



KIET GROUP OF INSTITUTIONS, GHAZIABAD

Department of Information Technology (NBA Accredited)

(An ISO – 9001: 2008 Certified & 'A' Grade accredited Institution by NAAC)



Course Outcome



Session 2018-19 (Odd Sem)

**Department of Information
Technology**

13 KM STONE, GHAZIABAD-MEERUT ROAD, GHAZIABAD – 201206

Website: www.kiet.edu



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Index

3 rd Semester		
S No.	Subject Code	Subject Name
1	RAS301	Mathematics-III
2	RVE301	Universal Human Values & Professional Ethics
3	REC301	Digital Logic Design
4	RCS301	Discrete Structures & Theory of Logic
5	RCS302	Computer Organization and Architecture
6	RCS305	Data Structures
7	REC351	Digital Logic Design Lab
8	RCS351	Discrete Structure & Logic Lab
9	RCS352	Computer Organization Lab
10	RCS355	Data Structures Using C/ Java Lab

5 th Semester		
S No.	Subject Code	Subject Name
1	RAS501	Managerial Economics
2	RUC501	Cyber Security
3	RCS-501	Database Management Systems
4	RCS-502	Design and Analysis of Algorithm
5	RCS-503	Principles of Programming Languages
6	RIT-053	Object Oriented Techniques
7	RCS-551	Database Management Systems Lab
8	RCS-552	Design and Analysis of Algorithm Lab
9	RCS-553	Principles of Programming Languages Lab
10	RIT-554	Object Oriented Techniques Lab

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7th Semester

S No.	Subject Code	Subject Name
1	NIT-701	Cryptography & Network Security
2	NCS-702	Artificial Intelligence
3	NCS-071	Software Testing and Audit
4	NCS-075	Android Operating System
5	NOE-077	Software Project Management
6	NIT-751	Cryptography & Network Security Lab
7	NCS-752	Project
8	NCS-753	Industrial Training

CO PO and Mapping of CO PO 2nd Year

(2017-2021 BATCH)

Session:- 2018-19 Semester:- 3rd

Theory

[illegible]

Universal Human Values & Professional Ethics (RVE-301)	CO1: Start exploring the importance of 'I' (self), get comfortable to each other, to the teacher and start finding the need and relevance of the course.													
	CO2: Start feeling lack of understanding of human values is the root cause of all problems													
	CO3: Understand the physical facilities are required in limited quantity													
	CO4: See that respect is right evaluation and only right evaluation leads to fulfillment in relationship													
	CO5: Differentiate between the characteristics of different order and they are able to understand his/her role in this existence.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	3	2	2	2	2	3	3	2	1	3	1	1
CO2	2	3	1	3	3	2	1	3	2	2	1	3	1	1
CO3	2	2	3	2	3	2	1	3	1	3	1	3	1	1
CO4	3	2	3	3	2	3	1	3	3	2	1	3	1	1
CO5	3	2	2	3	3	1	2	3	3	2	1	3	1	1
Average	2.60	2.00	2.40	2.60	2.60	2.00	1.40	3.00	2.40	2.20	1.00	3.00	1.00	1.00

Digital Logic Design (REC301)	CO1: Understand the fundamental knowledge of digital logic and its basic elements.													
	CO2: Analyze and design the combinational circuits which are used for general computation or operations in digital computers.													
	CO3: Understand the basics of sequential logic and its application in registers and counters.													
	CO4: Analyze & design the synchronous and asynchronous sequential circuits.													
	CO5: Understand how data is stored in the memory, basic concept of logic families, and implementation of the circuits using ROM, PAL, PLA, CPLD, and FPGA.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	2	2	1	2	1	1	1	1	1	1	1
CO2	3	3	3	2	2	1	1	1	2	2	1	1	2	2
CO3	3	3	2	1	1	1	1	1	1	1	1	1	1	1
CO4	3	3	3	3	2	2	1	1	1	1	1	1	2	2
CO5	3	3	3	3	2	2	2	1	1	1	1	1	1	1
Average	3.00	2.80	2.60	2.20	1.80	1.40	1.40	1.00	1.20	1.20	1.00	1.00	1.40	1.40

