

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

S3 CSE

MAT203	Discrete Mathematical Structures	4	Rani Thomas, Savitha P Paul
---------------	---	----------	--

CO1	Analyse logical statements to validate arguments using logic techniques and inference theory
CO2	Solve counting problems by applying the elementary counting techniques
CO3	Analysis of generating function and recurrence relation
CO4	Apply set theory and algebraic systems in different computational structures

CO -PO-PSO mapping table																
CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	CO/ PSO	PSO1	PSO2	PSO3
CO1	3.0	3.0	3.0	2.00								2.00	CO1			
CO2	3.0	3.0	2.00	2.00								2.00	CO2			
CO3	3.0	3.0	3.0										CO3			
CO4	3.0	3.0	3.0	3.0								2.00	CO4			
Avg	3.0	3.0	2.75	2.33								2.00	Avg			

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST201	Data Structures	4	Anly Antony M Elsa Raju A
---------------	------------------------	----------	--------------------------------------

CO1	Design an algorithm for a computational task and calculate the time/space complexities of that algorithm(Cognitive Knowledge Level: Apply)
CO2	Identify the suitable Linear/Non Linear data structure to represent a data item required to be processed to solve a given computational problem and write an algorithm to find the solution of the computational problem(Cognitive Knowledge Level: Apply)
CO3	Store a given dataset using an appropriate Hash Function to enable efficient access of data in the given set and Select appropriate sorting algorithms to be used in specific circumstances (Cognitive Knowledge Level: Apply and Analyse)
CO4	Design and implement Data Structures for effective utilization of memory (Cognitive Knowledge Level: Apply)

CO -PO-PSO mapping table																
CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	CO/ PSO	PSO 1	PSO 2	PSO3
CO1	3	2	2			3							CO1			
CO2	3	3	3	2	3	3	3	3				3	CO2	3	3	3
CO3	3	3	3	2	3	3	3	3				3	CO3	3	3	3
CO4	3	3	3	3	3	3	3	3				3	CO4	3	3	3
CO5	3	2	2			3							CO5			
Avg	3	2.6	2.6	2.33	3	3	3	3				3	Avg	3	3	3

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST203	Logic System Design	4	Priya K V
---------------	----------------------------	----------	------------------

CO1	Illustrate decimal, binary, octal, hexadecimal and BCD number systems, perform conversions among them and do the operations - complementation, addition, subtraction, multiplication and division on binary numbers (Cognitive Knowledge level: Understand)
CO2	Simplify a given Boolean Function and design a combinational circuit to implement the simplified function using Digital Logic Gates (Cognitive Knowledge level: Apply)
CO3	Design combinational circuits - Adders, Code Convertors, Decoders, Magnitude Comparators, Parity Generator/Checker and design the Programmable Logic Devices - ROM and PLA. (Cognitive Knowledge level: Apply)
CO4	Design sequential circuits - Registers, Counters and Shift Registers. (Cognitive Knowledge level: Apply)
CO5	Use algorithms to perform addition and subtraction on binary, BCD and floating point numbers (Cognitive Knowledge level: Understand)

CO -PO-PSO mapping table																
CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	CO/ PSO	PSO1	PSO2	PSO3
CO1	3.0	3.0											CO1			
CO2	3.0	2.00	3.0	2.00			2.00						CO2			
CO3	3.0	2.00	3.0	2.00			2.00						CO3			
CO4	3.0	2.00	3.0	2.00			2.00						CO4			
CO5	3.0		3.0										CO5			
Avg	3.0	2.25	3.0	2.00			2.00						Avg			

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST205	Object oriented programming using Java	4	SREETHA E S
---------------	---	----------	--------------------

CO1	Apply object-oriented principles in software design process
CO2	Illustrate the use of Primitive Data Types, Operators, Control Statements and Inheritance concept along with the OOP Concepts
CO3	Utilize built-in packages and interfaces,IO streams and files in java to develop programs and and also implement exception handling mechanism in java
CO4	Apply various object-oriented features to computing problems using Java language

