

**Statements of Course Outcomes (COs) and Mapping with Program Outcomes (POs) and Program Specific Outcomes (PSOs) : Dept. of CSE : 2021-22**

**BKL # K1 – Remember, K2 – Understand, K3 – Apply, K4 – Analyze, K5 – Evaluate, K6 – Create**

S. No.	Sub Code	COx	Statement of Course Outcomes (COs)	Kx	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	
			<p><b>Statement of Course Outcomes (COs)</b> Upon completion of topic concerned, students will be able to :</p>	Blooms Knowledge Level	Engineering knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The Engineer and Society	Environment & sustainability	Ethics	Individual and team work	Communications	Project management and finance	Life Long Learning	Design computer based systems using theoretical computer science that demonstrate the comprehension of the trade-offs involve in the design choice	Design, develop and test software for different applications with real time constraints	
1	KAS 301	CO-1	Students will be enabled to understand the nature and objective of Technical Communication relevant for the work place as Engineers.	K2	-	-	-	-	-	2	-	2	-	3	-	3	-	-	
		CO-2	Students will utilize the technical writing for the purposes of Technical Communication and its exposure in various dimensions.	K3	-	-	-	-	-	-	-	-	-	2	3	-	3	-	-
		CO-3	Students would imbibe inputs by presentation skills to enhance confidence in face of diverse audience.	K2	-	-	-	-	-	-	-	-	-	2	3	-	3	-	-
		CO-4	Technical communication skills will create a vast know-how of the application of the learning to promote their technical competence.	K1	-	-	-	-	-	-	-	-	-	-	3	-	3	-	-
		CO-5	It would enable them to evaluate their efficacy as fluent & efficient communicators by learning the voice-dynamics.	K2	-	-	-	-	-	-	-	-	-	-	3	-	3	-	-
<b>KAS 301</b>									<b>2.00</b>		<b>2.00</b>	<b>2.00</b>	<b>3.00</b>		<b>3.00</b>				
2	KNC 301/ KNC 401	CO-1	To discover software bugs that pose cyber security threats and to explain how to fix the bugs to mitigate such threats	K3	3	2	-	-	-	-	-	-	-	-	-	-	3	-	
		CO-2	To discover cyber attack scenarios to web browsers and web servers and to explain how to mitigate such threats.	K2	3	2	-	-	-	-	-	-	-	-	-	-	-	3	-
		CO-3	To discover and explain mobile software bugs posing cyber security threats, explain and recreate exploits, and to explain mitigation techniques.	K2	3	2	2	-	-	-	-	-	-	-	-	-	-	3	-
		CO-4	To articulate the urgent need for cyber security in critical computer systems, networks, and world wide web, and to explain various threat scenarios.	K3	3	3	2	-	-	-	-	-	-	-	-	-	2	3	2

		CO-5	To articulate the well known cyber attack incidents, explain the attack scenarios, and explain mitigation techniques. .	K1	3	3	2	-	-	-	-	-	-	-	3	2	
		<b>KNC 301</b>				<b>3.00</b>	<b>2.40</b>	<b>2.00</b>							<b>2.00</b>	<b>3.00</b>	<b>2.00</b>
3	KOE 038	CO-1	Understand the concept of PN junction and special purpose diodes.	K3	3	3	2	-	-	-	-	-	-	-	3	3	3
		CO-2	Study the application of conventional diode and semiconductor diode.	K2	3	3	2	-	-	-	-	-	-	-	3	3	3
		CO-3	Analyse the I-V characteristics of BJT and FET.	K2	3	3	2	-	-	-	-	-	-	-	3	3	3
		CO-4	Analyse the of Op-Amp, amplifiers, integrator, and differentiator	K3	3	3	2	-	-	-	-	-	-	-	3	3	3
		CO-5	Understand the concept of digital storage oscilloscope and compare of DSO with analog oscilloscope.	K1	3	2	1	-	-	-	-	-	-	-	3	3	3
		<b>KOE 038</b>				<b>3.00</b>	<b>2.80</b>	<b>1.80</b>							<b>3.00</b>	<b>3.00</b>	<b>3.00</b>
4	KCS 301	CO-1	Describe how arrays, linked lists, stacks, queues, trees, and graphs are represented in memory, used by the algorithms and their common applications	<sup>k</sup> <sub>1</sub> , <sup>k</sup> <sub>2</sub>	3	3	3	2	-	-	-	-	-	-	2	3	2
		CO-2	Discuss the computational efficiency	<sup>k</sup> <sub>2</sub>	3	3	3	2	-	-	-	-	-	-	2	3	2
		CO-3	Implementation of Trees and Graph	<sup>k</sup> <sub>3</sub>	3	3	3	2	-	-	-	-	-	-	2	3	2
		CO-4	Understanding the concept of recur	<sup>k</sup> <sub>4</sub>	3	3	3	2	-	-	-	-	-	-	2	3	2
		CO-5	Identify the alternative implementat	<sup>k</sup> <sub>5</sub> , <sup>k</sup> <sub>6</sub>	2	2	3	2	-	-	-	-	-	-	2	3	2
		<b>KCS 301</b>				<b>2.80</b>	<b>2.80</b>	<b>3.00</b>	<b>2.00</b>						<b>2.00</b>	<b>3.00</b>	<b>2.00</b>
5	KCS 302	CO-1	Study of the basic structure and operation of a digital computer system.	<sup>k</sup> <sub>1</sub> , <sup>k</sup> <sub>2</sub>	3	2	2	1	-	-	-	-	-	-	3	3	3
		CO-2	Analysis of the design of arithmetic & logic unit and understanding of the fixed point and floating-point arithmetic operations.	<sup>k</sup> <sub>2</sub> , <sup>k</sup> <sub>4</sub>	3	3	3	1	-	-	-	-	-	-	3	3	3
		CO-3	Implementation of control unit techniques and the concept of Pipelining	<sup>k</sup> <sub>3</sub>	3	3	3	2	-	-	-	-	-	-	3	3	3
		CO-4	Understanding the hierarchical memory system, cache memories and virtual memory	<sup>k</sup> <sub>2</sub>	3	2	2	2	-	-	-	-	-	-	3	3	3
		CO-5	Understanding the different ways of communicating with I/O devices and standard I/O interfaces	<sup>k</sup> <sub>2</sub> , <sup>k</sup> <sub>4</sub>	3	2	2	2	-	-	-	-	-	-	3	3	3
		<b>KCS 302</b>				<b>3.00</b>	<b>2.40</b>	<b>2.40</b>	<b>1.60</b>						<b>3.00</b>	<b>3.00</b>	<b>3.00</b>
6	KCS 303	CO-1	Write an argument using logical notation and determine if the argument is or is not valid.	<sup>k</sup> <sub>3</sub> , <sup>k</sup> <sub>4</sub>	3	3	2	2	-	-	-	-	-	-	3	2	-
		CO-2	Understand the basic principles of sets and operations in sets	<sup>k</sup> <sub>1</sub> , <sup>k</sup> <sub>2</sub>	3	3	2	-	-	-	-	-	-	-	3	2	-
		CO-3	Demonstrate an understanding of relations and functions and be able to determine their properties.	<sup>k</sup> <sub>3</sub>	3	3	2	-	-	-	-	-	-	-	3	2	-
		CO-4	Demonstrate different traversal methods for trees and graphs.	<sup>k</sup> <sub>1</sub> , <sup>k</sup> <sub>4</sub>	3	3	2	-	-	-	-	-	-	-	3	2	-
		CO-5	Model problems in Computer Science using graphs and trees.	<sup>k</sup> <sub>2</sub> , <sup>k</sup> <sub>6</sub>	3	2	2	2	-	-	-	-	-	-	3	2	-
		<b>KCS 303</b>				<b>3.00</b>	<b>2.80</b>	<b>2.00</b>	<b>2.00</b>						<b>3.00</b>	<b>2.00</b>	
7	KCS 351	CO-1	Remember and understand basic data structure concepts.	K3	2	2	2	2	2	-	-	-	-	-	3	3	3
		CO-2	Choose the appropriate data structure for algorithm design.	K3	3	3	3	3	2	-	-	-	-	-	3	3	3
		CO-3	Apply fundamental of data structure for Sorting, Searching, Stack & Queues	K3	3	3	3	3	2	-	-	-	-	-	3	3	3
		<b>KCS 351</b>				<b>2.67</b>	<b>2.67</b>	<b>2.67</b>	<b>2.67</b>	<b>2.00</b>					<b>3.00</b>	<b>3.00</b>	<b>3.00</b>

