Course Outcome

Session 2022-23

Odd Semester

Department of Information Technology

13KMSTONE,GHAZIABAD-MEERUTROAD,GHAZIABAD–201206

Website:www.kiet.edu

Index

3rd Semester		
S No.	**Subject Code**	**Subject Name**
1	KOE-044	Sensor and Instrumentation
2	KVE-301	Universal Human Values
3	KCS-301	Data Structure
4	KCS-302	Computer Organization and Architecture
5	KCS-303	Discrete Structures & Theory of Logic
6	KNC-301	Computer System Security
7	KCS-351	Data Structures Using C Lab
8	KCS-352	Computer Organization Lab
9	KCS-353	Discrete Structure & Logic Lab
10	KCS-354	Mini Project or Internship Assessment
5th Semester		
S No.	**Subject Code**	**Subject Name**
1	KCS 055	Machine Learning Techniques
2	KNC 501	Constitution of India, Law and Engineering
3	KCS 501	Database Management Systems
4	KCS 503	Design And Analysis Of Algorithm
5	KCS 054	Object Oriented System Design
6	KIT 501	Web Technologies
7	KCS 551	Database Management Systems Lab
8	KCS 553	Design and Analysis of Algorithm Lab
9	KIT 551	Web Technologies Lab
10		Mini Project or Internship Assessment
7th Semester		
S No.	**Subject Code**	**Subject Name**
1	KCS 078	Deep Learning
2	KCS 071	Artificial Intelligence
3	KHU 702	Project Management & Entrepreneurship
4	KOE-076	Value Relationship & Ethical Human Conduct- For A Happy & Harmonious Society
5	KIT751	Artificial Intelligence Lab
6	KIT 752	Mini Project or Internship Assessment
7	KIT 753	Project

CO PO and Mapping of CO PO 2nd Year (2021 – 2025 BATCH)

Session 2022-23   Semester:- 3rd

3rd Semester		
S No.	**Subject Code**	**Subject Name**
1	KOE-044	Sensor and Instrumentation
2	KVE-301	Universal Human Values
3	KCS-301	Data Structure
4	KCS-302	Computer Organization and Architecture
5	KCS-303	Discrete Structures & Theory of Logic
6	KNC-301	Computer System Security
7	KCS-351	Data Structures Using C Lab
8	KCS-352	Computer Organization Lab
9	KCS-353	Discrete Structure & Logic Lab
10	KCS-354	Mini Project or Internship Assessment

		At the end of course, students will be able to:	Bloom's Taxonomy| KnowledgeDimension
Sensor and Instrumentation	CO1	Apply the use sensors for measurement of displacement, force and pressure.	K3/C,P
	CO2	Employ commonly used sensors in industry for measurement of temperature, position, accelerometer, vibration sensor, flow and level.	K3/P,M
	CO3	Demonstrate the use of virtual instrumentation in automation industries.	K2/C,P
	CO4	Identify and use data acquisition methods.	K3/F, C
	CO5	Comprehend intelligent instrumentation in industrial automation.	K2/C,P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	2	1	-	-	-	-	1	1	1	2	2
CO2	2	3	3	2	1	-	-	-	-	1	1	1	2	2
CO3	2	2	3	3	1	-	-	-	-	1	1	1	2	2
CO4	2	3	3	2	1	-	-	-	-	1	1	1	1	1
CO5	1	3	2	3	1	-	-	-	-	1	1	1	1	1

		At the end of course, students will be able to:										Bloom's Taxonomy| Knowledge Dimension		
Universal Human Values	CO1	Understand the essential complementarily between 'VALUES" and 'SKILLS'.											K2/F, 4/P		
	CO2	Understand how to ensure sustained happiness and prosperity.											K5/C		
	CO3	Apply understanding of values and human reality to develop a holistic perspective towards life, and profession.											K4/P,5/C		
	CO4	Analyze harmony in nature and existence, and work out their mutually fulfilling participation in the nature.											K2/F,6/C		
	CO5	Analyze ethical and unethical practices to actualize a harmonious environment wherever they work.											K6/C		

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	1	1	2	2	-	-	3		
CO2	-	-	-	-	-	2	2	3	3	-	-	3		
CO3	-	-	-	-	-	3	3	2	3	-	-	3		
CO4	-	-	-	-	-	2	3	2	3	-	-	3		
CO5	-	-	-	-	-	2	3	3	2	-	-	3		