CO -PO-PSO mapping table

CO/ PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	CO/ PSO	PSO 1	PSO 2	PSO 3
CO1	3.0	2.00	3.0	2.00								3.0	CO1	3.0		3.0
CO2	3.0	3.0	3.0	2.00								3.0	CO2	3.0	3.0	2.00
CO3	3.0	3.0	3.0	3.0						2.00		3.0	CO3	3.0	2.00	2.00
CO4	3.0	3.0	3.0	2.00								3.0	CO4	3.0	3.0	3.0
CO5	3.0	3.0	3.0	3.0		3.0						3.0	CO5	3.0	3.0	3.0
Avg	3.0	2.80	3.0	2.40		3.0				2.00		3.0	Avg	3.0	2.75	2.60

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

HUT 200	Professional Ethics	3	Elsa Raju A, Linnet Tomy
----------------	----------------------------	----------	---------------------------------

CO1	Understand the core values that shape the ethical behavior of a professional.
CO2	Adopt a good character and follow an ethical life.
CO3	Explain the role and responsibility in technological development by keeping personal ethics and legal ethics.
CO4	Solve moral and ethical problems through exploration and assessment by established experiments.
CO5	Apply the knowledge of human values and social values to contemporary ethical values and global issues.

CO -PO-PSO mapping table

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2	CO/ PSO	PSO 1	PSO 2	PSO 3
CO1						3.0		2.00			2.00	2.00	CO1			
CO2						3.0		3.0			3.0	3.0	CO2			
CO3						3.0		3.0			3.0	3.0	CO3			
CO4						3.0		3.0			3.0	3.0	CO4			
CO5						3.0		3.0			3.0	3.0	CO5			
Avg						3.0		2.80			2.80	2.80	Avg			

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

MCN201	Sustainable Engineering	3	Anusree.K Megha K. K
---------------	--------------------------------	----------	---------------------------------------

CO1	Understand the relevance and the concept of sustainability and the global initiatives in this direction
CO2	Explain the different types of environmental pollution problems and their sustainable solutions
CO3	Discuss the environmental regulations and standards
CO4	Outline the concepts related to conventional and non-conventional energy
CO5	Demonstrate the broad perspective of sustainable practices by utilizing engineering knowledge and principles

CO -PO-PSO mapping table

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2	CO/ PSO	PSO 1	PSO 2	PSO 3
CO1						2.00	3.0					2.00	CO1		3.0	3.0
CO2		2.00				2.00	3.0	2.00				2.00	CO2			
CO3						2.00	3.0					2.00	CO3			
CO4						2.00	3.0					2.00	CO4			
CO5						2.00	3.0	2.00	3.0	3.0	2.00	2.00	CO5		2.00	2.00
Avg		2.00				2.00	3.0	2.00	3.0	3.0	2.00	2.00	Avg		2.50	2.50

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CSL201	Data Structures lab	3	Ann Rija Paul Roshni R Menon Elsa Raju A Megha K. K Priya K V
---------------	----------------------------	----------	---

CO1	Write a time/space efficient program using arrays/linked lists/trees/graphs to provide necessary functionalities meeting a given set of user requirements (Cognitive Knowledge Level: Apply)
CO2	Write a time/space efficient program to sort a list of records based on a given key in the record (Cognitive Knowledge Level: Apply)
CO3	Write a time/space efficient program to convert an arithmetic expression from one notation to another (Cognitive Knowledge Level: Evaluate and Apply)
CO4	Write a program using linked lists to simulate Memory Allocation and Garbage Collection (Cognitive Knowledge Level: Apply)

CO -PO-PSO mapping table

	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12								
CO/ PO														PSO 1	PSO 2	PSO 3				
CO1	3	2	3	2					3			3		CO1	3					
CO2	3		3	2					3			3		CO2	3					
CO3	3	2	3	2					3			3		CO3	3					
CO4	3	2	3	2					3			3		CO4	3					
Avg	3	2	3	2					3			3		Avg	3					

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CSL203	Object oriented programming lab (in Java)	3	Megha K. K Princy T. D.
---------------	--	----------	--

CO1	Implement the Object Oriented concepts in java.
CO2	Construct programs in Java which use data types, operators, control statements, built in packages & interfaces, Input/Output streams and Files
CO3	Develop robust application programs in Java using exception handling , multithreading and database connectivity.
CO4	Implement Graphical User Interface based application programs by utilizing event handling features and Swing in Java.