8	KCS 352	CO-1	Understand the operations of digital logic circuits and the organization of computer system.	K3	3	2	1	1	1	-	-	-	-	-	1	3	-	
		CO-2	Design digital logic circuit for Input / Output and Arithmetic and Logical Unit	K3	3	3	3	2	2	-	-	-	-	-	-	1	3	-
		CO-3	Design and Implement the circuit for Control Unit of the Computer System.	K3	3	3	3	2	2	-	-	-	-	-	-	1	3	-
		<b>KCS 352</b>					<b>3.00</b>	<b>2.67</b>	<b>2.33</b>	<b>1.67</b>	<b>1.67</b>					<b>1.00</b>	<b>3.00</b>	
9	KCS 353	CO-1	Implement the concepts of set theory and mathematical induction.	K3	3	3	3	-	2	-	-	-	-	-	3	2	2	
		CO-2	Implement the concept of recursion and Boolean algebra.	K3	3	3	3	-	2	-	-	-	-	-	3	2	2	
		CO-3	Implement state of art problems using the concepts of discrete structures.	K3	3	3	3	2	2	-	-	-	-	-	3	2	2	
		<b>KCS 353</b>					<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>					<b>3</b>	<b>2</b>	<b>2</b>
10	KCS 354	CO-1	Discover potential research areas in the field of Computer Science and Engineering.	K2	2	3	2	1	2	1	2	2	3	3	1	3	3	3
		CO-2	Work as a responsible member and possibly a leader of a team in developing software solutions.	K2	3	3	3	3	3	2	1	1	3	3	3	2	3	3
		CO-3	Self learn new tools, algorithms, and/or techniques that contribute to the software solution of the project.	K3	3	3	3	3	3	2	1	1	3	3	2	2	3	3
		<b>KCS 354</b>					<b>2.67</b>	<b>3.00</b>	<b>2.67</b>	<b>2.33</b>	<b>2.67</b>	<b>1.67</b>	<b>1.33</b>	<b>1.33</b>	<b>3.00</b>	<b>3.00</b>	<b>2.00</b>	<b>2.33</b>
11	KCS 401	CO-1	Understand the structure and functions of OS	K <sub>1</sub> , K <sub>2</sub>	2	2	2	2	-	-	-	-	-	-	2	2	2	
		CO-2	Learn about Processes, Threads and Scheduling algorithms.	K <sub>1</sub> , K <sub>2</sub>	2	2	2	2	-	-	-	-	-	-	2	2	2	
		CO-3	Understand the principles of concurrency and Deadlocks	K <sub>2</sub>	3	3	2	2	-	-	-	-	-	-	3	3	3	
		CO-4	Learn various memory management scheme	K <sub>2</sub>	3	3	2	2	-	-	-	-	-	-	3	3	3	
		CO-5	Study I/O management and File systems.	K <sub>2</sub> , K <sub>4</sub>	3	3	2	2	2	-	-	-	-	-	3	3	3	
		<b>KCS 401</b>					<b>2.60</b>	<b>2.60</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>					<b>2.60</b>	<b>2.60</b>	<b>2.60</b>
12	KCS 451	CO-1	Understand and remember various O	K2	2	2	2	-	2	-	-	-	-	-	1	3	3	
		CO-2	Analyse and apply the various opera	K3	3	3	3	3	-	-	-	-	-	-	2	3	3	
		CO-3	Implement and execute the various	K3	3	3	3	3	3	-	-	-	-	-	2	3	3	
		<b>KCS 451</b>					<b>2.67</b>	<b>2.67</b>	<b>2.67</b>	<b>3.00</b>	<b>2.50</b>					<b>1.67</b>	<b>3.00</b>	<b>3.00</b>
13	KCS 402	CO-1	Analyse and design finite automata, pushdown automata, Turing machines, formal languages, and grammars	K <sub>4</sub> , K <sub>6</sub>	3	3	3	3	-	-	-	-	-	-	3	3	2	
		CO-2	Analyse and design, Turing machines, formal languages, and grammars	K <sub>4</sub> , K <sub>6</sub>	3	3	3	2	-	-	-	-	-	-	3	3	2	
		CO-3	Demonstrate the understanding of key notions, such as algorithm, computability, decidability, and complexity through problem solving	K <sub>1</sub> , K <sub>5</sub>	3	3	2	2	-	-	-	-	-	-	3	3	2	
		CO-4	Prove the basic results of the Theory of Computation	K <sub>2</sub> , K <sub>3</sub>	3	2	2	2	-	-	-	-	-	-	2	3	2	
		CO-5	State and explain the relevance of the Church-Turing thesis	K <sub>1</sub> , K <sub>5</sub>	2	2	3	2	-	-	-	-	-	-	2	3	2	
		<b>KCS 402</b>					<b>2.80</b>	<b>2.60</b>	<b>2.60</b>	<b>2.20</b>						<b>2.60</b>	<b>3.00</b>	<b>2.00</b>
14	KCS 452	CO-1	Understand 8085, 8086 microprocessor and familiarize with the assembly level programming	K2 & K3	2	2	2	-	2	1	-	-	2	-	2	3	3	
		CO-2	Interface various devices to the microprocessor	K3	3	3	3	3	2	1	-	-	2	-	2	3	3	