			At the end of course, students will be able to:											Bloom's Taxonomy| Knowledge Dimension	
Data Structure (KCS-301)	CO1		Apply the knowledge of various data structures and its operations.											K3 | C, P	
	CO2		Apply standard algorithms for searching and sorting											K3 | C, P	
	CO3		Analyze efficiency of different algorithms using time and space complexity											K4| C, P	
	CO4		Explore the concept, application and implementation of recursion.											K4 | C, P	
	CO5		Implement the suitable data structure with respect to its performance to model a real world problem											K5,K6 | C, P, M	

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2	1	-	-	-	-	-	-	2		
CO2	2	2	2	2	2	-	-	-	-	-	-	1		
CO3	3	2	2	2	1	-	-		1		1	2	1	
CO4	3	3	2	3	-	-	-		1		1	1	2	1
CO5	3	3	2	3	1	-	-		1		2	1	2	2

		At the end of course, students will be able to:	Bloom's Taxonomy/ Knowledge Dimension
Computer Organization and Architecture	CO1	Describe the basic organization and operation of the components of a digital computer system.	K1,K2/C
	CO2	Illustrate various arithmetic and logical operations on different types of numbers to design an arithmetic and logic unit	K4/P,M
	CO3	Analyze the performance issues of the processor and classify the control unit implementation techniques.	K4/C,M
	CO4	Categorize the hierarchical memory system and examine the virtual memory implementation techniques.	K3, K4/P,M
	CO5	Compare the different I/O data transfer techniques, and describe the different ways of communication among I/O devices and standard I/O interfaces.	K2, K5/C,M

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	1	1	-	-	-	-	-	-	-	1	1	
CO2	3	2	2	1	-	-	-	-	-	-	-	1	1	
CO3	3	2	2	1	-	-	-	-	-	-	-	1	2	1
CO4	2	2	2	1	-	-	-	-	-	-	-	1	1	1
CO5	3	2	2	1	-	-	-	-	-	-	-	1	1	1

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
Discrete Structures & Theory of Logic	CO1	**Acquire** Knowledge of Logical Notations which is used to define and understand the basic fundamental mathematical concepts such as sets, relations, functions, and integers.	K3|C,P
	CO2	**Apply** various structures and properties of modern algebra.	K3| C,P
	CO3	**Employ** logical abilities such as reasoning to set up mathematical models for real life problems by applying advanced counting and computing techniques like generating function and recurrence relation.	K3| C,P
	CO4	**Explore** various problems in the field of computer science using trees and graphs.	K4| P,M
	CO5	**Determine** a solution with the help of induction hypotheses, simple induction proofs and recurrences.	K5| C,M

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	2	2	1	2	-	-	-	-	-	2	1	-
CO2	2	2	1	1	2	1	-	-	-	-	-	2	1	-
CO3	2	2	2	3	2	1	-	-	-	-	-	2	2	1
CO4	3	3	3	3	3	3	-	-	-	-	-	3	2	3
CO5	2	1	2	2	3	2	-	-	-	-	-	2	3	3

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
Computer System Security	CO1	To discover software bugs that pose cyber security threats and to explain how to fix the bugs to mitigate such threats	K1,K2/,C,P
	CO2	To discover cyber attack scenarios to web browsers and web servers and to explain how to mitigate such threats	K2/C, P
	CO3	To discover and explain mobile software bugs posing cyber security threats, explain and recreate exploits, and to explain mitigation techniques.	K3/C, P
	CO4	To articulate the urgent need for cyber security in critical computer systems, networks, and world wide web, and to explain various threat scenarios	K4/C, P
	CO5	To articulate the well known cyber attack incidents, explain the attack scenarios, and explain mitigation techniques.	K5,K6/C, P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	P012	PS O1	PS O2
CO1	3	1	3	2	2	2	2	3	3	2	1	3	2	1
CO2	2	3	1	3	3	2	1	3	2	2	1	3	1	2
CO3	2	2	3	2	3	2	1	3	1	3	1	3	2	3
CO4	3	2	3	3	2	3	1	3	3	2	1	3	1	2
CO5	3	2	2	3	3	1	2	3	3	2	1	3	3	1