CO -PO-PSO mapping table

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	CO/ PS O	PSO1	PSO2	PSO3
CO1	3.0	3.0	3.0	3.0				2.00	2.00			3.0	CO 1	3.0		3.0
CO2	3.0	3.0	3.0	3.0				2.00	2.00			3.0	CO 2	3.0	2.00	3.0
CO3	3.0	3.0	3.0	3.0				2.00	2.00	2.00		3.0	CO 3	3.0	2.00	3.0
CO4	3.0	3.0	3.0	3.0				2.00	2.00			3.0	CO 4	3.0	2.00	3.0
CO5	3.0	3.0	3.0	3.0		3.0		2.00	2.00			3.0	CO 5	3.0	2.00	3.0
Avg	3.0	3.0	3.0	3.0		3.0		2.00	2.00	2.00		3.0	Avg	3.0	2.00	3.0

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

S4 CSE

MAT206	Graph Theory	4	Rani Thomas Lickny I
---------------	---------------------	----------	---------------------------------

CO1	Demonstrate the fundamental concepts and theorems in Graph Theory
CO2	Apply the properties of graphs and trees in real life situations
CO3	Create efficient graph-theoretic algorithms used in mathematical modeling and engineering
CO4	Analyse various matrix representations and vertex colour problems in graphs

CO -PO-PSO mapping table																
CO/ PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12		PSO1	PSO2	PSO3
CO1	3.0	3.0	2.0		2.0							2.0	CO1	2.00		
CO2	3.0	3.0	3.0		3.0							2.0	CO2	3.0		
CO3	3.0	3.0			3.0		2.0					2.0	CO3	3.0		
CO4	3.0	3.0	2.0		3.0		2.0						CO4	3.0		
Avg	3.0	3.0	2.33		2.75		2.00					2.00	Avg	2.75		

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CST202	Computer Organisation and Architecture	4	Ms Jasmy Davies,Mr Krishnadas
---------------	---	----------	--

CO1	Recognize and express the relevance of basic components, I/O organization and pipelining schemes in a digital computer.
CO2	Explain the types of memory systems and mapping functions used in memory systems.
CO3	Demonstrate the control signals required for the execution of a given instruction
CO4	Design of Arithmetic Logic Unit and Control Unit.

CO -PO-PSO mapping table

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2		PSO1	PSO2	PSO3
CO1	3.0	3.0	3.0							2.0		3.0	CO1	3.0	3.0	
CO2	3.0	3.0	3.0	2.0						2.0		3.0	CO2	3.0	3.0	3.0
CO3	3.0	3.0	2.0							2.0		3.0	CO3	3.0	2.0	2.0
CO4	3.0	3.0	3.0	2.0						2.0		3.0	CO4	3.0	3.0	2.0
CO5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	CO5			
Avg	2.6	2.6	2.4	1.67	1.0	1.0	1.0	1.0	1.0	1.8	1.0	2.6	Avg	3.0	2.75	2.33

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST204	Database Management Systems	4	Dr. R. Sunder Elsa Raju A
---------------	------------------------------------	----------	--------------------------------------

CO1	Define the fundamental concepts of databases and apply Entity-Relationship (E-R) model in real-time applications
CO2	Formulate the relational database principles using SQL queries and relational algebra.
CO3	Apply normalization techniques to make an efficient relational database design.
CO4	Summarize the principles of data organization and concurrent transaction processing
CO5	Outline the latest trends in databases.

CO -PO-PSO mapping table

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	CO/P SO	PS O1	PS O2	PS O3
CO1	3	3	3	3								2	CO1	3	3	
CO2	3	3	3	3								2	CO2	3	3	3
CO3	3	3	3	3								2	CO3	3	2	2
CO4	3	2	3	2								2	CO4	3	3	2
CO5	3	3			3							2	CO5	3	3	2
Avg	3	2.8	3	2.75	3							2	Avg	3	2.8	2.2 5

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST206	Operating Systems	4	Priya K V Anusree.K
---------------	--------------------------	----------	--------------------------------------

CO1	Differentiate various operating systems by their functionality and apply process management with interprocess communication.
CO2	Analyse various process synchronization mechanisms and deadlock handling techniques to allocate resources effectively.
CO3	Analyse various memory management algorithms in operating systems.
CO4	Analyse file and storage management methods.