	K	CO-3	Measure and record the experimental data, analyze the results, and prepare a formal laboratory report	K3	3	3	3	3	2	1	-	-	2	-	-	2	3	3
		KCS 452			2.666667	2.6667	2.6667	3	2	1			2			2	3	3
15	KCS 403	CO-1	Apply a basic concept of digital fundamentals to Microprocessor based personal computer system.	K <sub>3</sub> , K <sub>4</sub>	3	-	-	-	1	-	-	-	-	-	-	-	-	-
		CO-2	Analyze a detailed s/w & h/w structure of the Microprocessor.	K <sub>2</sub> , K <sub>4</sub>	3	-	-	-	2	-	-	-	-	-	-	-	-	-
		CO-3	Illustrate how the different peripherals (8085/8086) are interfaced with Microprocessor.	K <sub>3</sub>	3	3	3	2	-	-	-	-	-	-	-	-	3	3
		CO-4	Analyze the properties of Microprocessors(8085/8086)	K <sub>4</sub>	3	-	-	3	-	-	-	-	-	-	-	-	3	-
		CO-5	Evaluate the data transfer information through serial & parallel ports.	K <sub>5</sub>	3	-	-	-	-	-	-	-	-	-	-	2	3	-
		KCS 403				3	3	3	2.5	1.5						2	3	3
16	KCS 453	CO-1	Learn and understand the basic concepts and constructs of Python programming.	K2	2	2	2	3	2	-	-	-	2	-	-	-	-	3
		CO-2	Analyze and apply the appropriate programming constructs for problem solving.	K3 & K4	3	3	3	3	2	-	-	-	2	-	-	2	-	3
		CO-3	Implement projects using Python programming skills.	K3	3	3	3	3	2	1	-	-	2	-	2	2	3	3
		KCS 453				2.666667	2.6667	2.6667	3	2	1		2		2	2	3	3
17	KAS 402	CO-1	Remember the concept of partial differential equation and to solve partial differential equations	K1	3	2	1	-	-	-	-	-	-	-	-	1	-	-
		CO-2	Analyze the concept of partial differential equations to evaluate the problems concerned with partial differential equations	K4	3	3	1	3	2	-	-	-	-	-	-	1	-	-
		CO-3	Understand the concept of correlation, moments, skewness and kurtosis and curve fitting	K2	3	1	1	1	-	-	-	-	-	-	-	1	-	-
		CO-4	Remember the concept of probability to evaluate probability distributions	K1	3	1	1	3	-	-	-	-	-	-	-	1	-	-
		CO-5	Apply the concept of hypothesis testing and statistical quality control to create control charts	K3	3	1	3	1	3	-	-	-	-	-	-	1	-	-
		KAS 402				3.00	1.60	1.40	2.00	2.50						1.00		
18	KVE 401	CO-1	Understand the significance of value inputs in a classroom, distinguish between values and skills, understand the need, basic guidelines, content and process of value education, explore the meaning of happiness and prosperity and do a correct appraisal of the current scenario in the society	K2	-	-	-	-	-	3	3	3	3	2	-	3	-	-
		CO-2	Distinguish between the Self and the Body, understand the meaning of Harmony in the Self the Co-existence of Self and Body.	K2	-	-	-	-	-	3	3	3	3	2	-	3	-	-
		CO-3	Understand the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society	K2	-	-	-	-	-	3	3	3	3	2	-	3	-	-

		CO-4	Understand the harmony in nature and existence, and work out their mutually fulfilling participation in the nature.	K3	-	-	-	-	-	3	3	3	3	2	-	3	-	-	
		CO-5	Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.	K2 & K	-	-	-	-	-	3	3	3	3	2	-	3	-	-	
		<b>KVE 401</b>				-	-	-	-	-	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	-	<b>3</b>	-	-
19	KCS 501	CO-1	Apply knowledge of database for real life applications.	K3	1	1	3	-	2	-	-	-	-	-	-	2	2	3	
		CO-2	Apply query processing techniques to automate the real time problems of databases	K2	2	2	1	2	2	-	-	-	-	-	-	2	2	3	
		CO-3	Identify and solve the redundancy problem in database tables using normalization.	K2	2	2	3	2	2	-	-	-	-	-	-	2	2	3	
		CO-4	Understand the concepts of transactions, their processing so they will familiar with broad range of database management issues including data integrity, security and recovery.	K3	2	2	1	2	1	-	-	-	-	-	-	3	2	3	
		CO-5	Design, develop and implement a small database project using database tools.	K1	2	2	2	2	1	-	-	-	-	-	-	3	2	3	
		<b>KCS 501</b>				<b>1.8</b>	<b>1.8</b>	<b>2</b>	<b>2</b>	<b>1.6</b>	-	-	-	-	-	-	<b>2.4</b>	<b>2</b>	<b>3</b>
20	KCS 551	CO-1	Understand and apply oracle 11 g products for creating tables, views, indexes, sequences and other database objects. Design and implement a database schema for company data base, banking data base, library information system, payroll processing system, student information system.	K3	1	1	2	-	2	1	-	-	2	-	2	-	2	-	
		CO-2	Write and execute simple and comp	K2	1	1	2	1	-	-	-	-	-	-	-	2	2	-	
		CO-3	Write and execute PL/SQL blocks,	K2	1	1	2	2	2	1	-	-	2	-	2	2	2	-	
		<b>KCS 551</b>				<b>1.00</b>	<b>1.00</b>	<b>2.00</b>	<b>1.50</b>	<b>2.00</b>	<b>1.00</b>					<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>
21	KCS 502	CO-1	Acquire knowledge of different phases and passes of the compiler and also able to use the compiler tools like LEX, YACC, etc. Students will also be able to design different types of compiler tools to meet the requirements of the realistic constraints of compilers.	K3	2	1	2	-	-	-	-	-	-	-	-	2	1	-	
		CO-2	Understand the parser and its types i.e. Top-Down and Bottom-up parsers and construction of LL, SLR, CLR, and LALR parsing table.	K2	2	2	3	-	1	-	-	-	-	-	-	2	3	1	
		CO-3	Implement the compiler using syntax-directed translation method and get knowledge about the synthesized and inherited attributes.	K3	2	2	2	-	1	-	-	-	-	-	-	3	3	1	
		CO-4	Acquire knowledge about run time data structure like symbol table organization and different techniques used in that.	K3	2	2	2	-	1	-	-	-	-	-	-	2	3	2	
		CO-5	Understand the target machine's run time environment, its instruction set for code generation and techniques used for code optimization.	K1	3	3	3	2	2	-	-	-	-	-	-	3	3	2	
		<b>KCS 502</b>				<b>2.20</b>	<b>2.00</b>	<b>2.40</b>	<b>2.00</b>	<b>1.25</b>							<b>2.40</b>	<b>2.60</b>	<b>1.50</b>

