.88
C223	R16CSE1107 – Java Programming	3	3	3	2.6	2.6	3	2.87
C224	R16HAS1102 – Environmental Studies	1.5	1.2	2.5	1.3	1.3	1.6	1.57
C225	R16CSE1108 – Formal Languages and Automata Theory	2	1.7	1.6	2	2.4	3	2.12
C226	R16CSE1109 – Design and Analysis of Algorithms	2.2	3	2.7	3	2.9	3	2.80

C227	R16CSE1204 – Java Programming Lab	1.5	3	1.1	1.3	1.5	3	1.90
C228	R16CSE1205 – Database Management Systems Lab	1.2	2.7	1.5	2	1.5	1.6	1.75
C311	R16CSE1110 - Principles of Programming Languages	1.8	3	2	1.7	1.8	1.7	2.00
C312	R16HAS1105 - Human Values and Professional Ethics	1.5	1.3	1.4	2.5	1.5	3	1.87
C313	R16CSE1113 - Software Engineering	3	1.6	1.6	1.6	1.6	1.6	1.83
C314	R16CSE1118 - Compiler Design	3	1.7	3.0	1.8	1.8	1.7	2.17
C315	R16CSE1114 - Operating Systems	1.9	3	1.8	3	1.8	2.8	2.38
C316	R16CSE1139 - Computer Networks	2.1	2.3	2.1	2.9	2.1	2.1	2.27
C31L7	R16CSE1206 - Operating systems Lab	3	1.2	1.3	1.3	1.1	2.8	1.78
C31L8	R16CSE1207- Compiler Design Lab	3	1.2	1.3	1.3	1.1	2.7	1.77
C321	R16CSE1143 - Distributed Systems	2.3	2.1	1.6	2	2.2	1.7	1.98
C322	R16CSE1117 - Information Security	1.7	2.1	1.5	2.2	2.1	3	2.10
C323	R16CSE1116 -Object Oriented Analysis and Design	1.7	3	2	2.1	1.8	2.1	2.12
C324	R16CSE1121 - Software Testing Methodologies	2.1	3	1.7	1.7	3	3	2.42
C325	R16CSE1103 - Managerial Economics Financial Analysis	3	1.8	2.1	1.6	1.6	3	2.18
C326	R16CSE1119 - Web Technologies	1.2	1.2	1.3	2.7	1.2	1.2	1.47
C32L7	R16CSE1215 - Case Tools & Web Technologies Lab	3	1.2	1.3	1.3	1.1	2.7	1.77
C32L8	R16HAS1202 Advanced English language Communication Skills Lab	3	1.2	1.3	1.3	1.1	2.7	1.77
C411	R16CSE1120 - Linux Programming	1.7	2	2.2	1.6	1.3	3	1.97
C412	R16CSE1128 - Design Patterns	2.7	1.3	1.3	1.3	1.6	1.6	1.63
C413	R16CSE1122 - Data Warehousing and Data Mining	1.6	1.6	1.6	2	1.3	1.2	1.55
C414	R16CSE1125 - Cloud Computing	2.1	2.1	2.5	2.2	3	2.8	2.45
C415	R16CSE1127 - Mobile Computing	2.1	2	3	1.1	1.8	2.7	2.12
C416	R16CSE1112 - COMPUTER FORENSICS	1.8	1.8	2.6	1	3	3	2.20
C41L7	R16CSE1208 - Linux Programming lab	3	1.3	1.3	2.6	1.1	3	2.05
C41L8	R16CSE1216 - Data Warehousing and Mining LAB	1.5	1	1.2	1.2	2.8	2.4	1.68
C421	R16HAS1104 - Management Science	1.2	1.8	1.3	2	2.6	1.2	1.68
C422	R16CSE1135 - Multimedia & Rich Internet Applications	1.6	1.7	1.6	1.3	1.8	1.3	1.55
C423	R16CSE1136 - AD hoc and Sensor Networks	1.6	1.3	2.7	2.7	3	3	2.38

Overall Course Outcome Attainments (2017-21)

Course	Subject Code & (Subject Name)	CO Direct Overall Attainment (a)	80% of CO Direct Attainment	CO Indirect Overall Attainment (b)	20% of CO Indirect overall Attainment	TOTAL=80% of Direct Attainment + 20% of Indirect Overall Attainment
C111	R16HAS1101 – English	3.00	2.40	3.00	0.60	3
C112	R16MTH1101 – Mathematics - I	3.00	2.40	3.00	0.60	3
C113	R16EPH1101 – Engineering Physics - I	2.68	2.15	2.63	0.53	2.68
C114	R16CSE1101 – Computer Programming	2.95	2.36	2.93	0.59	2.95
C115	R16MED1144 – Engineering Drawing	2.67	2.13	2.65	0.53	2.66
C116	R16HAS1201 – Engineering Language & Communication Skills Lab	3.00	2.40	3.00	0.60	3
C117	R16CSE1201 – Computer Programming Lab	1.73	1.39	1.00	0.20	1.59
C118	R16MED1201 – Workshop Practice	3.00	2.40	3.00	0.60	3
C121	R16MTH1102 – Mathematics - II	3.00	2.40	3.00	0.60	3
C122	R16MTH1103 – Numerical Methods	3.00	2.40	3.00	0.60	3
C123	R16EPH1102 – Engineering Physics - II	3.00	2.40	3.00	0.60	3
C124	R16CSE1102 – Data Structures through 'C'	2.83	2.27	3.00	0.60	2.87
C125	R16ECH1101 – Engineering Chemistry	3.00	2.40	3.00	0.60	3
C126	R16CSE1202 – Data Structures through 'C' Lab	2.00	1.60	2.70	0.54	2.14
C127	R16ECH1201 – Engineering Chemistry Lab	3.00	2.40	3.00	0.60	3
C121	R16EPH1201 – Engineering Physics II Lab	2.40	1.92	2.33	0.47	2.39
C211	R16MTH1105 – Probability and Statistics	2.53	2.03	2.37	0.47	2.5
C212	R16CSE1103 – Mathematical Foundations of Computer Science	2.70	2.16	1.90	0.38	2.54
C213	R16CSE1104 – Data Structures through C++	3.00	2.40	2.78	0.56	2.96
C214	R16ECE1136 – Digital Logic Design	2.58	2.07	1.80	0.36	2.43
C215	R16ECE1102 – Electronic Devices and Circuits	2.77	2.21	2.55	0.51	2.72
C216	R16EEE1130 – Basic Electrical Engineering	2.43	1.95	1.78	0.36	2.31
C21L7	R16EEE1212 – Electrical and Electronics Lab	3.00	2.40	1.42	0.28	2.68
C21L8	R16CSE1203 – Data Structures through C++ Lab	3.00	2.40	1.95	0.39	2.79
C221	R16CSE1105 – Computer Organization	2.97	2.37	2.83	0.57	2.94
C222	R16CSE1106 – Database Management Systems	2.97	2.37	1.88	0.38	2.75
C223	R16CSE1107 – Java Programming	3.00	2.40	2.87	0.57	2.97
C224	R16HAS1102 – Environmental Studies	2.28	1.83	1.57	0.31	2.14
C225	R16CSE1108 – Formal Languages and Automata Theory	2.07	1.65	2.12	0.42	2.07