CO -PO-PSO mapping table

CO/ PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12		PSO1	PSO2	PSO3
CO1	3.0	3.0	3.0							2.00		3.0	CO1	3.0	3.0	
CO2	3.0	3.0	3.0	2.00						2.00		3.0	CO2	3.0	3.0	3.0
CO3	3.0	3.0	2.00							2.00		3.0	CO3	3.0	2.00	2.00
CO4	3.0	3.0	3.0	2.00						2.00		3.0	CO4	3.0	3.0	2.00
Avg	3.0	3.0	2.75	2.00						2.00		3.0	Avg	3.0	2.75	2.33

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

EST200	Design and Engineering	2	Ann Rija Paul Princy T. D.
---------------	-------------------------------	----------	---

CO1	Explain the different concepts and principles involved in design engineering.
CO2	Apply design thinking while learning and practicing engineering.
CO3	Develop innovative, reliable, sustainable and economically viable designs incorporating knowledge in engineering.

CO -PO-PSO mapping table

CO/ PO	PO1	PO2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12		CO /PS O	PS O1	PS O2	PS O3
CO1	3	2					2			3		3		CO 1			
CO2		2				2		2		3		3		CO 2			
CO3			3			2	3		3	3		3		CO 3			3
Avg	3	2	3			2	2.5	2	3	3		3		Avg			3

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

MCN202	Constitution of India	2	Elsa Raju A Anly Antony M
---------------	------------------------------	----------	--

CO1	Understand the background of our constitution and show national and patriotic spirit as responsible citizens of the country.
CO2	Utilize the fundamental rights and duties
CO3	Understand the working of state and central legislature, executive and judiciary

CO -PO-PSO mapping table

CO/ PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12		PSO1	PSO2	PSO3
CO1	3.0		2.00		1.00	2.00	1.00	2.00	2.00	1.00			CO1			
CO2		1.00	2.00			3.0	1.00	2.00					CO2			
CO3	1.00				1.00			2.00	2.00	2.00	1.00	2.00	CO3			
CO4				1.00				1.00					CO4			
Avg	2.00	1.00	2.00	1.00	1.00	2.50	1.00	1.75	2.00	1.50	1.00	2.00	Avg			

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CSL202	Digital Lab	3	Ann Rija Paul Dr. Krishnadas J
---------------	--------------------	----------	---

CO1	Design and implement combinational logic circuits using Logic Gates
CO2	Design and implement sequential logic circuits using Integrated Circuits
CO3	Simulate functioning of digital circuits using programs written in a Hardware Description Language
CO4	Function effectively as an individual and in a team to accomplish a given task of designing and implementing digital circuits

CO -PO-PSO mapping table

CO/ PO	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO11	PO 12		CO/P SO	PS O1	PS O2	PS O3
CO1		2.00							3.0	3.0		2.0 0		CO1		2.0 0	
CO2		3.0							3.0	3.0		3.0		CO2		2.0 0	
CO3		3.0							3.0	3.0		3.0		CO3		2.0 0	
CO4		3.0			3.0				3.0	3.0		3.0		CO4		2.0 0	
Avg		2.75			3.0				3.0	3.0		2.7 5		Avg		2.0 0	

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CSL204	Operating Systems Lab	3	Elsa Raju A Anusree.K
---------------	------------------------------	----------	--

CO1	Illustrate the use of systems calls in Operating Systems.
CO2	Implement Inter Process Communication and process synchronization mechanisms in Operating Systems
CO3	Create modules to apply CPU Scheduling Algorithms(Round Robin, SJF, FCFS, Priority based) and Page Replacement Algorithms (FIFO, LRU, LFU).
CO4	Implement memory allocation methods (First Fit, Worst Fit, Best Fit), Deadlock handling techniques and Disk Scheduling (FCFS, SCAN, C-SCAN) in Operating Systems.

CO -PO-PSO mapping table

CO/ PO	PO1	PO2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO1 1	PO 12		CO /PS O	PS O1	PS O2	PS O3
CO1	3.0	2.00	2.0 0							2.0 0		2.0 0		CO 1	2.0 0		
CO2	3.0	3.0	3.0					2.0 0		2.0 0		3.0		CO 2	3.0	3.0	3.0
CO3	3.0	3.0	3.0	3.0				2.0 0		2.0 0		3.0		CO 3	3.0	3.0	3.0
CO4	3.0	3.0	3.0	3.0				2.0 0		2.0 0		3.0		CO 4	3.0	3.0	3.0
Avg	3.0	2.75	2.7 5	3.0				2.0 0		2.0 0		2.7 5		Avg	2.7 5	3.0	3.0

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

S5 CSE

CST301	Formal Languages and Automata Theory	4	Dr. R. Sunder Divya R
---------------	---	----------	--

CO1	Classify a given formal language into Regular, Context-Free, Context Sensitive, Recursive or Recursively Enumerable.
CO2	Understand formal representation of a given regular language as a finite state automaton, regular grammar, regular expression and Myhill-Nerode relation.
CO3	Design a Pushdown Automaton and Turing machines to accept Context-Free languages and recursively enumerable languages.
CO4	Understand the notion of decidability and Halting Problem.