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
DSUC Lab (KCS-351)	CO1	Implement various Sorting and Searching Algorithms.	K3/C P
	CO2	Analyze the recursive implementation of different sorting and searching algorithms.	K4/C P
	CO3	Implement various data Structure using static and dynamic memory allocation.	K3,K4/C P
	CO4	Demonstrate various operations like traversal, insertion deletion on tree data structure.	K3/C P
	CO5	Design and Implement practical applications based on graphs and shortest paths.	K5/C P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	3	2	-	-	-	-	1	1	-	2		
CO2	2	2	3	2	-	-	-	-	1	1	-	2		
CO3	3	2	3	2	-	-	-	-	1	1	-	2	2	
CO4	3	3	3	2	-	-	-	-	1	1	-	2	2	2
CO5	3	3	3	2	-	-	-	-	1	1	-	3	3	2

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
	CO1	Examine the output of the basic logic gates for different combinations of input.	K3/P
	CO2	Design and simulate the combinational circuits for binary arithmetic (such as adders, subtractors, and multiplier) and code converter.	K5/P, M
CO Lab	CO3	Design and simulate combinational circuits for encoders/decoders and selection devices multiplexers/demultiplexers using logic gates.	K5/P, M
	CO4	Design and simulate the basic building block of the sequential circuits (i.e. SR and D Flip Flops) using logic gates.	K5/P, M
	CO5	Design and simulate the 2-bit Arithmetic Logic Unit using logic gates.	K5/P, M

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	-	-	-	-	1	1	-	-	-	-
CO2	3	3	3	2	-	-	-	-	1	1	-	1	-	-
CO3	2	3	3	2	-	-	-	-	1	1	-	1	1	1
CO4	2	3	3	2	-	-	-	-	1	1	-	1	2	1
CO5	2	3	3	2	-	-	-	-	1	1	-	1	2	1

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
DSTL Lab	CO1	Implement various Set operations.	,K3/P
	CO2	Design and demonstrate universal logic gates.	K3/P
	CO3	Analyze various logical expressions using programming.	K4/P
	CO4	Implement various programming problems based on binary search.	K3/P,M
	CO5	Design and Implement practical applications based on graphs and shortest paths.	K3, K6/P,M

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	3	2	-	-	-	-	1	-	1	1	-
CO2	3	3	3	3	2	-	-	-	-	1	-	1	1	-
CO3	3	2	2	3	3	-	-	-	-	1	-	1	1	-
CO4	3	3	2	2	3	-	-	-	-	1	-	2	2	1
CO5	3	2	2	2	3	-	-	-	-	1	-	2	2	1

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
Mini Project	CO1	Analyze and understand the real life problem and apply their knowledge to get programming solution	K1,K2,K4
	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.	K2,K3
	CO3	Use the various tools and techniques, coding practices for developing real life solution to the problem	K2,K4/M
	CO4	Use the various tools and techniques, coding practices for developing real life solutions to the problem.	K2,K4
	CO5	Find out the errors in application solutions and its implementations	K5,K6/M

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	2	2	2	2	2	3	1	2	3	3	3
CO2	3	3	3	2	3	3	2	2	3	3	2	3	3	3
CO3	3	3	3	3	3	3	2	2	3	-	-	3	3	3
CO4	3	3	2	2	3	3	2	2	3	3	-	3	1	1
CO5	3	3	2	2	3	3	2	2	3	-	-	2	2	2

KIET GROUP OF INSTITUTIONS, GHAZIABAD

Department of Information Technology

CO PO and Mapping of CO PO 3rd Year

(2020 – 2024 BATCH)

Session 2022-23   Semester:- 5th

5th Semester		
S No.	**Subject Code**	**Subject Name**
1	KCS 055	Machine Learning Techniques
2	KNC 501	Constitution of India, Law and Engineering
3	KCS 501	Database Management Systems
4	KCS 503	Design And Analysis Of Algorithm
5	KCS 054	Object Oriented System Design
6	KIT 501	Web Technologies
7	KCS 551	Database Management Systems Lab
8	KCS 553	Design and Analysis of Algorithm Lab
9	KIT 551	Web Technologies Lab
10	KCS 554	Mini Project or Internship Assessment