C226	R16CSE1109 – Design and Analysis of Algorithms	2.35	1.88	2.80	0.56	2.44
C227	R16CSE1204 – Java Programming Lab	3.00	2.40	1.90	0.38	2.78
C228	R16CSE1205 – Database Management Systems Lab	3.00	2.40	1.75	0.35	2.75
C311	R16CSE1110 - Principles of Programming Languages	2.95	2.36	2.00	0.40	2.76
C312	R16HAS1105 - Human Values and Professional Ethics	2.37	1.89	1.87	0.37	2.26
C313	R16CSE1113 - Software Engineering	2.85	2.28	1.83	0.37	2.65
C314	R16CSE1118 - Compiler Design	2.65	2.12	2.17	0.43	2.55
C315	R16CSE1114 - Operating Systems	2.82	2.25	2.38	0.48	2.73
C316	R16CSE1139 - Computer Networks	2.63	2.11	2.27	0.45	2.56
C31L7	R16CSE1206 - Operating systems Lab	3.00	2.40	1.78	0.36	2.76
C31L8	R16CSE1207- Compiler Design Lab	3.00	2.40	1.77	0.35	2.75
C321	R16CSE1143 - Distributed Systems	2.77	2.21	1.98	0.40	2.61
C322	R16CSE1117 - Information Security	3.00	2.40	2.10	0.42	2.82
C323	R16CSE1116 -Object Oriented Analysis and Design	2.90	2.32	2.12	0.42	2.74
C324	R16CSE1121 - Software Testing Methodologies	2.72	2.17	2.42	0.48	2.65
C325	R16CSE1103 - Managerial Economics Financial Analysis	2.57	2.05	2.18	0.44	2.49
C326	R16CSE1119 - Web Technologies	2.63	2.11	1.47	0.29	2.4
C32L7	R16CSE1215 - Case Tools & Web Technologies Lab	3.00	2.40	1.77	0.35	2.75
C32L8	R16HAS1202 Advanced English language Communication Skills Lab	3.00	2.40	1.77	0.35	2.75
C411	R16CSE1120 - Linux Programming	3.00	2.40	1.97	0.39	2.79
C412	R16CSE1128 - Design Patterns	2.97	2.37	1.63	0.33	2.7
C413	R16CSE1122 - Data Warehousing and Data Mining	2.67	2.13	1.55	0.31	2.44
C414	R16CSE1125 - Cloud Computing	3.00	2.40	2.45	0.49	2.89
C415	R16CSE1127 - Mobile Computing	3.00	2.40	2.12	0.42	2.82
C416	R16CSE1112 - COMPUTER FORENSICS	2.77	2.21	2.20	0.44	2.65
C41L7	R16CSE1208 - Linux Programming lab	3.00	2.40	2.05	0.41	2.81
C41L8	R16CSE1216 - Data Warehousing and Mining LAB	3.00	2.40	1.68	0.34	2.74
C421	R16HAS1104 - Management Science	3.00	2.40	1.68	0.34	2.74
C422	R16CSE1135 - Multimedia & Rich Internet Applications	3.00	2.40	1.55	0.31	2.71
C423	R16CSE1136 - AD hoc and Sensor Networks	3.00	2.40	2.38	0.48	2.88
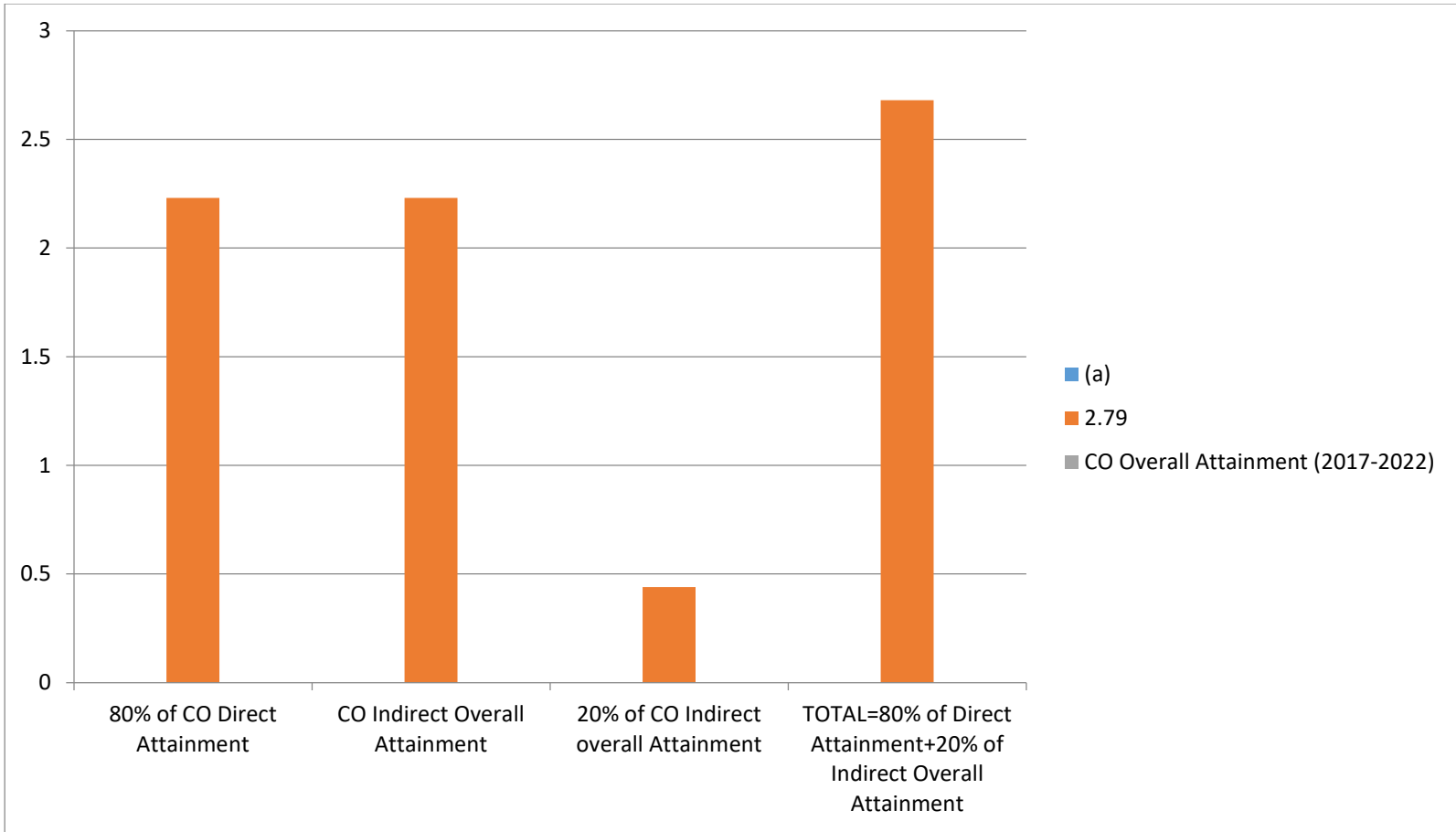
CO Overall Attainment