Discrete Structures & Theory of Logic (RCS301)	CO1: Know the concept of Set Theory, Relations, Functions and Mathematical Induction.													
	CO2: Know the concept of Group and property of Ring and Fields.													
	CO3: Know the concept of POSET, lattice and basic part of Boolean algebra.													
	CO4: Know the Proposition Logic, Predicate Calculus and use of Quantifiers.													
	CO5: Know the concept of Recurrence Relation and basic concept of graph theory and its applications like: Utilities problems, electrical circuit, and Bridge problem.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	2	1	3	1	1	1	2	1	3	3	3
CO2	3	3	3	3	1	1	1	1	1	3	2	3	3	2
CO3	3	3	3	3	1	1	1	1	1	3	2	3	2	2
CO4	3	3	2	2	1	1	1	1	1	2	1	2	3	3
CO5	3	3	3	3	1	2	1	1	1	3	1	3	3	2
Average	3.00	3.00	2.80	2.60	1.00	1.60	1.00	1.00	1.00	2.60	1.40	2.80	2.80	2.40

Computer Organization and Architecture (RCS302)	CO1: Know the concept of computer organization and fixed- & floating-point arithmetic operations using various algorithm													
	CO2: know the concept of instruction execution and microprogramming													
	CO3: know the concept of cache memory, mapping functions and replacement algorithm													
	CO4: know the concept of input output devices and register transfer language.													
	CO5: Know the concept of pipelining and nonlinear pipelining.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	1	2	1	2	1	1	1	1	1	3	3	3
CO2	3	3	1	2	1	2	1	1	1	1	1	3	3	3
CO3	3	3	1	2	2	2	1	1	1	1	1	3	3	3
CO4	3	3	1	2	3	2	1	1	1	1	1	3	3	3
CO5	3	3	1	2	1	2	1	1	1	1	1	3	3	3
Average	3.00	3.00	1.00	2.00	1.60	2.00	1.00	1.00	1.00	1.00	1.00	3.00	3.00	3.00

Data Structures (RCS305)	CO1: Apply the knowledge of various data structures and its operations													
	CO2: Apply standard algorithms for searching and sorting													
	CO3: Analyze efficiency of different algorithms using time and space complexity													
	CO4: Explore the concept, application and implementation of recursion.													
	CO5: Implement suitable data structure with respect to its performance to model a real-world problem													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		2	2	2							3		
CO2	2	2	2	1							1	1		
CO3	3	2	2	3							1	2	3	
CO4	3		2	3	2		1	1			1	1	2	
CO5	3	2	2	1								2	3	3
Average	2.80	2.00	2.00	2.00	2.00		1.00	1.00			1.00	1.80	2.67	3.00

Practical

Digital Logic Design Lab (REC351)	CO1: Implement the basic elements of digital logic.													
	CO2: Implement various data representations and explain how arithmetic and logical operations are performed by computers.													
	CO3: Implement the basic elements of sequential circuits.													
	CO4: Implement digital circuit design optimization methods using random logic gates, multiplexers and decoders.													
	CO5: Implement the concept of registers, counters and programmable logic arrays.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	3	2	2	1	1	1	1	1	1	2	2	2
CO2	1	1	3	2	2	1	1	1	1	1	1	2	2	2
CO3	1	1	3	2	2	1	1	1	1	1	1	2	2	2
CO4	1	1	3	2	2	1	1	1	1	1	1	2	2	2
CO5	1	1	3	2	2	1	1	1	1	1	1	2	2	2
Average	1.00	1.00	3.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00

Discrete Structure & Logic Lab (RCS351)	CO1: Knowledge of logical notation to define and reason the fundamental mathematical concepts such as sets, relations, functions, and integers.													
	CO2: Discuss various structures and properties of modern algebra.													
	CO3: Employ their logical ability such as reasoning able to setup mathematical model of real-life problem by applying advanced counting and computing techniques like generating function and recurrence relation.													
	CO4: Demonstrate problems in different areas of computer science using trees and graphs.													
	CO5: Design solution with the help of induction hypotheses, simple induction proofs and recurrences.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	1	2	1	3	1	1	2	1	2	2	3	3
CO2	3	2	1	1	2	1	2	1	2	2	1	2	3	3
CO3	2	1	3	3	3	2	1	1	1	3	1	1	3	3
CO4	3	1	3	1	2	2	2	1	1	2	1	1	3	3
CO5	3	1	3	3	2	2	1	1	1	2	2	2	3	3
Average	2.80	1.20	2.20	2.00	2.00	2.00	1.40	1.00	1.40	2.00	1.40	1.60	3.00	3.00