Theory

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
Machine Learning Techniques	CO1	Understand the need for machine learning for various problem solving	K2 |C,P
	CO2	Understand a wide variety of learning algorithms and how to solve computing problems.	K2,K3 |C,P
	CO3	Design appropriate machine learning algorithms and apply the algorithms to real-world problems.	K3,K5|P
	CO4	Understand the neural nets for solving real time problems and evaluating the performance.	K5,K6|P
	CO5	Optimize the models learned and report on the expected accuracy that can be achieved by analyzing the models..	K4,K5|P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	1	2	1	1	-	-	-	-	1	2	
CO2	2	3	2	2	3	2	1	-	1	-	-	2	2	1
CO3	3	3	3	3	3	2	1	-	1	-	1	2	3	2
CO4	3	3	3	3	3	2	1	-	1	-	1	2	3	2
CO5	3	3	3	3	3	2	1	-	1	-	1	2	3	2

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
Database Management System	CO 1	Acquire the knowledge of database design methodology for real life applications.	K2 | C
	CO 2	Design an information model using the concept of ER diagram.	K6 | C,P, M
	CO 3	Apply the concept of SQL on the real life databases.	K3 | C,P
	CO 4	Analyze the redundancy problem in database and reduce it using normalization.	K4 | C,P
	CO 5	Identify the broad range of database management issues including data integrity, security and recovery in terms of transactions.	K4 | C,P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	-	-	-	2	-	-	1	1	-	1	2	1	2
CO2	2	1	3	2	3	-	1	1	1	2	2	2	3	2
CO3	3	-	-	-	3	-	-	1	1	1	2	2		
CO4	2	3	-	3	-	-	-	1	1	-	1	2		2
CO5	2	3	-	3	-	-	-	1	-	-	-	1		2

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
Design and Analysis of Algorithm	CO 1	Analyze running time of algorithms using asymptotic methods.	K4 | C,P
	CO 2	Analyze advanced data structure algorithms to calculate their complexities	K4 | C,P
	CO 3	Create solutions of Optimization problems using Dynamic Programming and Greedy Approach.	K6 | P, M
	CO 4	Apply backtracking and branch & bound approaches for finding efficient solutions..	K3 | P
	CO 5	Understand the concepts of NP Completeness and find alternate solutions using Randomized and Approximation Algorithms.	K2 | C, P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	2	2	2	-	-	-	-	-	-	2	2	2
CO2	2	3	2	3	2	-	-	-	-	-	-	2	2	2
CO3	2	2	3	2	2	-	-	-	1	-	-	2	2	2
CO4	2	3	2	3	2	-	-	-	1	-	-	1	2	2
CO5	2	2	1	1	1	-	-	-	1	-	-	1	1	1

		At the end of course, students will be able to:											Bloom's Taxonomy| Knowledge Dimension		
Web Technology	CO 1	Understand the concepts of the web and internet and apply OOP concept in computing to create desktop based programs using Java programming language.												K2, K6 /U,C,P		
	CO 2	Understand and create HTML, DHTML, and XML documents for web development												K2, K6/U,C,P		
	CO 3	Understand and create web based programs using JavaScript and create network based programs using Java.												K2, K6 /U,C,P		
	CO 4	Understand and analyze JDBC concepts and create the business logic using Java Beans. .												K2, K4, K6/U,C,P		
	CO 5	Understand and apply JSP and Servlets concepts in server side scripting and create web based small web applications using JSP and servlets												K2, K3, K6/U,C,P		

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	3	1	1	1	1	1	1	3	3	3
CO2	3	3	3	3	3	1	1	1	1	1	1	3	3	3
CO3	3	3	3	3	3	1	1	1	1	1	1	3	3	3
CO4	3	3	3	3	3	1	1	1	1	1	1	3	3	3
CO5	3	3	3	3	3	1	1	1	1	1	1	3	3	3

		At the end of course, students will be able to:	Bloom's Taxonomy|Knowledge Dimension
Object Oriented System Design	CO 1	Understand the application development and analyze the insights of object-oriented programming to implement application.	Understand(BL-2)/C,P
	CO 2	Understand, analyze and apply the role of overall modelling concepts (i.e. System, structural).	Apply (BL-3)/C,P
	CO 3	Learn the structured analysis / structured design and analyze the oops programming style.	Analyze (BL-4)C,P
	CO 4	Apply and evaluate the concepts of C++ for the implementation of object-oriented concepts.	Evaluate (BL-5)/F,P
	CO 5	Design and evaluate the programming concepts to implement object oriented modeling in C++.	Evaluate (BL-5)/P,M