22	KCS 552	CO-1	Identify patterns, tokens & regular expressions for lexical analysis.	K3	3	3	3	3	3	2	-	-	-	2	-	2	3	3
		CO-2	Design Lexical analyser for given language using C and LEX /YACC tools	K4	3	3	3	3	3	2	-	-	-	2	-	2	3	3
		CO-3	Design and analyse top down and bottom up parsers.	K4	3	3	3	3	3	2	-	-	-	2	-	2	3	3
		<b>KCS 552</b>					<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>2.00</b>				<b>2.00</b>		<b>2.00</b>
23	KCS 503	CO-1	Design new algorithms, prove them correct, and analyze their asymptotic and absolute runtime and memory demands.	(K4, K6)	3	3	3	3	-	-	-	-	-	-	-	3	1	3
		CO-2	Find an algorithm to solve the problem (create) and prove that the algorithm solves the problem correctly (validate)	(K5, K6)	3	3	3	2	-	-	-	-	-	-	-	3	1	3
		CO-3	Understand the mathematical criterion for deciding whether an algorithm is efficient, and know many practically important problems that do not admit any efficient algorithms.	(K2, K5)	3	3	3	2	-	-	-	-	-	-	-	3	1	3
		CO-4	Apply classical sorting, searching, optimization and graph algorithms.	(K2, K4)	3	3	3	2	-	-	-	-	-	-	-	3	1	3
		CO-5	Understand basic techniques for designing algorithms, including the techniques of recursion, divide-and-conquer, and greedy.	K2, K3	3	2	2	-	-	-	-	-	-	-	-	3	1	3
		<b>KCS 503</b>					<b>3.00</b>	<b>2.80</b>	<b>2.80</b>	<b>2.25</b>							<b>3.00</b>	<b>1.00</b>
24	KCS 553	CO-1	Implement algorithm to solve problems by iterative approach. (K2, K4)	K2,K4	2	2	2	-	2	-	-	-	-	-	-	3	3	3
		CO-2	Implement algorithm to solve problems by Greedy algorithm Divide and Conquer approach (K3,K4, K5)	K3, K4, K5	3	3	3	2	2	-	-	-	-	-	-	3	3	3
		CO-3	Implement algorithm to solve problems by Dynamic programming, backtracking, branch and bound approach. (K3,K4, K5)	K3, K4, K5	3	3	3	3	2	1	-	-	-	-	-	3	3	3
		<b>KCS 553</b>					<b>2.67</b>	<b>2.67</b>	<b>2.67</b>	<b>2.50</b>	<b>2.00</b>	<b>1.00</b>				<b>3.00</b>	<b>3.00</b>	<b>3.00</b>
25	KCS 056	CO-1	Recognize the feasibility of applying a soft computing methodology for a particular problem.	K4	3	2	1	1	-	-	-	-	-	-	-	3	3	-
		CO-2	Understand the concepts and techniques of soft computing and foster their abilities in designing and implementing soft computing based solutions for real-world and engineering problems.	K2	3	3	1	1	-	-	-	-	-	-	-	3	3	-
		CO-3	Apply neural networks to pattern classification and regression problems and compare solutions by various soft computing approaches for a given problem.	K3	3	2	1	1	-	-	-	-	-	-	-	3	3	-
		CO-4	Apply fuzzy logic and reasoning to handle uncertainty and solve engineering problems.	K3	3	3	1	1	-	-	-	-	-	-	-	3	3	-
		CO-5	Apply genetic algorithms to combinatorial optimization problems.	K3	3	3	2	1	-	-	-	-	-	-	-	3	3	-
		<b>KCS 056</b>					<b>3.00</b>	<b>2.60</b>	<b>1.20</b>	<b>1.00</b>						<b>3.00</b>	<b>3.00</b>	
		CO-1	Describe the life cycle phases of Data Analytics through discovery, planning and building.	K3	3	-	-	-	-	-	-	-	2	2	2	2	3	3
		CO-2	Understand and apply Data Analysis Techniques.	K2	3	2	2	1	-	-	-	-	2	2	-	2	3	3