CO -PO mapping table

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12		PSO 1	PSO 2	PSO 3
CO1	2	2	2									2	CO1	2		
CO2	3	3	3	3								2	CO2	3		
CO3	3	3	3	3								2	CO3	3		
CO4	2	2	2	2								2	CO4	2		
Avg	2.5	2.5	2.5	2.67								2	Avg	2.5		

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST303	Computer Network	4	Deepa Devassy
---------------	-------------------------	----------	----------------------

CO1	Understand the different aspects of networks, protocols, network design models and various physical layer characteristics.
CO2	Examine various Data Link layer design issues, Data Link protocols and recent updates.
CO3	Select appropriate routing algorithms, protocols, congestion control techniques, and Quality of Service requirements for a network
CO4	Summarize the important aspects and functions of transport layer and application layer in internetworking.

CO -PO mapping table																
CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO\ 11	PO 12		PSO 1	PSO 2	PSO 3
CO1	3	3	3	2								3	CO1	2	2	
CO2	3	3	2	2								3	CO2	2	2	
CO3	3	3	3	3								3	CO3	2	3	2
CO4	3	3	3	2								3	CO4	2	2	2
Avg	3	3	2.5	2.25								2	Avg	2	2.25	2

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST305	System Software	4	Uma E S
---------------	------------------------	----------	----------------

CO1	Classify various system software features and identify the architectural features of machines
CO2	Illustrate the working of one pass,two pass and multi pass assembler
CO3	Design algorithms for system softwares and analyze the effect of data structures.
CO4	Compare the features of device drivers and modern editing & debugging tools

CO -PO mapping table																	
CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2			PSO1	PSO2	PSO3
CO1	3	2	2											CO1	3		3
CO2	3	3	3	2										CO2	3	3	2
CO3	3	3	2	2										CO3	3	2	2
CO4	3	2	2		2									CO4	3	3	3
Avg	3	2.5	2.25	2	2									Avg	3	2	2.5

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST307	Microprocessors and Microcontrollers	4	Dr. Krishnadas J
---------------	---	----------	-------------------------

CO1	Understand 8086 microprocessor and its features
CO2	Development of application programs using 8086 using assembly language programming
CO3	Demonstrate the Interfacing of Input/Output, Memory with 8086 microprocessors
CO4	Develop embedded programs using 8051 microcontroller

CO -PO mapping table

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2			PSO 1	PSO 2	PSO 3
CO1	3	-	-	-	-	-	-	-	-	-	-	-		CO1	2	-	-
CO2	2	3	3	2	3	3	-	-		-	-	3		CO2	3	3	2
CO3	3	3	3	2		3	-	-	-	-	-			CO3	3	3	3
CO4	3	3	3	3	2	3	-	-	-	-	-	3		CO4	3	3	3
Avg	2.25	3	3	2.33	2.5	3						3		Avg	2.75	3	2.66

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST309	Management of Software Systems	3	WILLSON JOSEPH C Lakshmi M B
---------------	---------------------------------------	----------	---

CO1	Identify suitable life cycle models to be used
CO2	Analyze a problem, identify and define the computing requirements to the problem.
CO3	Translate a requirement specification to Design and perform testing using an appropriate software engineering methodology.
CO4	Make use of current technologies to develop software, by managing resources economically and keeping ethical values.