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	3	3	2	-	2	2	1	2	3	2	2
CO2	3	3	2	3	3	3	-	2	3	2	3	3	3	3
CO3	3	2	2	2	3	3	-	2	2	2	2	3	2	2
CO4	3	3	3	3	3	3	-	2	3	2	3	3	2	2
CO5	3	3	3	3	3	3	-	2	3	2	3	3	2	2

		At the end of course, students will be able to:		Bloom's Taxonomy| Knowledge Dimension
Constitution of India, Law and Engineering	CO1	Discuss the basic features and modalities about the Indian constitution.		K1, K2| F,C
	CO2	Differentiate and relate the functioning of Indian parliamentary system at the center and state level		K2,K3|F,C
	CO3	Differentiate different aspects of the Indian Legal System and its related bodies.		K2,K3|F,C
	CO4	Compare different laws and regulations related to engineering practices.		K1,K2,K3,|F, C
	CO5	Articulate the role of engineers with different organizations and governance models		K2,K5|F,C

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	1	1	-	-	-	-			
CO2	-	-	-	-	-	1	1	-	-	-	-			
CO3	-	-	-	-	-	2	2	1	-	-	-			
CO4	2	-	-	-	-	1	2	1	-	1	-			
CO5	1	-	-	-	-	2	1	2	2	1	2			

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
DBMS Lab	CO 1	Understand and apply MYSQL/ORACLE for creating tables, views, indexes, sequences and other database objects.	K1,K2,K3/ C, P
	CO 2	Design and implement a database schema for company data base, banking data base, library information system, payroll processing system, student information system.	K4,K5/C, P
	CO 3	Design and implement simple and complex queries using DDL, DML, DCL and TCL.	K4,K5/C, P
	CO 4	Implement PL/SQL blocks, procedure functions, packages and triggers, cursors.	K5/C, P
	CO 5	Demonstrate entity integrity, referential integrity, key constraints, and domain constraints on database.	K1,K3/C, P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	3	2	2	2	1	1	2	1	2	2	2	2
CO2	3	3	2	2	3	1	2	1	2	2	3	3	2	2
CO3	3	2	2	2	2	2	1	1	2	1	2	2	2	2
CO4	2	2	3	2	2	2	2	1	2	2	3	2	1	1
CO5	3	3	2	2	3	1	1	1	2	1	2	3	1	1

		At the end of course, students will be able to:	Bloom's Taxonomy|KnowledgeDimension
DAA Lab	CO1	Implement algorithm to solve problems by iterative approach.	K3,K4|C,P
	CO2	Implement algorithm to solve problems by divide and conquer approach	K3,K4|C,P
	CO3	Implement algorithm to solve problems by Greedy algorithm approach.	K6|P,M
	CO4	Implement algorithm to solve problems by Dynamic programming, backtracking, branch and bound approach	K2,K3|P, M
	CO5	Implement algorithm to solve problems by branch and bound approach	K2,K3|C,P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	3	2	2	1	-	-	-	-	-	-	3	1	1
CO2	2	3	2	3	2	-	-	-	-	-	-	2	1	2
CO3	3	2	2	1	2	-	-	-	-	-	-	2	1	2
CO4	2	2	2	1	2	-	-	-	-	-	-	2	2	2
CO5	2	2	2	2	1	-	-	-	-	-	-	2	2	2

		At the end of course, students will be able to:	Bloom's Taxonomy|Knowledge Dimension
WT Lab	CO1	Understand and create Java programs using methods, libraries, Applet and AWT.	K2,K6/C,P
	CO2	Understand and create web based programs using HTML, DHTML, CSS, XML.	K2,K6/C,P
	CO3	Understand and Create JavaScript based dynamic web pages.	K2,K6/C,P
	CO4	Understand and Create tables in Java Programs using JDBC and produce various results based on SQL query.	K2,K6/C,P
	CO5	Understand and create web based java programs using Servlet & JSP that can receive data sent from client machine and process them to produce response to client.	K2,K6/C,P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	2	3	1	1	1	1	1	1	3	3	3
CO2	3	3	3	3	3	1	1	1	1	1	1	3	3	3
CO3	3	3	3	3	3	1	1	1	1	1	1	3	3	3
CO4	3	3	3	3	3	1	1	1	1	1	1	3	3	3
CO5	3	3	3	3	3	1	1	1	1	1	1	3	3	3