Course	Subject Code & (Subject Name)	CO1	CO2	CO3	CO4	CO5	CO6	Overall %
C111	R16HAS1101 – English	72.4	69.8	70.8	84.6	70.8	70.4	73.13
C112	R16MTH1101 – Mathematics - I	72.2	70.8	84.6	74.6	66.8	62.8	71.97
C113	R16EPH1101 – Engineering Physics - I	64.8	46.8	63.4	66.4	69.6	53.6	60.77
C114	R16CSE1101 – Computer Programming	56.8	98.0	87.2	73.6	87.6	84.6	81.30
C115	R16MED1144 – Engineering Drawing	69.8	64.8	55.4	59.6	66.8	44.8	60.20
C116	R16HAS1201 – Engineering Language & Communication Skills Lab	88.5	88.8	94.8	92.8	91.6	89.8	91.05
C117	R16CSE1201 – Computer Programming Lab	48.8	48.8	48.8	47.4	44.8	44.8	47.23
C118	R16MED1201 – Workshop Practice	64.8	64.8	64.8	74.2	74.8	74.8	69.70
C121	R16MTH1102 – Mathematics - II	60.8	67.8	71.8	78.2	78.8	60.8	69.70
C122	R16MTH1103 – Numerical Methods	69.8	79.2	76.8	73.8	63.8	59.8	70.53
C123	R16EPH1102 – Engineering Physics - II	75.8	77.8	67.8	76.4	63.8	64.8	71.07
C124	R16CSE1102 – Data Structures through 'C'	83	92	75	84.4	77.4	72.6	80.73
C125	R16ECH1101 – Engineering Chemistry	90.8	74.8	64.8	69.6	87.2	68.8	76.00
C126	R16CSE1202 – Data Structures through 'C' Lab	69.2	71.8	64.4	66	66	70.4	67.97
C127	R16ECH1201 – Engineering Chemistry Lab	79.6	76.4	74.4	93.6	97.6	93.6	85.87
C121	R16EPH1201 – Engineering Physics II Lab	60.8	67.8	71.8	78.2	78.8	60.8	69.70
C211	R16MTH1105 – Probability and Statistics	86	63.8	66	70.8	85.4	64.4	72.73
C212	R16CSE1103 – Mathematical Foundations of Computer Science	86	85.4	66	83.8	85.2	94.4	83.47
C213	R16CSE1104 – Data Structures through C++	83	92	75	84.4	77.4	72.6	80.73
C214	R16ECE1136 – Digital Logic Design	84.6	83.6	77	81.6	78	75.6	80.07
C215	R16ECE1102 – Electronic Devices and Circuits	77.4	82.6	79	75	77.2	77.2	78.07
C216	R16EEE1130 – Basic Electrical Engineering	82.8	89.8	64	79.6	75	65.8	76.17
C21L7	R16EEE1212 – Electrical and Electronics Lab	91	90.8	91.8	90	90.2	90	90.63
C21L8	R16CSE1203 – Data Structures through C++ Lab	89.2	90	89.4	91.2	90.8	90	90.10
C221	R16CSE1105 – Computer Organization	85.0	79.0	73.2	70.8	78.8	67.8	75.77
C222	R16CSE1106 – Database Management Systems	84.4	80.4	76.4	80.4	86.2	77.2	80.83
C223	R16CSE1107 – Java Programming	78.8	80.4	78.0	82.8	82.0	84.4	81.07
C224	R16HAS1102 – Environmental Studies	81.2	77.0	80.2	82.8	85.4	74.4	80.17
C225	R16CSE1108 – Formal Languages and Automata Theory	70.0	67.8	70.0	69.2	75.6	74.0	71.10

C226	R16CSE1109 – Design and Analysis of Algorithms	87.4	79.4	72.4	78.4	78.0	92.2	81.30
C227	R16CSE1204 – Java Programming Lab	90.0	95.8	89.2	90.0	88.4	93.2	91.10
C228	R16CSE1205 – Database Management Systems Lab	91.0	94.0	91.6	88.6	87.6	87.8	90.10
C311	R16CSE1110 - Principles of Programming Languages	84	79.47	77	85.4	88.8	85.431	83.35
C312	R16HAS1105 - Human Values and Professional Ethics	88.5	63.0	64.0	91.5	86.1	92.87	81.00
C313	R16CSE1113 - Software Engineering	87.47	74.4	85	85.40	84.6	84	83.48
C314	R16CSE1118 - Compiler Design	71.6	69.43	94	87.2	79.21	82.217	80.61
C315	R16CSE1114 - Operating Systems	68.03	84.87	88	89.2	90.23	94.067	85.73
C316	R16CSE1139 - Computer Networks	79	61.4	75	85.4	86.2	84	78.50
C31L7	R16CSE1206 - Operating systems Lab	96.60	91.02	91.20	91.21	90.80	94.20	92.51
C31L8	R16CSE1207- Compiler Design Lab	96.60	91.02	91.20	91.21	90.80	94.00	92.47
C321	(R16CSE1143) - Distributed Systems	82	86	61	89.3	90	91.6	83.32
C322	(R16CSE1117) - Information Security	88	89	89.7	93.3	93	97.8	91.80
C323	(R16CSE1116) -Object Oriented Analysis and Design	77	79	82.8	92.6	93	94.2	86.43
C324	(R16CSE1121) - Software Testing Methodologies	67	69	86.8	92.4	98	94.6	84.63
C325	(R16CSE1103) - Managerial Economics Financial Analysis	81	64.8	70.2	87	79.7	91.6	79.05
C326	R16CSE1119) - Web Technologies	72	85	73.6	94.8	92	93.4	85.13
C32L7	(R16CSE1215) - Case Tools & Web Technologies Lab	96.60	91.02	91.20	91.21	90.80	94.00	92.47
C32L8	(R16HAS1202) Advanced English language Communication Skills Lab	96.60	91.02	91.20	91.21	90.80	94.00	92.47
C411	(R16CSE1120) - Linux Programming	91.84	92.40	93.60	86.07	84.60	95.80	90.72
C412	(R16CSE1128) - Design Patterns	94.8	91.6	92.4	79.4	80.8	92	88.50
C413	(R16CSE1122) - Data Warehousing and Data Mining	92.60	92.60	94.20	85.40	82.41	92.60	89.97
C414	(R16CSE1125) - Cloud Computing	91.83	92.83	95.00	84.40	86.60	95.60	91.04
C415	(R16CSE1127) - Mobile Computing	94.20	93.27	98.67	86.60	85.61	94.60	92.16
C416	(R16CSE1112) - Computer Forensics	92.80	92.00	96.40	76.60	78.60	97.07	88.91
C41L7	(R16CSE1208) - Linux Programming lab	97.00	93.61	93.63	96.20	93.27	98.40	95.35
C41L8	(R16CSE1216) - Data Warehousing and Mining LAB	93.20	92.27	92.60	92.64	95.80	95.00	93.59
C421	(R16HAS1104) - Management Science	90.80	92.03	91.80	93.20	95.60	92.40	92.64
C422	(R16CSE1135) - Multimedia & Rich Internet Applications	92.64	93.27	92.80	92.40	93.40	91.60	92.69
C423	(R16CSE1136) - AD hoc and Sensor Networks	93.40	92.80	95.60	95.60	97.80	98.60	95.63