CO -PO mapping table

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12		PSO1	PSO2	PSO3
CO1	3	3	3										CO1	3	3	3
CO2	3	3	3	3		2			2	2	2	2	CO2	3	3	
CO3	3	3	3	3						2		2	CO3	3	3	
CO4	3	3	3	3		3		3	2	3	3	3	CO4	3	3	3
Avg													Avg			

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CSL331	System Software and Microprocessor Lab	4	Princy T. D. Divya R
---------------	---	----------	---------------------------------

CO1	Develop 8086 programs and execute it using a microprocessor kit.
CO2	Develop 8086 programs and, debug and execute it using MASM assemblers
CO3	Develop and execute programs to interface stepper motor, 8255, 8279 and digital to analog converters with 8086 trainer kit
CO4	Implement and execute different scheduling and paging algorithms in OS
CO5	Design and implement assemblers, Loaders and macroprocessors

CO -PO mapping table

	P O1	P O2	P O3	P O4	P O5	P O6	P O7	P O8	P O9	P O1 0	P O1 1	P O1 2		PSO 1	PSO 2	PSO 3
CO1	3	2	2	2				2		2		2	C O1	2		
CO2	3	3	3	3				2		2		3	C O2	3	3	3
CO3	3	3	3	3				2		2		3	C O3	3	3	3
CO4	3	3	3	3				2		2		3	C O4	3	3	3
CO5	2	2	2	3				2		2		3	C O5	3	3	3
	2.8	2.4	2.4	2.8				2		2		2.8		2.8	3	3

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CSL333	Database Management Systems Lab	4	Dr. R. Sunder Megha K. K
---------------	--	----------	---

CO1	Design database schema for a given real world problem-domain using standard design and modeling approaches.
CO2	Construct queries using SQL & NoSQL for database creation, interaction, modification, and updation.
CO3	Implement triggers, cursors, procedures, functions, and control structures using PL/SQL.
CO4	Perform CRUD operations in NoSQL Databases.
CO5	Develop database applications using front-end tools and back-end DBMS.

CO -PO mapping table

CO/ PO	PO 1	PO 2	PO 3	PO 4	PO 5	P O 6	P O 7	P O 8	P O 9	PO 10	PO 11	PO1 2	CO/P SO	PSO1	PSO2	PSO3
CO1		3	3	1							3		CO1	3	3	
CO2		3	3	2	3						3		CO2	3	3	3
CO3	3	3		3	3						3		CO3	3	3	3
CO4		3		3	3								CO4	3	3	3
CO5		3	2	3	3	3					3	3	CO5	3	3	3
	3	3	2.6 7	3	3	3					3	3		3	3	3

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

S6 CSE

CST302	Compiler Design	4	Uma E S Divya R
---------------	------------------------	----------	----------------------------------

CO1	Understand the concepts and different phases of compilation with compile-time error handler and represent tokens using regular expressions, context-free grammar and finite automata.
CO2	Compare top down with bottom up parsers, and develop appropriate parser to produce parse tree representation of the input.
CO3	Generate intermediate code for statements and represent syntax directed translation schemes for a given context free grammar
CO4	Apply optimization techniques to intermediate code and generate machine code for high level language program

CO -PO mapping table

CO/ PO	P O1	P O2	P O3	P O4	P O5	P O6	P O7	P O8	P O9	P O1 0	P O1 1	P O1 2		PS O1	PS O2	PS O3
CO1	2	3	2		2								CO1	3		
CO2	2	3	3		2								CO2	3		
CO3	2		2										CO3	3		
CO4	2		2										CO4	3		
	2	3	2,2 5		2									3		

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST304	Computer Graphics and Image Processing	4	Jasmy Davies Livya George
---------------	---	----------	--------------------------------------

CO1	Compare various graphics devices and visible surface detection methods
CO2	Apply the algorithms for line drawing, circle drawing, polygon filling and clipping
CO3	Apply various geometrical transformation and projection techniques
CO4	Summarize various concepts and basic operations of image processing and solve Nov 3, 2020 2 image enhancement and segmentation problems using spatial domain techniques

CO -PO mapping table

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	
1	3	2	3	2	-	-	-	-	-	-	-	-	3	3	2	
2	3	2	3	3	-	2	-	-	-	-	-	2	3	3	3	
3	3	2	3	3	-	2	-	-	-	-	-	2	3	-	1	
4	3	-	2	2	2	2	-	-	-	-	-	2	3	3	3	
Sum	12	6	11	10	2	6	-	-	-	-	-	6	12	9	9	
Average	3	2	2.75	2.5	2	2	-	-	-	-	-	2	3	3	2.25	

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST306	Algorithm Analysis and Design	4	Anly Antony M Priya K V
---------------	--------------------------------------	----------	------------------------------------

CO1	Analyze recursive and non- recursive algorithms and express its time and space complexities in asymptotic notations.
CO2	Apply the concepts of advanced data structures like tree and graph
CO3	Design efficient algorithms using different strategies such as Divide and Conquer, dynamic programming, greedy method, backtracking, branch and bound etc. for solving problems.
CO4	Classify computational problems into P, NP, NP-Hard and NP-Complete.