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
Mini Project	CO 1	Analyze and understand the real life problem and apply their knowledge to get programming solution.	K3,C,P
	CO 2	Engage in the creative design process through the integration and application of diverse technical knowledge and expertise to meet customer needs and address social issue	K4,P
	CO 3	Use the various tools and techniques, coding practices for developing real life solution to the problem	K6,M
	CO 4	Writing and presentation skill by using report about what they are doing in mini project	K5,M
	CO 5	Find out the errors in application solutions and its implementations	K5,M

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	2	3	3	2	1	3	3	3	3	3	3
CO2	3	3	3	2	3	3	2	1	3	3	3	3	3	3
CO3	3	3	3	3	3	3	2	1	3	3	3	3	3	3
CO4	3	3	2	2	3	3	2	1	3	3	3	3	3	3
CO5	3	3	2	2	3	3	2	1	3	3	3	3	3	3

KIET GROUP OF INSTITUTIONS, GHAZIABAD

Department of Information Technology

CO PO and Mapping of CO PO 4th Year

(2019 – 2023 BATCH)

Session 2022-23   Semester:- 7th

7th Semester		
S No.	**Subject Code**	**Subject Name**
1	KCS 078	Deep Learning
2	KCS 071	Artificial Intelligence
3	KHU 702	Project Management & Entrepreneurship
4	KOE-076	Vision for Humane Society
5	KIT 751	Artificial Intelligence Lab
6	KIT 752	Mini Project or Internship Assessment
7	KIT 753	Project

Theory

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
Deep Learning	CO1	Discuss mathematics behind functioning of Artificial neural network	K3 | P
	CO2	Illustrate different algorithms of deep learning for classification problem.	K4 | P
	CO3	Analyse different dimensionality reduction techniques for real world dataset	K4 | P
	CO4	Evaluate different deep learning models for optimised solution of real world problems	K5 | P
	CO5	To design deep learning solution for complex real world problem using tensor flow.	K6 | P, M

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	1	3	1	-	-	-	-		2	2	1
CO2	3	3	2	2	3	1	-	-	-	-	1	2	2	2
CO3	3	3	3	2	3	1	-	-	1	-	1	2	2	2
CO4	3	3	3	3	3	1	-	-	1	-	2	2	3	3
CO5	3	3	3	3	3	1	-	-	2	-	3	3	3	3

		At the end of course, students will be able to:										Bloom's Taxonomy | Knowledge Dimension		
	CO1	Understand the concept of artificial intelligence and intelligent agents.											K1,K2 | C		
	CO2	Apply basic principles of AI in solutions that require problem solving methods.											K3 | C, P		
Artificial Intelligence	CO3	Determine the effectiveness of truths by knowledge representation methods in AI.											K5 | C, P		
	CO4	Abstract intelligent agents by exploring the architecture and communication of agents.											K5| C, P, M		
	CO5	Analyze various AI applications in Information retrieval and extraction, Natural Language Possessing, speech recognition and Robots.											K6 | C, P, M		
CO \ PO Mapping		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1		3	-	-	-	-	3	2	2	-	-	-	3	2	2
CO2		3	3	2	2	3	-	-	-	2	-	-	3	3	2
CO3		3	3	2	3	3	-	-	-	2	-	-	3	3	3
CO4		3	2	3	3	3	-	-	2	2	-	2	3	3	3
CO5		3	3	2	3	3	3	2	2	-	-	-	3	3	3