Computer Organization Lab (RCS352)	CO1: Implement the basic logic gates.													
	CO2: Design various combinational circuits such as adders, code converter, multiplier, decoder and multiplexer using logic gates.													
	CO3: Implement the basic building block of the sequential circuits (i.e. Flip Flop).													
	CO4: Design the 8-bit Arithmetic Logic Unit.													
	CO5: Design of data path and control unit of the computer using register transfer language description.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	2	2	1	1	1	2	2	1	2	2
CO2	2	3	2	1	2	1	1	2	2	2	1	2	3	3
CO3	3	3	3	2	3	2	2	2	3	2	1	2	3	3
CO4	3	3	3	2	2	2	2	3	3	2	3	2	3	3
CO5	3	3	3	2	3	2	2	3	3	1	2	2	3	3
Average	2.80	3.00	2.60	1.80	2.40	1.80	1.60	2.20	2.40	1.80	1.80	1.80	2.80	2.80

Data Structures Using C/ Java Lab (RCS355)	CO1: Interpret and compute asymptotic notation of algorithm and analyze consumption of resources.													
	CO2: Exemplify and implement stack, queue and list ADT, tree, and graph to manage the memory using static and dynamic allocations.													
	CO3: Implement binary search tree to design applications like expression trees.													
	CO4: Identify, model, solve and develop code for real life problems like shortest path and MST													
	CO5: Implementation of programming problems on tree traversal.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	3	2	2	1					2	3		
CO2	2	3	3	2	1	1					1	3		
CO3	3	2	3	2	1	1					2	2	3	
CO4	3	2	3	2	3	2					1	3	3	3
CO5	2	3	3	2	3	2					1	2	2	2
Average	2.40	2.60	3.00	2.00	2.00	1.40					1.40	2.60	2.67	2.50

CO PO and Mapping of CO PO 3rd Year (2016-2020 BATCH)

Session:- 2018-19 Semester:- 5th

Theory

Managerial Economics (RAS501)	CO1: To understand the meaning of economics in engineering perspective													
	CO2: To understand the concept of demand and its implication in taking managerial decision													
	CO3: To know the various methods of demand forecasting & production function													
	CO4: To analyze the market and various market conditions.													
	CO5: To understand the calculation and measurement of national income & inflation in present business scenario													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	1	1	1	2	1	1	1	1	1	1	1	2
CO2	1	2	2	1	1	2	1	1	1	1	3	1	2	2
CO3	1	1	3	1	1	2	1	1	1	1	3	1	1	2
CO4	1	3	1	1	1	1	1	1	1	1	2	1	2	1
CO5	1	1	1	1	1	3	1	2	1	1	1	1	2	2
Average	1.40	1.60	1.60	1.00	1.00	2.00	1.00	1.20	1.00	1.00	2.00	1.00	1.60	1.80

Cyber Security (RUC501)	CO1: Learn about information systems, its types, threats, security issues related to it and also about cyber security and risk associated to it .													
	CO2: Learn about Application security, Data security and types of security Threats in network.													
	CO3: Understand the importance of secure information system and risk management issues indifferent applications.													
	CO4: Design security procedures, policies and implement cryptography in their live projects .and also learn about modern copyright, patent law, skills of ethics, cybercrime and IT ACT.													
	CO5: Understand modern copyright, patent law, skills of ethics, cybercrime, and IT ACT so that they can protect their inventions by making use of these Laws.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	3	3	3	3	2	2	2	2	2	3	3
CO2	3	3	2	3	2	3	3	2	2	2	2	2	3	3
CO3	3	3	3	3	2	3	3	3	2	2	2	3	3	3
CO4	3	2	3	2	2	3	2	3	2	2	2	2	3	3
CO5	3	3	2	2	3	3	3	3	2	2	2	2	3	3
Average	3.00	2.80	2.40	2.60	2.40	3.00	2.80	2.60	2.00	2.00	2.00	2.20	3.00	3.00