Percentage of students attained the CO (2017-21)
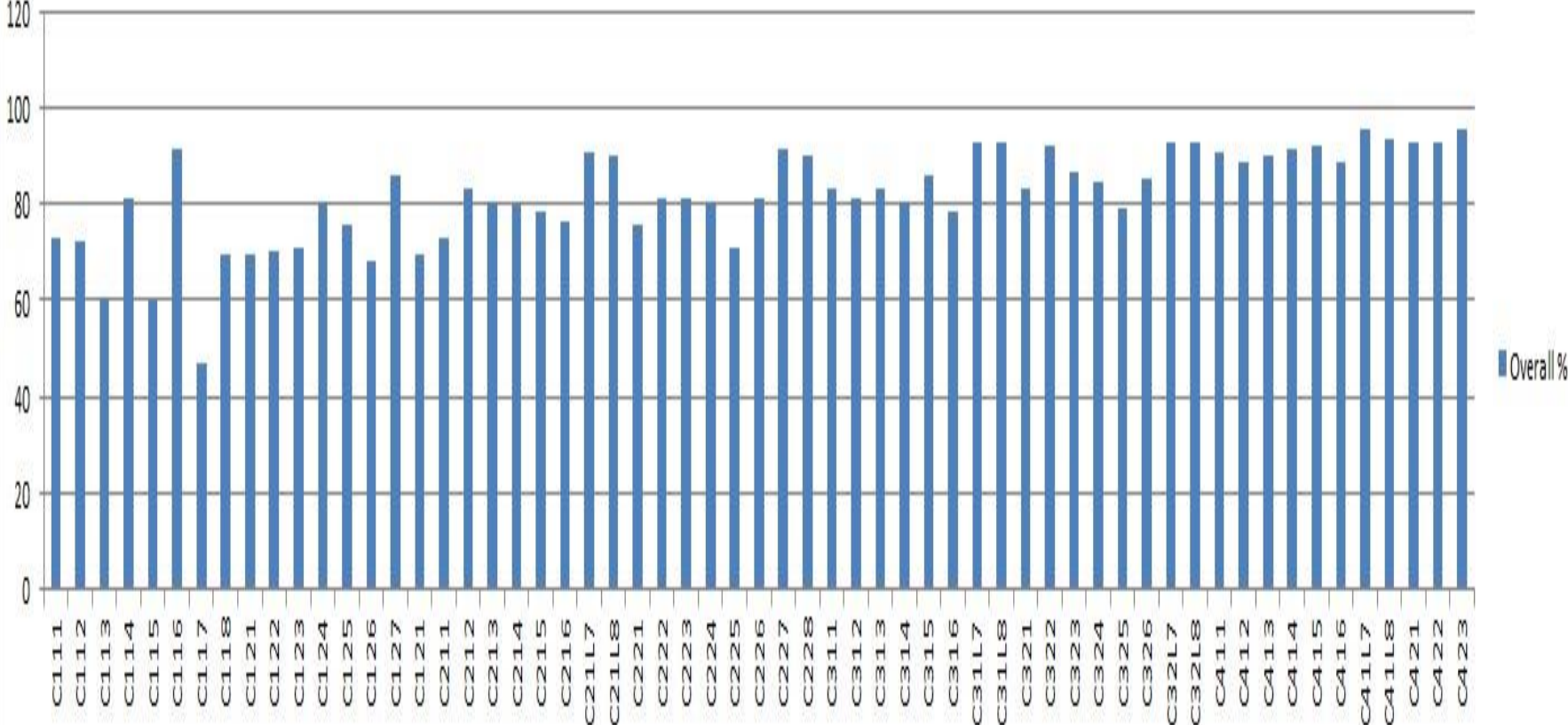
Attainment of Program Outcomes and Program Specific Outcomes

Validation of CO-PO mapping

Course Outcome

Course Outcome mapping with
Programme Outcome

Setting the CO-PO mapping with Weight-age

Setting CO Measurement
through Assessment

Assessment

CO Attainment Table

PO Attainment table
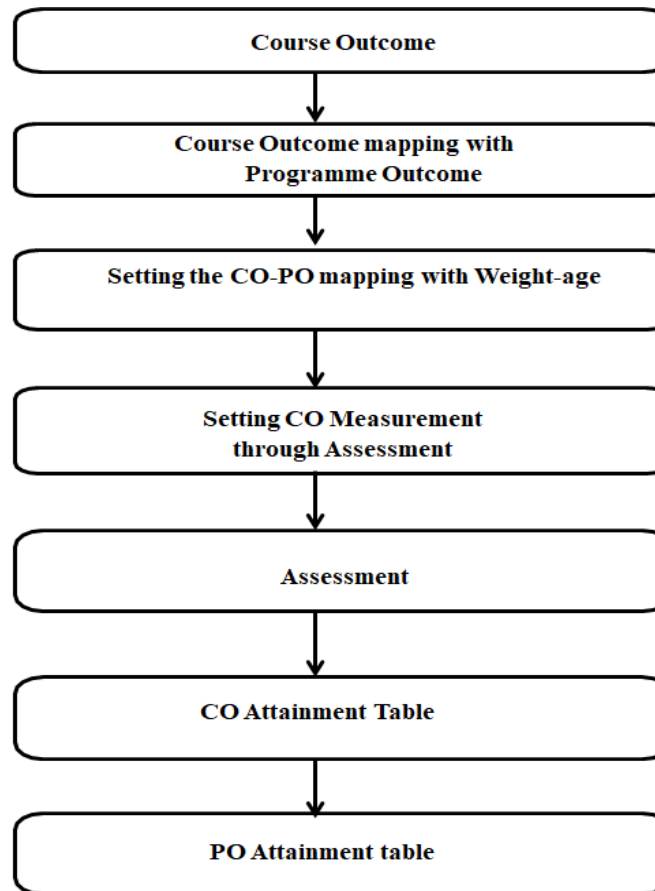
Step 1: Obtain course outcome.

Step 2: Mapping of course outcome with program outcome.

Step 3: Setting weightage for CO assessment.

Step 4: CO measurement through assessment.

Step 5: Obtain CO attainment table through direct and indirect assessment methods.

Step 6 : Obtain PO attainment table through direct and indirect assessment methods.

ASSESSMENT AND ATTAINMENT METHODS

Assessment is one or more processes which is carried out by the institution, that identify, collect and prepare data to evaluate the achievement of course outcomes and program outcomes. Attainment is the action or fact of achieving a standard result towards accomplishment of desired goals. Primarily attainment is the standard of academic attainment as observed by test and/or examination result. Assessment methods are categorized into two as direct method and indirect method to access CO's and PO's. The direct methods display the student's knowledge and skills from their performance in the continuous internal assessment tests, semester examinations and supporting activities such as seminars, assignments, case study, group discussion, online quiz, mini project etc., These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning. The indirect method done through surveys and interviews, it asks the stakeholders to reflect their views on student's learning. The institute assesses opinions or thoughts about graduate's knowledge or skills by different stakeholders.