		At the end of course, students will be able to:		Bloom's Taxonomy| Knowledge Dimension
Project Management & Entrepreneurship	CO1	Understand the theories of entrepreneurship and Entrepreneurial Development Programmes		K2 | C
	CO2	Create innovative business ideas and market opportunities		K5 | C, P, M
	CO3	Understand the importance of Project Management and Project's life cycle		K2 | C, P
	CO4	Analyze Project Finance and project report		K4 | C, P
	CO5	Analyze Social Sector Perspectives and Social Entrepreneurship		K2 | C, P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	1	1	-	1	1	2	2	1	3	1	1	
CO2	1	1	1	1	1	2	2	3	3	1	3	2	1	
CO3	1	1	1	1	-	3	3	2	3	1	3	2	1	
CO4	1	1	1	1	1	2	3	2	3	1	3	2	1	
CO5	1	1	1	1	1	2	3	3	**2**	1	3	3	1	

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
Vision for Humane Society (KOE-076)	CO1	*Understand* value education, basic human aspirations and their fulfillment by learning harmony at individual, family, society and nature/existence.	K2 / C,P
	CO2	*Distinguish* between Self and Body at individual level which is coexistence of self and body to achieve harmony within.	K4/ C,P
	CO3	*Apply* harmonious relationships based on trust, respect, and other naturally acceptable feelings in human-human interaction and explore their role in ensuring a harmonious society.	K3/ C,P
	CO4	*Apply* mutually fulfilling participation with the nature/existence.	K3/ C,P
	CO5	*Evaluate* the ethical practices to actualize a harmonious environment wherever they work/live.	K5/ / C,P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	1	1	1	2	2	3	2	1	2	1	1	1
CO2	1	1	1	1	1	2	2	3	2	1	2	1	1	1
CO3	1	1	1	1	1	2	2	3	3	1	2	1	1	1
CO4	1	1	1	1	1	2	2	3	3	1	2	1	1	1
CO5	1	1	1	1	1	2	2	3	3	1	3	1	1	1

Practical

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
AI Lab	CO1	Explore the features of PROLOG programming language, including basic syntax, selection, and search strategies of PROLOG.	K3 | C, P
	CO2	Demonstrate syntax, semantics, and natural deduction proof system of propositional and predicate logic	K3 | C, P
	CO3	Demonstrate the recursion and sequences using PROLOG programming.	K3 | C, P
	CO4	Demonstrate the PROLOG programming language skills by implementing various real-life problems.	K4 | C, P

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	3	-	-	-	-	-	2	2	3	3
CO2	3	3	2	2	3	-	-	-	-	-	2	2	3	3
CO3	3	3	3	2	3	-	-	-	-	-	2	2	3	3
CO4	3	3	3	2	3	-	-	-	-	-	2	2	3	3

		At the end of course, students will be able to:		Bloom's Taxonomy| Knowledge Dimension
Mini Project	CO 1	Analyze and understand the real life problem and apply their knowledge to get programming solution.		K3,C,P
	CO 2	Engage in the creative design process through the integration and application of diverse technical knowledge and expertise to meet customer needs and address social issue		K4,P
	CO 3	Use the various tools and techniques, coding practices for developing real life solution to the problem		K6,M
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CO1	3	3	3	2	3	3	2	1	3	3	3	3	3	3
CO2	3	3	3	2	3	3	2	1	3	3	3	3	3	3
CO3	3	3	3	3	3	3	2	1	3	3	3	3	3	3
CO4	3	3	2	2	3	3	2	1	3	3	3	3	3	3
CO5	3	3	2	2	3	3	2	1	3	3	3	3	3	3

		At the end of course, students will be able to:	Bloom's Taxonomy| Knowledge Dimension
Project (KIT-753)	CO1	**Select** and **summarize** all aspects of the real life problem through survey.	K1,K2/ C, P
	CO2	**Apply** acquired knowledge to develop working model and plan different phases for its execution.	K3/ C, P
	CO3	**Analyze** outcome of each phase using various tools, techniques, and coding practices.	K4/ C,P
	CO4	**Justify/defend** opinions, validity of ideas or quality of work based on a set of criteria.	K5/ C, P
	CO5	**Test** the working model and modify related phase accordingly. Finally integrate all phases	K6/ C, P

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	1	1
CO2	3	3	3	3	2	2	1	1	3	2	3	3	2	2
CO3	3	3	3	3	2	2	1	1	3	2	3	3	2	3
CO4	3	3	3	3	2	2	1	1	3	2	2	3	2	3
CO5	3	3	3	3	2	2	1	1	3	2	1	2	2	3