26	KCS 051	CO-3	Implement various Data streams.	K2	3	3	2	2	-	2	-	-	-	2	2	3	3	3	
		CO-4	Understand item sets, Clustering, frame works & Visualizations.	K3	3	3	3	3	3	-	-	-	-	-	-	-	3	3	3
		CO-5	Apply R tool for developing and evaluating real time applications.	K1	3	2	3	3	2	-	-	-	2	3	2	2	2	3	3
		<b>KCS 051</b>					<b>3.00</b>	<b>2.50</b>	<b>2.50</b>	<b>2.25</b>	<b>2.50</b>	<b>2.00</b>			<b>2.00</b>	<b>2.25</b>	<b>2.00</b>	<b>2.40</b>	<b>3.00</b>
27	KCS 054	CO-1	To Understand the application development and analyze the insights of object oriented programming to implement application	K2	3	-	-	-	-	-	-	-	-	-	-	2	3	3	
		CO-2	To Understand, analyze and apply the role of overall modeling concepts (i.e. System, structural)	K2, K3, K4	3	2	2	1	-	-	-	-	-	-	-	2	3	3	
		CO-3	To Understand, analyze and apply oops concepts (i.e. abstraction, inheritance)	K2, K3, K4	3	3	2	2	-	2	-	-	-	-	-	3	3	3	
		CO-4	To learn concepts of C++ for understanding the implementation of object oriented concepts	K2	3	3	3	3	2	-	-	-	-	-	-	3	3	3	
		CO-5	To learn the programming concepts to implement object oriented modeling.	K2	3	2	3	3	2	-	-	-	-	-	-	2	3	3	
		<b>KCS 054</b>					<b>3.00</b>	<b>2.50</b>	<b>2.50</b>	<b>2.25</b>	<b>2.00</b>	<b>2.00</b>					<b>2.40</b>	<b>3.00</b>	<b>3.00</b>
28	KNC 502	CO-1	Identify and explore the basic featur	K3	-	-	-	-	-	3	2	-	1	-	-	2	-	-	
		CO-2	Differentiate and relate the function	K2	-	-	2	-	-	3	2	-	-	-	-	2	-	-	
		CO-3	Differentiate different aspects of Ind	K2	-	-	2	-	-	2	3	-	-	-	-	-	-	-	
		CO-4	Discover and apply different laws and regulations related to engineering practices.	K3	-	-	3	-	-	3	2	-	-	-	-	2	-	-	
		CO-5	Correlate role of engineers with different organizations and governance models	K1	-	-	2	-	-	2	3	-	-	-	-	-	-	-	
		<b>KNC 502</b>							<b>2.25</b>			<b>2.60</b>	<b>2.40</b>		<b>1.00</b>		<b>2.00</b>		
29	KCS 055	CO-1	To understand the need for machine learning for various problem solving	K3	2	3	2	3	3	-	-	-	2	-	-	3	2	3	
		CO-2	To understand a wide variety of learning algorithms and how to evaluate models generated from data	K2	2	2	3	2	3	-	-	-	2	-	-	3	2	3	
		CO-3	To understand the latest trends in machine learning	K2	2	2	2	2	2	-	-	-	-	-	-	2	2	3	
		CO-4	To design appropriate machine learning algorithms and apply the algorithms to a real-world problem	K3	2	3	3	3	3	-	-	-	3	-	-	3	2	3	
		CO-5	To optimize the models learned and report on the expected accuracy that can be achieved by applying the models	K1	3	3	3	3	3	-	-	-	3	-	-	3	2	3	
		<b>KCS 055</b>					<b>2.2</b>	<b>2.6</b>	<b>2.6</b>	<b>2.6</b>	<b>2.8</b>	-	-	-	<b>2.5</b>	-	-	<b>2.8</b>	<b>2</b>
30	KNC 501	CO-1	To acquaint the students with legacies of constitutional development in India and help those to understand the most diversified legal document of India and philosophy behind it.	K2	-	-	-	-	-	3	2	-	1	-	-	2	-	-	
		CO-2	To make students aware of the theoretical and functional aspects of the Indian Parliamentary System.	K2	-	-	2	-	-	3	2	-	-	-	-	2	-	-	
		CO-3	To channelize students' thinking towards basic understanding of the legal concepts and its implications for engineers.	K3	-	-	2	-	-	2	3	-	-	-	-	-	-	-	
		CO-4	To acquaint students with latest intellectual property rights and innovation environment with related regulatory framework.	K3	-	-	3	-	-	3	2	-	-	-	-	2	-	-	

		CO-5	To make students learn about role of engineering in business organizations and e-governance.	K3	-	-	2	-	-	2	3	-	-	-	-	-	-		
		<b>KNC 501</b>				-	-	2.25	-	-	2.6	2.4	-	1	-	-	2	-	
31	KCS 601	CO-1	Explain various software characteristics and analyze different software Development Models.	K1,K2	1	-	-	-	-	-	-	-	-	-	-	2	2	1	
		CO-2	Demonstrate the contents of a SRS and apply basic software quality assurance practices to ensure that design, development meet or exceed applicable standards.	K1,K2	2	2	-	-	2	-	-	-	-	1	1	-	2	2	1
		CO-3	Compare and contrast various methods for software design.	K2,K3	2	-	2	-	2	-	-	-	-	-	2	-	2	2	2
		CO-4	Formulate testing strategy for software systems, employ techniques such as unit testing, Test driven development and functional testing.	K3	2	-	2	-	2	-	-	-	-	2	2	-	2	2	2
		CO-5	Manage software development process independently as well as in teams and make use of Various software management tools for development, maintenance and analysis.	K5	2	-	-	-	2	2	-	-	-	2	2	3	2	2	2
		<b>KCS 601</b>				<b>1.8</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>1.67</b>	<b>1.75</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1.6</b>
32	KCS 602	CO-1	Explain web development Strategies and Protocols governing Web.	K3	2	2	3	2	3	-	-	-	-	-	-	2	2	3	
		CO-2	Develop Java programs for window/web-based applications.	K2	2	2	3	2	3	-	-	-	2	-	-	2	2	3	
		CO-3	Design web pages using HTML, XML, CSS and JavaScript.	K2	2	2	3	2	3	-	-	-	2	-	-	2	2	3	
		CO-4	Creation of client-server environment using socket programming	K3	2	3	3	3	3	-	-	-	3	-	-	3	2	3	
		CO-5	Building enterprise level applications and manipulate web databases using JDBC	K1	2	3	3	2	3	-	-	-	3	-	-	2	2	3	
		CO-6	Design interactive web applications using Servlets and JSP	K2	3	3	3	3	3	-	-	-	3	-	-	3	2	3	
<b>KCS 602</b>				<b>2.16</b>	<b>2.5</b>	<b>3</b>	<b>2.33</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.6</b>	<b>-</b>	<b>-</b>	<b>2.33</b>	<b>2</b>	<b>3</b>		
33	KCS 603	CO-1	Explain basic concepts, OSI reference model, services and role of each layer of OSI model and TCP/IP, networks devices and transmission media, Analog and digital data transmission.	K3	2	1	2	-	-	-	-	-	-	-	-	2	-	-	
		CO-2	Apply channel allocation, framing, error and flow control techniques	K2	2	2	3	-	1	1	-	-	-	-	-	2	1	1	
		CO-3	Describe the functions of Network Layer i.e. Logical addressing, subnetting & Routing Mechanism.	K2	2	2	2	-	1	1	-	-	-	-	-	3	1	1	
		CO-4	Explain the different Transport Layer function i.e. Port addressing, Connection Management, Error control and Flow control mechanism.	K3	2	2	2	-	1	1	-	-	-	-	-	2	2	1	
		CO-5	Explain the functions offered by session and presentation layer and their Implementation.	K1	3	3	3	-	2	1	1	-	-	-	-	3	2	1	
		CO-6	Explain the different protocols used at application layer i.e. HTTP, SNMP, SMTP, FTP, TELNET and VPN.	K2	2	2	2	1	1	1	2	-	-	-	-	2	2	1	
<b>KCS 603</b>				<b>2.17</b>	<b>2</b>	<b>2.33</b>	<b>1</b>	<b>1.2</b>	<b>1</b>	<b>1.5</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.33</b>	<b>1.6</b>	<b>1</b>		