Assessment tools and processes used for measuring the attainment of each Program Outcome and Program Specific Outcomes

Assessment tools are categorized into two methods to assess the program outcomes and program specific outcomes as Direct method and Indirect method.
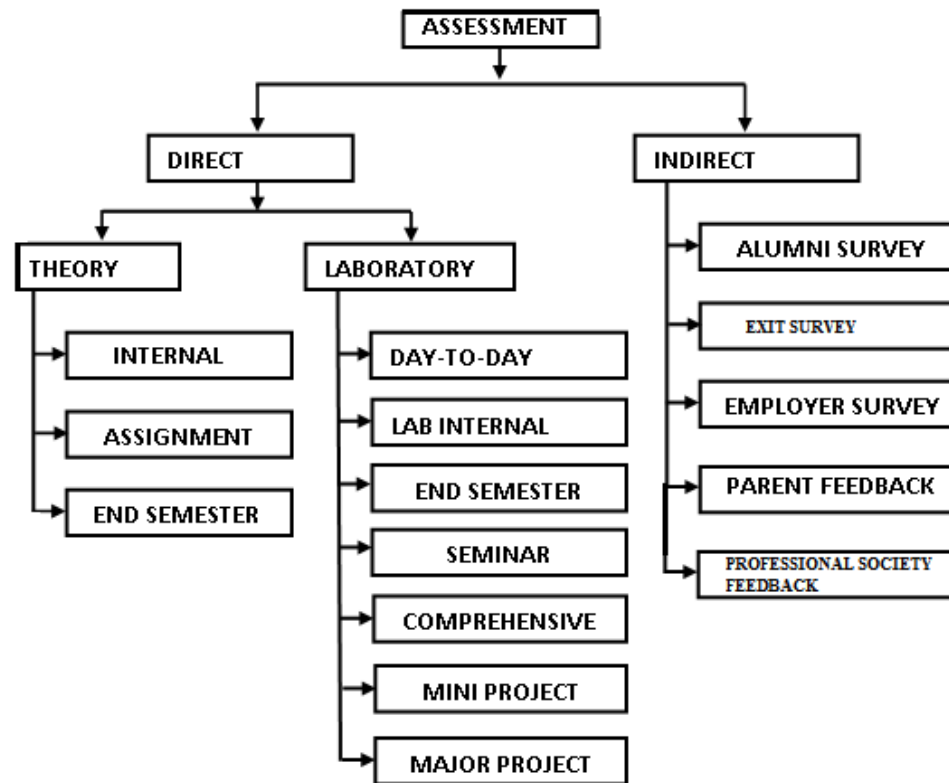
PO Assessment Processes

I) **Direct assessment tools and processes:**

S. No.	Direct Assessment Toolsand processes	Remarks
1	Course Evaluation	Course evaluation is collected from the faculty at the end of each semester for every course. Mode of evaluation is Internal Theory & Practical Exams, Assignments and Seminars.
2	Oral Exams/Viva Voce	Viva Voce conducted during lab sessions. End semester course viva is also used to Measure the same.
3	External Exam	Conducted by the University / College during each semester for every course.
4	Project Evaluation	Project Evaluation conducted among the students day-to-day evaluation, Internal review and external review.

II) *INDIRECT ASSESSMENT TOOLS AND PROCESSES:*

Indirect methods such as surveys and interviews ask the stake holders to reflect on student's learning. They assess opinions or thoughts about the graduate's knowledge or skills and their valued by different stakeholders.

S. No.	Indirect Assessment Method	Frequency	Method description
1	Alumni survey	Once in a year	Alumni Survey conducted about program Satisfaction and college among the students at the end of each academic year from the Alumni students
2	Exit survey	Once in a year	Collect variety of information about program Satisfaction and college from the final year students.
3	Employer feedback	Once in a year	Employer Survey conducted among employers both as formal and informal mode of communication to collect variety of information about the graduates' skills, capabilities and opportunities.
4	Parents feedback	Once in a year	Collect variety of information about outcome based education (OBE) in teachingand learning process from the student parents

| 5. | Professional Society member Feedback | Once in a year | Professional Society member Survey conducted formal and informal mode of communication to collect variety of information about the graduates' skills, capabilities and opportunities. |

PO mapping is intensively analyzed and proper correlation is done with reference to performance indicators chart and rubrics as per the AICTE Examination reformation process. Target is set based upon the average of the number of students scoring above the Average Class marks during the previous three years performances. 80% of direct assessment and 20% of indirect assessment is considered for calculating the Overall PO/PSO attainment.

<mark>The following cells are contributing indirectly to the PO attainment</mark>

1. R & D and Consultancy

2. Internal training cell

3. Industry Institute interaction cell

4. Co-Curricular seminar

These cells and centers functioning are not considered for attainment calculation but these cells are serving for up skilling the student qualities and faculty competencies. During the assessment process these cells attainments are not considered.

<mark>(c) PO and PSO attainments (2017-21)</mark>

Tools	Weightage for the PO Attainment (in percentages %)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO attainment of all courses	50	40	30	30	30	20	20	25	20	20	25	25	30	20	20
Lab attainment of all labs	20	30	20	30	20	15	20	10	10	10	10	10	20	20	20
Projects	10	20	30	30	20	15	10	15	25	20	25	15	15	20	20
Alumni Feedback	10	-	-	-	5	10	10	10	10	10	-	10	10	10	10
Exit Survey	5	5	10	5	10	10	10	10	5	10	20	10	10	10	10
Employer Feedback	5	5	5	5	5	10	10	10	10	10	10	10	10	10	10
Parents Feedback	-	-	5	-	5	10	10	10	10	10	-	10	-	-	-

Professional Society member Feedback	-	-	-	-	5	10	10	10	10	10	10	10	5	10	10
Overall	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Results of Evaluation of Each PO & PSO (65)

The attainment levels by direct (student performance) and indirect (surveys) are to be presented through Program level Course-PO & PSO matrices as indicated).
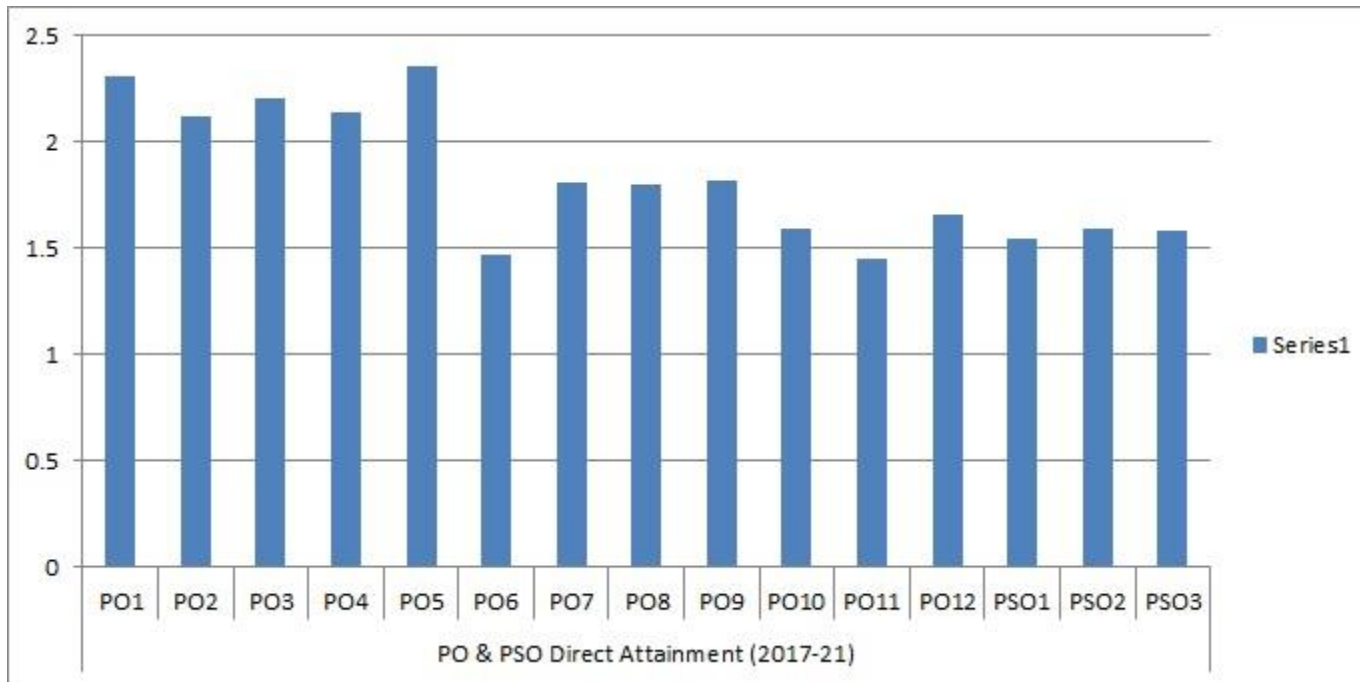
PO & PSO Direct Attainment (2017-21):