Database Management Systems (RCS501)	CO1: Understand the database management system and implement conceptual model using entity relationship diagrams.													
	CO2: Apply query processing techniques to automate the real time problems of databases.													
	CO3: Identify and solve the redundancy problem in database tables using normalization.													
	CO4: Understand the concepts of transactions and also understand the need of distributed databases.													
	CO5: Understand the concept of concurrency control and finally apply the knowledge to develop a small Database system.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	2	1	1	2	2	2	3	2	2	2
CO2	3	3	3	3	2	1	1	1	2	2	3	2	2	2
CO3	3	3	3	3	2	1	1	1	2	2	2	1	3	3
CO4	3	2	3	3	2	2	2	1	3	2	2	2	3	3
CO5	2	2	3	3	2	2	1	2	2	2	1	2	3	3
Average	2.80	2.60	3.00	3.00	2.00	1.40	1.20	1.40	2.20	2.00	2.20	1.80	2.60	2.60

Design and Analysis of Algorithm (RCS502)	CO1: Analyze running time of algorithms using asymptotic methods.													
	CO2: Analyze advanced data structure algorithms to calculate their complexities													
	CO3: Create solutions of Optimization problems using Dynamic Programming and Greedy Approach													
	CO4: Apply backtracking and branch & bound approaches for finding efficient solutions													
	CO5: Understand the concepts of NP Completeness and find alternate solutions using Randomized and Approximation Algorithms.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1		3		2				1				3		1
CO2		3		3	2							2	1	1
CO3	3	1	3		2				1	1	1	2	1	2
CO4	2								1		1	1		
CO5				1	2				1	1		1	1	
Average	2.50	2.33	3.00	2.00	2.00			1.00	1.00	1.00	1.00	1.80	1.00	1.33

Principles of Programming Languages (RCS503)	CO1: Understand the use of mathematical, theoretical computer science, software, hardware concepts and use of grammars for development of languages.													
	CO2: Understand the basic principles behind the programming language development.													
	CO3: Understand the language description, language properties and able to correlate with the traditional programming languages.													
	CO4: Use the knowledge to solve real life problems with relevant programming paradigm and language.													
	CO5: Analyze and apply the knowledge for identifying the local and global impact of computing on individuals, organizations and society.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	1	1	1	1	1	1	1	1	2	2	2
CO2	3	3	3	2	1	1	1	1	1	1	1	3	2	2
CO3	3	3	2	2	2	1	1	1	1	1	1	3	3	3
CO4	2	3	2	2	2	1	1	1	1	1	1	3	3	3
CO5	3	3	3	3	1	1	3	3	2	2	2	3	3	3
Average	2.80	3.00	2.40	2.00	1.40	1.00	1.40	1.40	1.20	1.20	1.20	2.80	2.60	2.60

Object Oriented Techniques (RIT053)	CO1: Understand the application development and analyze the insights of programming to implement application													
	CO2: Understand, analyze and apply the role of overall modelling concepts (i.e. System, structural)													
	CO3: Understand, analyze and apply oops concepts (i.e. abstraction, inheritance)													
	CO4: Understand, analyze and apply oops concepts (i.e. abstraction, inheritance)													
	CO5: Understand the methods, class and objects concepts in C++.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1	1	1	1	2	1	1	1	3	2	2
CO2	3	2	3	1	1	1	1	1	1	1	1	1	2	2
CO3	3	1	2	1	2	1	1	1	2	1	1	1	2	2
CO4	3	1	2	1	2	1	1	1	2	1	1	1	2	2
CO5	3	1	2	1	2	1	1	1	2	1	1	2	2	2
Average	3.00	1.40	2.00	1.00	1.60	1.00	1.00	1.20	1.60	1.00	1.00	1.60	2.00	2.00

Practical

Database Management Systems Lab (RCS551)	CO1: Use the case tools for creation of ER Diagrams.													
	CO2: Create and modify the database and apply different constraints using DDL and DML commands.													
	CO3: Display data from multiple tables using joins and apply different functions of SQL.													
	CO4: Implement cursor, trigger, procedures and functions using PL/SQL.													
	CO5: Finally create and implement the package in PL/SQL.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	3	1	2	1	2	2	3	3	2	2
CO2	3	3	2	2	3	1	1	1	2	1	2	3	3	3
CO3	3	2	2	2	2	2	1	1	2	1	2	2	3	3
CO4	2	2	3	2	2	2	1	1	2	1	2	2	3	3
CO5	2	2	3	2	2	2	2	1	2	2	3	2	3	3
Average	2.60	2.40	2.40	2.00	2.40	1.60	1.40	1.00	2.00	1.40	2.40	2.40	2.80	2.80