CO -PO mapping table

CO/ PO	PO 1	PO 2	PO 3	PO 4	PO 5	P O 6	P O 7	P O 8	P O 9	PO 10	PO 11	PO1 2	CO/P SO	PSO1	PSO2	PSO3
CO1	3	3		3									CO1	3	2	
CO2	3	3	3	3									CO2	3	2	
CO3	3	3	3	3									CO3	3	2	
CO4	2	3	3	3									CO4	2	3	
	2.75	3	3	3										2.75	2.25	

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CST322	Data Analytics	1	Shyam Krishna K
---------------	-----------------------	----------	------------------------

CO1	Illustrate the mathematical concepts, various predictive and descriptive analytics algorithms for data analytics
CO2	Explain the key concepts and applications of Big Data Analytics
CO3	Demonstrate the usage of frameworks such as Map Reduce and Apache Hadoop for Big Data Analytics
CO4	Use R programming tool to perform data analysis and visualization

CO -PO mapping table

CO/ PO	PO 1	PO 2	PO 3	P O4	P O5	P O 6	P O 7	P O 8	P O 9	PO 10	PO 11	PO 12	CO/P SO	PSO1	PSO2	PSO3
CO1	3	2	2	2								3	CO1	3	3	
CO2	2	2	2	2								3	CO2	3	3	
CO3	2	2	3	3								3	CO3	3	3	3
CO4	3	2	2	3	3			2	3	2		3	CO4	3	3	3

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

	2.5	2	2.2 5	2.5	3			2	3	2		3		3	3	3
--	-----	---	----------	-----	---	--	--	---	---	---	--	---	--	---	---	---

CST362	Programming in Python	3	WILLSON JOSEPH C
---------------	------------------------------	----------	-------------------------

CO1	Develop programs by utilizing the python programming constructs and python libraries
CO2	Implement object oriented programming concept in python.
CO3	Create programs in python to process data stored in files by utilizing Numpy, Matplotlib and pandas.

CO -PO mapping table

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	
1	3	3	3	-	-	-	-	-	-	-	-	3	3	3	3	
2	3	3	3	-	-	-	-	-	-	-	-	3	3	3	3	
3	3	3	3	-	-	-	-	-	-	-	-	3	3	3	3	
4	3	3	3	2	-	-	-	-	-	-	-	3	3	3	3	
Average	3	3	3	2	-	-	-	-	-	-	-	3	3	3	3	

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

HUT300	Industrial Economics & Foreign Trade	3	Vini Valsan N
---------------	---	----------	----------------------

CO1	Explain the problem of scarcity of resources and consumer behaviour, and to evaluate the impact of government policies on the general economic welfare. (Cognitive knowledge level: Understand)
CO2	Take appropriate decisions regarding volume of output and to evaluate the social cost of production. (Cognitive knowledge level: Apply)
CO3	Determine the functional requirement of a firm under various competitive conditions. (Cognitive knowledge level: Analyse)
CO4	Examine the overall performance of the economy, and the regulation of economic fluctuations and its impact on various sections in the society. (Cognitive knowledge level: Analyse)
CO5	Determine the impact of changes in global economic policies on the business opportunities of a firm. (Cognitive knowledge level: Analyse)

CO -PO mapping table

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	
1	2			-	-	-	-	-	-	-	3					
2	2	2		-	-	2	2	3	-	-	3					
3	2	2	1	-	-	-	-	-	-	-	3					

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

4	2	2	1		-	-	-	-	-	-	3					
5	2	2	1													
Average	2	2	1		-	2	2	3	-	-	3					

CST308	Comprehensive Course Work	1	SCARIA ALEX Deepa Devassy
---------------	----------------------------------	----------	--

CO1	Comprehend the concepts of discrete mathematical structures (Cognitive Knowledge Level: Understand)
CO2	Comprehend the concepts and applications of data structures (Cognitive Knowledge Level: Understand)
CO3	Comprehend the concepts, functions and algorithms in Operating System (Cognitive Knowledge Level: Understand))
CO4	Comprehend the organization and architecture of computer systems (Cognitive Knowledge Level: Understand)
CO5	Comprehend the fundamental principles of database design and manipulation (Cognitive Knowledge Level: Understand)
CO6	Comprehend the concepts in formal languages and automata theory Cognitive Knowledge Level: Understand)