34	KCS 061	CO-1	Demonstrate knowledge of Big Data Analytics concepts and its applications in business.	K <sub>1</sub> ,K <sub>2</sub>	3	3	-	1	-	-	-	-	-	-	3	2	2	
		CO-2	Demonstrate functions and components of Map Reduce Framework and HDFS.	K <sub>1</sub> ,K <sub>2</sub>	3	3	1	3	3	-	-	-	-	-	-	3	3	3
		CO-3	Discuss Data Management concepts in NoSQL environment.	K <sub>6</sub>	3	2	3	2	3	-	-	-	-	-	-	3	3	3
		CO-4	Explain process of developing Map Reduce based distributed processing applications	K <sub>2</sub> ,K <sub>5</sub>	2	3	3	2	3	-	-	-	-	-	-	3	3	3
		CO-5	Explain process of developing applications using HBASE, Hive, Pig etc	K <sub>2</sub> ,K <sub>5</sub>	2	3	3	1	3	-	-	-	-	-	-	3	3	3
		<b>KCS 061</b>					<b>2.6</b>	<b>2.8</b>	<b>2.5</b>	<b>1.8</b>	<b>3</b>	-	-	-	-	-	<b>3</b>	<b>2.8</b>
35	KCS 063	CO-1	Illustrate the need and the challenges in the design of hard and soft real time systems.	K <sub>3</sub>	2	2	2	1	-	-	-	-	-	-	1	2	2	
		CO-2	Compare different scheduling algorithms and the schedulable criteria.	K <sub>4</sub>	3	3	2	2	1	-	-	-	-	-	2	3	2	
		CO-3	Discuss resource sharing methods in real time environment	K <sub>3</sub>	2	3	3	2	1	1	-	-	-	-	2	2	3	
		CO-4	Compare and contrast different real time communication and medium access control techniques.	K <sub>4</sub> , K <sub>5</sub>	3	3	2	2	2	1	1	-	-	-	2	2	2	3
		CO-5	Analyze real time Operating system and Commercial databases	K <sub>2</sub> , K <sub>4</sub>	3	3	3	2	2	1	1	-	-	-	2	2	3	2
		<b>KCS 063</b>					<b>2.6</b>	<b>2.8</b>	<b>2.4</b>	<b>1.8</b>	<b>1.5</b>	<b>1</b>	<b>1</b>	-	-	-	<b>2</b>	<b>1.8</b>
36	KCS 062	CO-1	Explain the basic concepts of two-dimensional signal acquisition, sampling, quantization and color model.	K <sub>1</sub> , K <sub>2</sub>	3	3	-	-	-	-	-	-	-	-	-	3	-	
		CO-2	Apply image processing techniques for image enhancement in both the spatial and frequency domains.	K <sub>2</sub> , K <sub>3</sub>	3	3	-	-	-	-	-	-	-	-	-	2	2	
		CO-3	Apply and compare image restoration techniques in both spatial and frequency domain.	K <sub>2</sub> , K <sub>3</sub>	3	3	-	2	-	-	-	-	-	-	-	2	2	
		CO-4	Compare edge based and region based segmentation algorithms for ROI extraction.	K <sub>3</sub> , K <sub>4</sub>	3	3	-	3	-	-	-	-	-	2	-	2	2	
		CO-5	Explain compression techniques and descriptors for image processing.	K <sub>2</sub> , K <sub>3</sub>	3	3	-	3	-	3	-	-	-	2	-	2	2	2
		<b>KCS 062</b>					<b>3</b>	<b>3</b>	-	<b>2.7</b>	-	<b>3</b>	-	-	-	<b>2</b>	-	<b>2</b>
37	KCS 653	CO-1	Develop static web pages using HTML	K <sub>3</sub>	3	3	3	3	2	-	-	-	-	-	2	2	3	
		CO-2	Develop Java programs for window/web-based applications.	K <sub>3</sub> ,K <sub>4</sub>	3	2	2	2	2	-	-	-	-	-	3	2	3	
		CO-3	Design dynamic web pages using Javascript and XML.	K <sub>4</sub> , K <sub>5</sub>	3	3	3	3	3	-	-	-	3	-	2	2	3	
		CO-4	Design dynamic web page using server site programming Ex. ASP/JSP/PHP	K <sub>4</sub> ,K <sub>5</sub>	3	3	3	3	3				3		2	2	3	
		CO-5	Design server site applications using JDBC,ODBC and session tracking API	K <sub>3</sub> ,K <sub>5</sub>	3	3	3	3	3				2		2	2	3	
		<b>KCS 653</b>					<b>3</b>	<b>2.8</b>	<b>2.8</b>	<b>2.8</b>	<b>2.6</b>	-	-	-	<b>2.67</b>	-	-	<b>2.2</b>
		CO-1	Identify ambiguities, inconsistencies and incompleteness from Requirement specification and state functional and non-functional requirement	K <sub>3</sub>	3	3	2	-	2	-	-	-	-	-	2	2	3	