Y/S	Subject Code & Subject Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
I - I	R16HAS1101 – English	-	-	1.97	1.18	1.18	1.97	1.18	1.18	1.18	1.97	-	1.97	-	-	-
	R16MTH1101 – Mathematics - I	1.9	2.3	2.3	2.3	1.15	1.15	-	-	-	-	-	0.76	2.3	0.76	2.3
	R16EPH1101 – Engineering Physics - I	1.13	2.27	1.09	2.23	2.25	-	-	-	-	-	-	1.4	-	2.2	0.75
	R16CSE1101 – Computer Programming	2.76	2.77	2.77	1.39	1.84	0.45	-	-	-	-	-	1.39	0.46	1.38	0.46
	R16MED1144 – Engineering Drawing	2.07	0.44	0.44	0.44	0.44	0.44	-	1.34	0.44	0.44	-	-	0.44	-	-
	R16HAS1201 – Engineering Language & Communication Skills Lab	2.51	0.84	2.51	0.42	2.51	0.42	-	0.42	0.42	0.42	0.42	0.42	2.09	1.76	1.26
	R16CSE1201 – Computer Programming Lab	3	3	-	1.5	3	-	-	-	-	-	-	-	0.5	1.5	0.5
	R16MED1201 – Workshop Practice	1.15	1.15	1.15	0.38	1.15	-	-	1.15	-	-	0.77	-	1.15	-	1.15
I - II	R16MTH1102 – Mathematics - II	2.09	2.59	2.59	2.59	2.59	0.41	-	-	-	-	0.41	1.25	2.09	0.83	2.09
	R16MTH1103 – Numerical Methods	1.81	2.26	2.72	2.72	1.36	0.45	-	-	-	-	0.45	1.36	2.72	2.72	2.72
	R16EPH1102 – Engineering Physics - II	1.22	2.03	2.44	2.44	2.03	-	1.22	-	-	-	-	2.44	-	2.44	2.03
	R16CSE1102 – Data Structures through 'C'	2.09	2.51	2.51	1.25	1.67	-	-	-	-	-	-	1.25	0.41	1.25	0.41
	R16ECH1101 – Engineering Chemistry	2.44	2.44	2.03	-	-	-	1.4	-	-	-	-	-	1.22	1.22	-

Sem	Course															
	R16CSE1202 – Data Structures through 'C' Lab	3	3	3	1.5	3	-	-	-	-	-	1.5	-	0.5	1.5	0.5
	R16ECH1201 – Engineering Chemistry Lab	2.37	1.58	-	-	-	9.48	1.19	-	1.19	-	-	1.19	1.19	1.19	-
	R16EPH1201 – Engineering Physics II Lab	0.83	0.8	1.64	0.55	1.61	-	0.9	-	-	-	-	0.55	1.39	1.73	-
II - I	R16MTH1105 – Probability and Statistics	2.13	2.6	2.59	2.19	1.28	-	-	-	-	-	-	1.28	-	0.42	0.42
	R16CSE1103 – Mathematical Foundations of Computer Science	2.26	1.7	1.84	1.42	2.23	-	-	-	-	-	-	-	0.38	-	0.38
	R16CSE1104 – Data Structures through C++	2.44	2.44	2.44	1.22	2.03	-	-	-	-	-	1.22	-	1.22	0.4	0.4
	R16ECE1136 – Digital Logic Design	3.13	2.52	2.53	5.29	2.49	-	-	-	2.11	0.6	-	-	0.6	0.69	1.04
	R16ECE1102 – Electronic Devices and Circuits	2.16	2.56	1.28	1.3	2.57	-	-	-	0.42	0.42	0.43	-	1.3	0.87	1.28
	R16EEE1130 – Basic Electrical Engineering	2.02	2.12	1.24	1.27	2.49	-	-	-	-	0.41	-	-	0.81	0.81	1.29
	R16EEE1212 – Electrical and Electronics Lab	2.49	1.49	1.5	2.98	2.48	-	-	-	-	-	1.49	-	2.98	2.97	0.99
	R16CSE1203 – Data Structures through C++ Lab	3	2.5	2.5	1	2.5	-	-	-	-	-	-	-	1	1.5	0.33
II - II	R16CSE1105 – Computer Organization	2.58	2.57	2.13	1.72	1.71	-	-	-	-	-	1.27	0.42	0.43	0.42	0.42
	R16CSE1106 – Database Management Systems	2.91	2.44	2.42	2.39	1.43	-	-	-	0.96	1.45	0.95	0.96	0.96	2.42	0.87
	R16CSE1107 – Java Programming	2.15	0.86	0.86	2.58	1.29	-	-	-	0.86	1.29	1.29	0.86	1.29	1.29	1.72
	R16HAS1102 – Environmental Studies	2.07	2.13	1.31	2.16	2.58	0.85	0.83	-	-	1.27	1.27	0.84	1.24	1.28	0
	R16CSE1108 – Formal Languages and Automata Theory	2.5	2.08	1.26	2.52	2.56	-	-	-	1.26	0.83	0.83	0.85	1.26	1.25	0.42
	R16CSE1109 – Design and Analysis of Algorithms	1.37	1.31	1.31	0.88	-	-	-	-	-	-	-	0.88	1.34	0.87	0.77
	R16CSE1204 – Java Programming Lab	0.99	0.99	-	1.99	0.99	-	-	-	-	1	-	-	1	0.49	0.99
	R16CSE1205 – Database Management Systems Lab	2	1.5	1.5	-	2.5	-	-	-	-	1	0.5	0.5	2.5	2	2