Design and Analysis of Algorithm Lab (RCS552)	CO1: Implement algorithm to solve problems by iterative approach													
	CO2: Implement algorithm to solve problems by divide and conquer approach													
	CO3: Implement algorithm to solve problems by Greedy algorithm approach													
	CO4: Implement algorithm to solve problems by Dynamic programming, backtracking, branch and bound approach													
	CO5: Implement algorithm to solve problems by branch and bound approach													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1		3		2								3	1	
CO2		3		3	2							2	1	
CO3	3		3		2						2	2	1	2
CO4	2										2	2	1	1
CO5					2							2	1	1
Average	2.50	3.00	3.00	2.50	2.00						2.00	2.20	1.00	1.33

Principles of Programming Languages Lab (RCS553)	CO1: Able to understand various concepts of programming paradigm													
	CO2: Study functional programming paradigm using SML													
	CO3: Able to implement basic arithmetic operations in SML													
	CO4: Able to implement basic list operations in SML													
	CO5: Able to comprehend and implement logic programming examples.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	1	1	1	1	1	1	1	1	3	1	1
CO2	3	3	2	1	1	1	1	1	1	1	1	3	2	2
CO3	3	3	2	2	1	1	1	1	1	1	1	3	2	1
CO4	3	3	2	1	1	1	1	1	1	1	1	3	2	1
CO5	3	3	3	3	1	1	1	1	2	2	2	3	2	2
Average	3.00	2.80	2.20	1.60	1.00	1.00	1.00	1.00	1.20	1.20	1.20	3.00	1.80	1.40

Object Oriented Techniques Lab (RIT554)	CO1: Understand the application development and analyze the insights of programming to implement application													
	CO2: Understand, analyze and apply the role of overall modelling concepts (i.e. System, structural)													
	CO3: Understand, analyze and apply oops concepts (i.e. abstraction, inheritance)													
	CO4: Understand, analyze and apply oops concepts (i.e. abstraction, inheritance)													
	CO5: Understand the methods, class and objects concepts in C++.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1	1	1	1	2	1	1	1	3	2	2
CO2	3	2	3	1	1	1	1	1	1	1	1	1	2	2
CO3	3	1	2	1	2	1	1	1	2	1	1	1	2	2
CO4	3	1	2	1	2	1	1	1	2	1	1	1	2	2
CO5	3	1	2	1	2	1	1	1	2	1	1	2	2	2
Average	3.00	1.40	2.00	1.00	1.60	1.00	1.00	1.20	1.60	1.00	1.00	1.60	2.00	2.00

Software Testing and Audit (NCS071)	CO1: Learn the basics of software testing, its objectives, validation and verification approach.													
	CO2: Learn how to apply various functional and structural testing methods on software product.													
	CO3: Understand the process of Test Selection for Regression Testing and thus minimization of test cases.													
	CO4: Identify the scope of software test automation for testing the real-life projects.													
	CO5: Learn about object oriented and web application testing that will help in testing of real-life projects.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	3	2	3	3	3	1	1	3	2	2	2
CO2	3	3	3	2	3	3	3	3	2	3	3	2	2	2
CO3	3	3	3	3	3	1	3	3	2	2	2	3	3	3
CO4	3	3	2	3	3	2	3	3	1	1	3	2	3	3
CO5	3	3	3	2	3	2	3	3	2	2	3	3	3	3
Average	3.00	3.00	2.60	2.60	2.80	2.20	3.00	3.00	1.60	1.80	2.80	2.40	2.60	2.60

Android Operating System (NCS075)	CO1: Understand the basic concepts of Android Operating Systems and how Android applications works.													
	CO2: Design and develop useful Android applications with compelling user interfaces (UI) by using various concepts.													
	CO3: Understand how android multimedia applications works and how to develop it.													
	CO4: Understand the Android's communication APIs for SMS, telephony, and network management.													
	CO5: Understanding and knowledge about the touch screens functionalities and how to capture touch events.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2	2	2	3	1	1	1	1	2	2	1
CO2	2	2	3	2	2	2	1	1	2	2	1	1	2	2
CO3	2	2	3	1	2	3	2	2	1	2	1	2	3	3
CO4	3	2	2	2	3	3	2	3	2	3	2	2	3	2
CO5	3	3	2	2	3	3	2	2	2	2	2	2	2	2
Average	2.40	2.20	2.40	1.80	2.40	2.60	2.00	1.80	1.60	2.00	1.40	1.80	2.40	2.00