38	KCS 651	CO-2	Identify different factors and use cases from a given problem statement and draw use case diagram to associate use cases with different types of relationship	K3	3	3	3	2	2	-	-	-	-	-	3	2	3	
		CO-3	Draw a class diagram after identifying classes and association among them	K4, K6	3	3	3	3	2	1	-	-	-	-	-	3	2	3
		CO-4	Graphically represent various UML diagrams, and associations among them and identify the logical sequence of activities undergoing in a system, and represent them pictorially	K4	3	3	3	2	2	1	-	-	-	-	-	3	2	3
		CO-5	Able to use modern engineering tools for specification, design, implementation and testing	K3	3	3	3	3	2	1	-	-	-	-	-	3	2	3
		<b>KCS 651</b>					<b>3</b>	<b>3</b>	<b>2.8</b>	<b>2.5</b>	<b>2</b>	<b>1</b>	-	-	-	-	<b>2.8</b>	<b>2</b>
39	KCS 653	CO-1	Develop static web pages using HTML	K4, K6	3	3	3	3	2	-	-	-	-	-	2	2	3	
		CO-2	Develop Java programs for window/web-based applications.	K4, K6	3	2	2	2	2	-	-	-	-	-	3	2	3	
		CO-3	Design dynamic web pages using Javascript and XML.	K3	3	3	3	3	3	-	-	-	3	-	-	2	2	3
		CO-4	Design dynamic web page using server site programming Ex. ASP/JSP/PHP	K3	3	3	3	3	3				3			2	2	3
		CO-5	Design server site applications using JDBC, ODBC and section tracking API	K3	3	3	3	3	3				2			2	2	3
<b>KCS 653</b>					<b>3</b>	<b>2.8</b>	<b>2.8</b>	<b>2.8</b>	<b>2.6</b>	-	-	-	<b>2.67</b>	-	-	<b>2.2</b>	<b>2</b>	<b>3</b>
40	KOE 069	CO-1	To help the students having the clarity about human aspirations, goal, activities and purpose of life.	K2	-	-	-	-	-	3	3	3	3	2	-	3	-	-
		CO-2	To facilitate the competence to understand the harmony in nature/existence and participation of human being in the nature/existence.	K3	-	-	-	-	-	3	3	3	3	2	-	3	-	-
		CO-3	To help the students to develop the understanding of human tradition and its various components.	K4	-	-	-	-	-	3	3	3	3	2	-	3	-	-
<b>KOE 069</b>					-	-	-	-	-	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	-	<b>3</b>	-	-
41	KCS 071	CO-1	Recall the fundamental concepts of Intelligence, knowledge representation and Artificial Intelligence.	K <sub>2</sub>	3	-	-	-	-	-					2	3	3	
		CO-2	Understand what intelligent drives are and where to use AI concept.	K <sub>2</sub> , K <sub>3</sub>	3	2	2	1	-	-					2	3	3	
		CO-3	Apply the AI methodology to create an intelligent agent and explore the area of AI and their applications.	K <sub>3</sub> , K <sub>4</sub>	3	3	2	2	-	2					3	3	3	
		CO-4	Analyse the concept of reasoning and machine learning of AI in real world and analyse their impacts.	K <sub>2</sub> , K <sub>3</sub>	3	3	3	3	2	-					3	3	3	
		CO-5	Evaluate the AI impacts on Pattern recognition and perform statistical analysis for measuring outcome of the system.	K <sub>3</sub>	3	2	3	3	2	-					2	3	3	
		CO-6	Analyse the impact of AI based applications.	K <sub>2</sub> , K <sub>4</sub>	3	2	3	-	3	2					3	3	3	
<b>KCS 071</b>					<b>3</b>	<b>2.4</b>	<b>2.6</b>	<b>2.25</b>	<b>2.3</b>	<b>2</b>				<b>2.5</b>	<b>3</b>	<b>3</b>		
42	KCS 751	CO-1	To Understand and remember the basic concepts of prolog programming.	K2 & K3	3	3	3	3	2	1	-	-	1	-	-	3	3	3
		CO-2	To Implement the recursion and sequences using prolog programming.	K4, K5	3	3	3	3	2	1	-	-	1	-	-	3	3	3

		CO-3	To Implement the various applications of Artificial Intelligence using prog	K4, K5	2	2	2	3	2	1	-	-	1	-	-	3	3	3	
		<b>KCS 751</b>				2.6	2.6	2.6	3	2	1	-	-	1	-	-	3	3	3
43	KCS 753	CO-1	Analyze and understand the real life problem and apply their knowledge to get programming solution.	K2,K4	3	3	-	3	2	-	-	-	-	-	-	3	3	3	
		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 issues.	K2	3	2	3	2	2	3	3	-	-	-	-	3	3	3	
		CO-3	Use the various tools and techniques, coding practices for developing real life solution to the problem.	K3	3	3	3	2	3	2	2	2	-	-	2	3	3	3	
		CO-4	Find out the errors in software solutions and establishing the process to design maintainable software applications	K5	3	3	3	2	3	2	2	2	-	-	2	3	3	3	
		CO-5	Write the report about what they are doing in project and learning the team working skills.	K3				3	3	3	3	3	3	3	2	2	3	3	
		<b>KCS 653</b>				3	2.75	3	2.4	2.6	2.5	2.5	2.33	3	3	2	2.8	3	3
44	KCS 752	CO-1	Developing a technical artifact requiring new technical skills and effectively utilizing a new software tool to complete a task	I	3	3	2	3	3	1	1	-	-	3	2	3	-	3	
		CO-2	Writing requirements documentation, Selecting appropriate technologies, identifying and creating appropriate test cases for systems	I	3	3	2	3	2	-	-	-	-	3	2	3	-	2	
		CO-3	Demonstrating understanding of professional customs & practices and working with professional standards.	I	3	3	2	-	-	2	2	3	-	3	2	3	-	2	
		CO-4	Improving problem-solving, critical thinking skills and report writing.	I	3	3	2	3	2	-	-	-	-	3	2	3	-	2	
		CO-5	Learning professional skills like exercising leadership, behaving professionally, behaving ethically, listening effectively, participating as a member of a team, developing appropriate workplace attitudes.	K	-	-	-	-	-	3	3	3	3	3	2	3	-	1	
		<b>KCS 752</b>				3	3	2	3	2.33	2	2	3	3	3	2	3	-	2
45	KCS 713	CO-1	Describe architecture and underlying principles of cloud computing.	K2	3	2	2	1	-	-	-	-	-	-	3	3	2		
		CO-2	Explain need, types and tools of Virtualization for cloud.	K2	3	3	2	2	2	-	-	-	-	-	3	3	2		
		CO-3	Describe Services Oriented Architecture and various types of cloud services.	K2	2	3	3	3	2	2	-	-	-	-	3	3	3		
		CO-4	Explain Inter cloud resources management cloud storage services and their providers Assess security services and standards for cloud computing.	K3	3	3	3	3	3	3	2	-	-	-	2	2	3	3	
		CO-5	Analyze advanced cloud technologies.	K4	3	3	3	3	3	3	3	-	-	-	3	3	3	3	
		<b>KCS 713</b>				2.8	2.8	2.6	2.4	2.5	2.66	2.5	-	-	-	2.5	2.8	3	2.6
		CO-1	Analyze and understand the real life problem and apply their knowledge to get programming solution.	K2,K4	3	3	3	3	3	2	2	3	3	3	3	3	3		