Sem	Course															
III-I	R16CSE1110 - Principles of Programming Languages	1.95	2.35	2.35	1.92	1.94	-	-	-	-	-	-	-	-	0.39	-
	R16HAS1105 - Human Values and Professional Ethics	2.16	2.7	1.29	0.93	0.44	0.95	0.95	2.66	0.47	0.95	-	-	-	-	-
	R16CSE1113 - Software Engineering	2.48	2.16	2.59	1.31	2.16	-	-	-	1.32	1.31	0.43	0.43	-	0.43	1.21
	R16CSE1118 - Compiler Design	2.22	2.16	2.16	1.33	1.35	-	-	-	-	0.46	0.46	-	0.46	-	-
	R16CSE1114 - Operating Systems	2.24	1.86	1.8	-	1.83	-	-	-	0.38	0.38	-	-	0.38	-	0.38
	R16CSE1139 - Computer Networks	2.09	2.52	2.52	1.3	2.12	-	-	-	-	-	-	-	-	0.44	0.4
	R16CSE1206 - Operating systems Lab	2.15	1.29	1.29	1.29	2.58	-	-	-	-	-	-	-	1.29	-	0.86
	R16CSE1207- Compiler Design Lab	2.5	1.5	1.5	3	2.5	-	-	-	1	-	-	0.5	0.5	-	-
III-II	(R16CSE1143) - Distributed Systems	2.25	2.29	2.79	1.75	2.79	-	-	-	-	0.79	-	-	0.46	-	-
	(R16CSE1117) - Information Security	1.81	1.36	2.26	-	1.36	0.45	-	-	-	-	-	0.9	0.9	-	-
	(R16CSE1116) -Object Oriented Analysis and Design	2.17	0.87	0.87	1.32	2.18	-	-	-	-	-	-	-	-	0.44	-
	(R16CSE1121) - Software Testing Methodologies	2.18	0.87	0.86	1.36	2.22	-	-	-	0.9	0.9	0.9	-	-	0.41	-
	(R16CSE1103) - Managerial Economics Financial Analysis	2.26	2.33	2.38	1.3	-	-	-	-	-	0.9	-	-	-	-	-
	R16CSE1119) - Web Technologies	2.3	2.31	2.32	1.38	1.38	-	-	-	0.92	0.92	0.93	-	0.46	-	0.45
	(R16CSE1215) - Case Tools & Web Technologies Lab	2.48	2.48	2.5	1.5	2.47	-	-	-	1	1	1	1	1	-	0.66
	(R16HAS1202) Advanced English language Communication Skills Lab	2.5	2.41	2.41	-	-	-	-	-	0.98	1	1.5	1.5	-	-	-
IV-I	(R16CSE1120) - Linux Programming	1.68	1.68	1.68	1.34	2.02	-	-	-	-	-	0.33	-	1.01	1.01	-
	(R16CSE1128) - Design Patterns	1.72	2.62	2.61	0.85	1.73	-	-	-	-	-	0.44	-	0.42	1.32	0.44
	(R16CSE1122) - Data Warehousing and Data Mining	1.45	2.39	2.88	2.44	2.9	-	-	-	-	-	0.48	0.48	1.43	1.45	0.48
	(R16CSE1125) - Cloud Computing	2.43	0.96	2.44	2.43	1.46	-	-	-	-	0.48	-	0.48	1.46	1.46	0.81
	(R16CSE1127) - Mobile Computing	2.15	2.15	2.15	2.15	2.58	0.43	-	-	-	0.43	-	0.43	1.29	0.86	0.43

	(R16CSE1112) - COMPUTER FORENSICS	0.93	1.39	2.31	1.85	0.93	0.46	-	-	-	-	-	-	0.92	1.38	0.46
	(R16CSE1208) - Linux Programming lab	1.29	1.29	1.29	2.58	1.72	-	-	-	-	-	1.29	1.29	1.29	1.29	0.86
	(R16CSE1216) - Data Warehousing and Mining LAB	3	2.5	2.5	2.5	3	-	-	-	-	-	-	1.5	1.5	1	0.33
IV - II	(R16HAS1104) - Management Science	-	2.86	1.43	2.86	-	1.43	-	-	-	-	-	-	-	-	0.47
	(R16CSE1135) - Multimedia & Rich Internet Applications	2.93	2.44	2.93	0.97	2.44	-	-	-	-	1.46	-	-	0.48	1.46	0.48
	(R16CSE1136) - AD hoc and Sensor Networks	2.51	2.51	2.09	1.25	2.51	-	-	-	-	-	-	0.41	-	1.25	0.41
PO	**Curriculum attainment average**	**2.15**	**2.00**	**2.00**	**1.75**	**1.99**	**1.38**	**1.10**	**1.35**	**0.93**	**0.88**	**0.86**	**0.98**	**1.11**	**1.23**	**0.85**
	No. of courses mapped	**57**	**58**	**57**	**54**	**53**	**14**	**7**	**5**	**17**	**25**	**24**	**31**	**46**	**45**	**44**
	Curriculum average mapping	**2.31**	**2.12**	**2.21**	**2.14**	**2.36**	**1.47**	**1.81**	**1.80**	**1.82**	**1.59**	**1.45**	**1.66**	**1.55**	**1.59**	**1.58**

PO & PSO Direct Attainment (2017-21)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Alumni Survey	2.39	2.49	2.34	2.37	2.17	2.10	2.49	2.45	2.35	2.35	2.37	2.19	2.44	2.68	2.54

Exit Survey	2.21	2.19	2.24	2.01	2.34	2.07	1.84	2.10	2.27	2.19	2.22	1.82	2.09	2.37	2.25
Employer Survey	1.27	1.33	1.47	1.53	1.30	1.73	1.43	1.57	1.87	1.53	1.50	1.97	1.43	1.83	1.73
Parent Feedback Survey	1.85	1.95	2.05	1.95	1.83	2.08	1.95	2.20	2.10	1.88	1.95	1.98	1.90	1.98	2.05
Professional Society Member	2.30	2.20	2.30	2.20	1.80	2.70	2.20	2.10	2.00	2.20	2.00	2.50	2.30	2.20	2.50
Indirect Attainment	2.00	2.03	2.08	2.01	1.89	2.13	1.98	2.08	2.12	2.03	2.01	2.09	2.03	2.21	2.22