Software Project Management (NOE77)	CO1: The fundamental of software project management and software project planning.													
	CO2: The different ways to improve costing and estimation of projects.													
	CO3: The Work break down structure and also able to draw the Network diagram like PERT, CPM, and Gantt Charts.													
	CO4: About Various kind of Testing, Test cases, test principles, strategies and also software quality standards.													
	CO5: About risk associated with software projects and how to deal with risk management process.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1	3	1	1	2	1	2	3	3	3
CO2	3	3	3	1	3	3	1	1	1	1	3	2	3	3
CO3	3	3	3	1	3	2	1	1	1	1	2	3	3	3
CO4	2	3	3	1	2	1	1	1	1	1	2	3	3	3
CO5	2	2	2	1	2	1	2	2	1	1	3	3	3	3
Average	2.40	2.60	2.60	1.00	2.20	2.00	1.20	1.20	1.20	1.00	2.40	2.80	3.00	3.00

Practical

Cryptography & Network Security Lab (NIT751)	CO1: Learn the implementation of classical encryption techniques.													
	CO2: Learn the implementation of mathematical theorems.													
	CO3: Learn the implementation of asymmetric encryption technique and key exchange algorithm.													
	CO4: Learn implementation of message authentication and digital signature.													
	CO5: Learn application of Elliptic Curve Cryptography.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	2	2	1	3	3	1	1	2	2	3	3
CO2	3	3	3	2	2	1	2	1	1	1	2	2	3	3
CO3	3	3	3	2	2	1	3	3	1	1	2	2	3	3
CO4	3	3	3	2	2	1	3	3	1	1	2	2	3	3
CO5	3	3	3	2	2	1	3	2	1	1	2	2	3	3
Average	3.00	3.00	3.00	2.00	2.00	1.00	2.80	2.40	1.00	1.00	2.00	2.00	3.00	3.00

Project (NCS752)	CO1: Select and summarize all aspects of the real-life problem through survey.													
	CO2: Apply acquired knowledge to develop a working model and plan different phases for its execution.													
	CO3: Analyze outcome of each phase using various tools, techniques, and coding practices.													
	CO4: Justify/defend opinions, validity of ideas or quality of work based on a set of criteria.													
	CO5: Test the working model and modify related phases accordingly. Finally integrate all phases													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	3	2	1	1	3	3	3	3	3	3
CO2	3	3	3	3	2	2	1	1	3	2	3	3	3	3
CO3	3	3	3	3	2	2	1	1	3	2	3	3	3	3
CO4	3	3	3	3	2	2	1	1	3	2	2	3	3	3
CO5	3	3	3	3	2	2	1	1	3	2	1	2	3	3
Average	3.00	3.00	3.00	3.00	2.20	2.00	1.00	1.00	3.00	2.20	2.40	2.80	3.00	3.00

Industrial Training (NCS753)	CO1: Analyze and understand the real-life problem in industry and apply their knowledge to get programming solution.													
	CO2: Engage in the creative design process through the integration and application of diverse technical knowledge and expertise to meet customer needs and address social issues.													
	CO3: Use and apply the various tools and techniques, coding practices for developing real life solution to the problem													
	CO4: Write the report about what are industry person doing in project.													
	CO5: Find out the errors in software solutions of real- life projects and implementations.													
CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	3	2	1	1	3	3	3	3	3	3
CO2	3	3	3	3	2	2	1	1	3	2	3	3	3	3
CO3	2	2	3	3	3	2	1	1	3	2	3	3	3	3
CO4	2	1	1	3	2	1	1	1	3	3	3	3	3	3
CO5	3	3	2	3	3	1	1	1	3	3	3	3	3	3
Average	2.60	2.40	2.40	3.00	2.60	1.60	1.00	1.00	3.00	2.60	3.00	3.00	3.00	3.00