46	KCS 851	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 issues.	K2	3	2	3	3	3	3	2	3	3	3	3	3	3	3	
		CO-3	Use the various tools and techniques, coding practices for developing real life solution to the problem.	K3	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3
		CO-4	Find out the errors in software solutions and establishing the process to design maintainable software applications	K5	3	3	3	3	3	2	2	2	3	3	3	3	3	3	3
		CO-5	Write the report about what they are doing in project and learning the team working skills.	K3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		<b>KCS 851</b>					<b>2.6</b>	<b>2.8</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2.4</b>	<b>2.2</b>	<b>2.8</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>
47	KOE 094	CO-1	Understand what social media is, the various channels through which it operates, and its role in marketing strategy	K2	2	1	-	2	2	3	-	3	-	2	-	2	-	-	
		CO-2	Examine methodologies for social and digital media data collection and its implications.	K4	2	2	-	2	2	3	-	3	-	2	-	2	-	-	1
		CO-3	Evaluate key metrics used for analyzing social and digital media campaigns.	K5	2	2	-	2	2	3	-	3	-	2	-	3	-	-	1
		CO-4	Perceive the importance of conversion and working with digital relationship marketing.	K3	2	2	-	2	2	3	-	3	-	2	-	2	-	-	1
		CO-5	Identify trends and insights in social and digital media data.	K4	2	3	-	2	2	3	-	3	-	2	-	3	-	-	1
<b>KOE 094</b>					<b>2.6</b>	<b>2.8</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2.4</b>	<b>2.2</b>	<b>2.8</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	
48	KOE 076	CO-1	The students learn about different type of relations with expression & human conduct to attain comprehensive human goals.	K2	-	-	-	-	3	3	3	3	2	-	3	-	-		
		CO-2	Students understand about the conceptual frame work of undivided society as well as undivided human order.	K4	-	-	-	-	3	3	3	3	2	-	3	-	-		
		CO-3	Student develop the exposure for transition from current state to the undivided society & universal human order.	K5	-	-	-	-	3	3	3	3	2	-	3	-	-		
		CO-4	Students appreciate universal human order as continuity & expanse of order in living from family order to world family order.	K3	-	-	-	-	3	3	3	3	2	-	3	-	-		
		CO-5	Students analyse current state & possibilities of participation in this direction to undivided society as well as universal human order.	K4	-	-	-	-	3	3	3	3	2	-	3	-	-		
<b>KOE 076</b>					<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>-</b>	<b>3</b>	<b>-</b>	<b>-</b>		
49	KHU 701	CO-1	Students can understand the definiti	K2	-	-	-	-	3	3	3	3	2	-	3	-	-		
		CO-2	Students will know the importance, structure, significance, resources of Indian rural economy.	K2,K3	-	-	-	-	3	3	3	3	2	-	3	-	-		
		CO-3	Students will have a clear idea about the area development programmes and its impact.	K2	-	-	-	-	3	3	3	3	2	-	3	-	-		
		CO-4	Students will be able to acquire knowledge about rural entrepreneurship. planning	K2	-	-	-	-	3	3	3	3	2	-	3	-	-		

		CO-5	Students will be able to understand about the using of different methods for human resource planning	K2	-	-	-	-	-	3	3	3	3	2	-	3	-	-	
		<b>KHU 701</b>				-	-	-	-	-	3	3	3	3	2	-	3	-	-
50	KOE 068	CO-1	Identify project planning objectives.	K3	-	-	-	-	-	3	-	3	-	3	3	2	-	2	
		CO-2	Organize & schedule project activities to compute critical path for risk analysis.	K3	-	-	-	-	-	3	-	3	-	3	3	2	-	2	
		CO-3	Monitor and control project activities.	K4,K5	-	-	-	-	-	3	-	3	-	3	3	2	-	2	
		CO-4	Formulate testing objectives and test plan to ensure good software quality under SEI-CMM.	K6	-	-	-	-	-	3	-	3	-	3	3	2	-	2	
		CO-5	Configure changes and manage risks using project management tools.	K2,K4	-	-	-	-	-	3	-	3	-	3	3	2	-	2	
		<b>KOE 068</b>				-	-	-	-	-	3	-	3	-	2	3	3	-	2
51	KNC 402	CO-1	To read and write simple Python programs.	K2	2	3	3	-	3	-	3	2	2	-	-	3	2	2	
		CO-2	To develop Python programs with conditionals and loops.	K4,K5	3	3	3	2	3	2	2	2	3	-	-	2	3	3	
		CO-3	To define Python functions and to use Python data structures – lists, tuples, dictionaries	K2,K3	3	3	2	3	3	3	3	2	3	-	-	3	3	3	
		CO-4	To do input/output with files in Python	K4	3	3	3	3	3	3	2	2	3	-	-	2	3	3	
		CO-5	To do searching, sorting and merging in Python	K4,K5	3	3	3	3	3	3	2	2	3	-	-	3	3	3	
		<b>KNC 402</b>				2.8	3	2.8	2.75	3	2.75	2.4	2	2.8	-	-	2.6	2.8	2.8
52	KCS 554	CO-1	Discover potential research areas in the field of Computer Science and Engineering.	K2	2	3	2	1	2	1	2	2	3	3	1	3	3	3	
		CO-2	Work as a responsible member and possibly a leader of a team in developing software solutions.	K3,K4	3	3	3	3	3	2	1	1	3	3	3	2	3	3	
		CO-3	Self learn new tools, algorithms, and/or techniques that contribute to the software solution of the project.	K3,K6	3	3	3	3	3	2	1	1	3	3	2	2	3	3	
		<b>KCS 554</b>				2.6	3	2.6	2.3	2.6	1.6	1.3	1.3	3	3	2	2.6	3	3
53	KOE 085	CO-1	Identify the contribution of quality Concepts in TQM journey and acknowledge the importance on Purchased Product in Manufacturing Quality.			1	1			1	1	2	1			1	2	2	
		CO-2	Explain and analyze quality management and organizational structures to apply quality principles in different approaches.		1		2			1	1	2	3	2	1	3	3	3	
		CO-3	Design an effective performance measurement system to optimize standard statistical process by analysis and control chart.		3	3	3	3		1					1	3	1	1	
		CO-4	Describe and analyze various reliability methods and able to identifying the defects.		3	3	3	3			1				1	3	1	1	
		CO-5	Apply the concepts of ISO - 9000 and its concept of Quality Management such as JIT and Taguchi Method.		1	1	3	1	2	3	3	2	1	1	2	3	3	3	
		<b>KOE 085</b>				1.6	1.6	2.4	1.4	0.4	1.2	1.2	1.2	1	0.6	1	2.6	2	2