Indirect PO and PSO Attainment (2017 -2021)
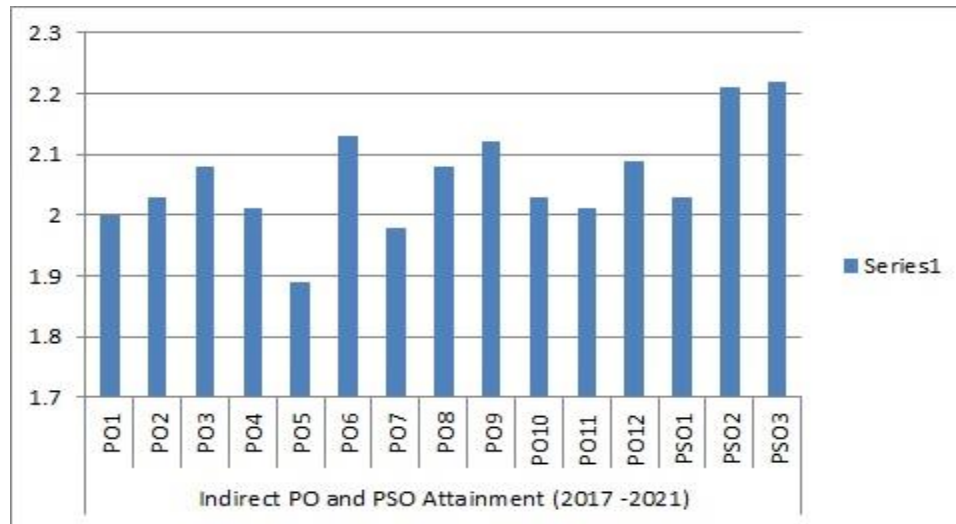
Timestamp	Name of the Alumni	Degree [√]	Branch	Passing Year	Organization Name	Designation
1/29/2022 0:00	Vinit Sharma	B.Tech	CSE	2020	TCS	Assistant System Engineer
1/30/2022 0:00	VARKALA SRIPAVAN	B.Tech	COMPUTER SCIENCE AND ENGINEERING	2020	COGNIZANT TECHNOLOGY SOLUTIONS	PROGRAMMER ANALYST
1/31/2022 0:00	Nithin Kumar Reddy Magatala	B.Tech	Computer science and Engineering	2020	Accenture	Associate Software Engineer
2/1/2022 0:00	chandini reddy	B.Tech	CSE	2020	Accenture	Student
2/2/2022 0:00	Pagidi Ramya	B.Tech	CSE	2020	Accenture	Programmer Analyst In Cognizant
2/3/2022 0:00	MADHURUMA NELACHERLA	B.Tech	CSE	2020	COGNIZANT	PROGRAMMER ANALYST TRAINEE
2/4/2022 0:00	RASHMITHA CHENNA	B.Tech	CSE	2020	COGNIZANT	PROGRAMMER ANALYST TRAINEE
2/5/2022 0:00	JAGINI SUSHEEL KUMAR	B.Tech	CSE	2020	DELOITTE	INTERN ANALYST
2/6/2022 0:00	POCHAMREDDY JHANSI	B.Tech	COMPUTER SCIENCE AND ENGINEERING	2020	INFOSYS	SERVICE NOW
2/7/2022 0:00	KONDAM SRILEKHA	B.Tech	CSE	2020	VISTEX ASIA -PACIFIC PVT LTD	ASSOCIATE DEVELOPER(INTERN)
2/8/2022 0:00	YASA SANJAY REDDY	B.Tech	CSE	2020	WIPRO	PROJECT ENGINEER
2/9/2022 0:00	KUNSI SHIVA KUMAR	B.Tech	CSE	2020	COGNIZANT	PROGRAMMER ANALYST TRAINEE
2/10/2022 0:00	NISHANTH GODISELA	B.Tech	CSE	2020	COGNIZANT	PROGRAMMER ANALYST TRAINEE
2/11/2022 0:00	SOWMYA PATLOLLA	B.Tech	COMPUTER SCIENCE AND ENGINEERING	2020	COGNIZANT	PROGRAMMER ANALYST TRAINEE
2/12/2022 0:00	PHANIJYOTHI KURADA	B.Tech	CSE	2020	COGNIZANT	PROGRAMMER ANALYST TRAINEE
2/13/2022 0:00	NAGASAI REDDY MALA	B.Tech	CSE	2020	HCL TECHNOLOGIES	SOFTWARE ENGINEER
2/14/2022 0:00	BOLLEPALLY HARSHITHA	B.Tech	COMPUTER SCIENCE AND ENGINEERING	2020	DELOITTE	INTERN ANALYST
2/15/2022 0:00	SALLETI ROHITH	B.Tech	CSE	2020	COGNIZANT	PROGRAMMER ANALYST TRAINEE
2/16/2022 0:00	NISHANTH GODISELA	B.Tech	CSE	2020	DELOITTE	INTERN ANALYST
2/17/2022 0:00	BADUGU HEMANTH	B.Tech	CSE	2020	SYKES	CUSTOMER SERVICE REPRESENTATIVE
2/18/2022 0:00	KODUMURI GEETHIKA	B.Tech	CSE	2020	COGNIZANT	PROGRAMMER ANALYST TRAINEE
2/19/2022 0:00	SWAPNA M	B.Tech	COMPUTER SCIENCE AND ENGINEERING	2020	COGNIZANT	PROGRAMMER ANALYST TRAINEE
2/20/2022 0:00	G SHRESHTA	B.Tech	CSE	2020	KPMG	ANALYST
2/21/2022 0:00	YASA MANOJ REDDY	B.Tech	CSE	2020	COGNIZANT	PROGRAMMER ANALYST TRAINEE

Alumni Survey

Note: Add more columns as needed for PSOs.

Mention the type of survey conducted and the location of its source

C101, C102 are indicative courses in the first year. Similarly, C409 is final year course. First numeric digit indicates year of study and remaining two digits indicate course nos. in the respective year of study.

➢ Direct attainment level of a PO/PSO is determined by taking average across all courses addressing that PO/PSO.

➢ Indirect attainment level of a PO/PSO is determined based on the student exit surveys, employer surveys, co-curricular activities, extracurricular activities etc.

PO Over all attainment 2017-21:

POS/PSOS	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2017-2021 DIRECT ATTAINMENTS	2.15	2.00	2.00	1.75	1.99	1.38	1.10	1.35	0.93	0.88	0.86	0.98	1.11	1.23	0.85
80% OF DIRECT ATTAINMENT	1.72	1.60	1.60	1.40	1.59	1.10	0.88	1.08	0.74	0.70	0.69	0.78	0.89	0.98	0.68
2017-2021 IN DIRECT ATTAINMENTS	2.00	2.03	2.08	2.01	1.89	2.13	1.98	2.08	2.12	2.03	2.01	2.09	2.03	2.21	2.22
20% OF INDIRECT ATTAINMENTS	0.40	0.41	0.42	0.40	0.37	0.42	0.39	0.41	0.42	0.41	0.40	0.41	0.40	0.44	0.44
2017-2021 TOTAL PO ATTAINMENTS (80% OF DIRECT ATTAINMENTS+20% OF INDIRECT ATTAINMENTS	2.12	2.01	2.02	1.80	1.96	1.52	1.27	1.49	1.17	1.11	1.09	1.19	1.29	1.42	1.12
TARGET(2015-2019)	1.26	1.19	1.2	1.04	1.15	1.36	0.93	0.75	0.69	0.59	0.63	0.8	0.86	1.01	0.8
TARGET(2016-2020)	2.16	1.98	1.88	1.62	1.91	1.46	1.05	1.15	0.92	0.88	0.8	0.98	1.07	1.15	0.83
AVERAGE TARGET	1.71	1.58	1.54	1.33	1.53	1.41	0.99	0.95	0.80	0.73	0.71	0.89	0.96	1.08	0.81

PO & PSO TARGET ATTAINMENT STATUS (2017-21):

Target level of the respective batch PO/PSO attainment is calculated by the average PO/PSO attainment of the previous three batches.

PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2017-2021 PO/PSO Attainment	1.62	1.50	1.54	1.38	1.75	0.88	0.85	1.08	1.13	0.88	0.88	0.93	1.00	1.13	0.88
2014-2018 PO/PSO Attainment	2.12	2.00	1.95	1.75	2.00	1.00	1.15	1.50	1.50	1.00	1.00	1.10	1.25	1.35	1.00
2015-2019 PO/PSO Attainment	1.12	1	1.12	1	1.5	0.75	0.55	0.65	0.75	0.75	0.75	0.75	0.75	0.9	0.75
Target Level (Average PO/PSO attainment of the previous three batches)	**1.6**	**1.5**	**1.5**	**1.4**	**1.8**	**0.9**	**0.9**	**1.1**	**1.1**	**0.9**	**0.9**	**0.9**	**1.0**	**1.1**	**0.9**

A.Y	PO	PO1	PO2	PO3	P04	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2018-19	Target	1.12	1	1.12	1	1.5	0.75	0.55	0.65	0.75	0.75	0.75	0.75	0.75	0.9	0.75
	Attained	1.27	1.14	1.14	1.06	1.19	0.73	0.60	0.63	0.86	0.73	0.76	0.79	0.88	0.93	0.77
2019-20	Target	2.12	2.00	1.95	1.75	2.00	1.00	1.15	1.50	1.50	1.00	1.00	1.10	1.25	1.35	1.00
	Attained	2.26	2.05	2.03	1.80	2.11	1.11	1.10	1.48	1.24	1.15	1.13	1.20	1.31	1.40	1.08
2020-21	Target	1.62	1.50	1.54	1.38	1.75	0.88	0.85	1.08	1.13	0.88	0.88	0.93	1.00	1.13	0.88
	Attained	2.15	2.01	1.97	1.76	2.02	1.02	1.14	1.50	1.45	1.03	1.03	1.12	1.26	1.36	1.02

Batchwise Attainments