CO -PO mapping table																
CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	CO	PS O1	PS O2	PS O3

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

1	3	3											3	1			
2	3	3											3	2			
3	3	3											3	3			
4	3	3											3	4			
5	3	3											3	5			
6	3	3											3	6			
Average	3	3											3				

CSI332	Networking Lab	3	Deepa Devassy Uma E S Livya George Megha K. K
---------------	-----------------------	----------	--

CO1	Use network related commands and configuration files in Linux Operating System.
CO2	Develop network application programs and protocols.
CO3	Analyze network traffic using network monitoring tools.
CO4	Configure different network protocols and simulate the fundamental network concept using a network simulator.

CO -PO mapping table

CO/ PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	CO/P SO	PSO1	PSO2	PSO3
CO1	3	3	3					3		3		3	CO1	3	2	3

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CO2	3	3	3	3				3		3		3	CO2	3	2	3
CO3	3	3	3	3	3			3		3		3	CO3	3	2	3
CO4	3	3	3	3	3	2		3		3		3	CO4	3	2	3

CSD 334	Mini Project	3	Lakshmi M B Ann Rija Paul
----------------	---------------------	----------	--------------------------------------

CO1	Identify technically and economically feasible problems (Cognitive Knowledge Level: Apply)
CO2	Identify and survey the relevant literature for getting exposed to related solutions and get familiarized with software development processes (Cognitive Knowledge Level: Apply)
CO3	Perform requirement analysis, identify design methodologies and develop adaptable & reusable solutions of minimal complexity by using modern tools & advanced programming techniques(Cognitive Knowledge Level: Apply)
CO4	Prepare technical report and deliver presentation (Cognitive Knowledge Level: Apply)
CO5	Apply engineering and management principles to achieve the goal of the project (Cognitive Knowledge Level: Apply)

CO/ PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	CO/P SO	PSO1	PSO2	PSO3
CO1	3	3	3	3		3	3	3	3	3	3	3	CO1			

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CO2	3	3	3	3	3	3		3	3	3	3	3	CO2			
CO3	3	3	3	3	3	3	3	3	3	3	3	3	CO3			
CO4	3	3	3	3	3			3	3	3	3	3	CO4			
CO5	3	3	3	3	3	3	3	3	3	3		3	CO5			
	3	3	3	3	3	3	3	3	3	3	3	3				

S7 CSE

CS401	Computer Graphics	4	Ms Linnet Tomy\ Ms Jasmy Davies
--------------	--------------------------	----------	--

CO1	Compare various graphics devices and visible surface detection methods
CO2	Apply the algorithms for line drawing, circle drawing, polygon filling and clipping
CO3	Apply various geometrical transformation and projection techniques
CO4	Interpret various concepts and basic operations of image processing

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12		PSO1	PSO2	PSO3
CO1	3.0	2.00	3.0	2.00		2.00							CO1	3.0	3.0	2.00
CO2	3.0	2.00	3.0	3.0		2.00						2.00	CO2	3.0	3.0	3.0
CO3	3.0	2.00	3.0	3.0		2.00						2.00	CO3	3.0		1.00
CO4	3.0		2.00	2.00	2.00	2.00						2.00	CO4	3.0	3.0	3.0
Avg	3.0	2.00	2.75	2.50	2.00	2.00						2.00	Avg	3.0	3.0	2.25

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CS403	Programming Paradigms	3	Princy T. D.
-------	-----------------------	---	--------------

CO1	Compare the core programming constructs like scope, binding of names and outline various control flow structures in different programming languages
CO2	Analyse different data types in various programming languages
CO3	Analyse subroutines & control abstraction mechanisms of various programming languages
CO4	Compare and contrast object oriented constructs, concurrency constructs and run-time program management in different programming languages

CO/ PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO8	PO 9	PO 10	PO 11	PO 12			PS O1	PS O2	PS O3
CO1	3.0	3.0	2.00	2.00								2.00		CO 1	2.00	3.0	3.0
CO2	3.0	3.0	2.00	2.00					2.00			3.0		CO 2	2.00	3.0	3.0

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CO3	3.0	3.0	2.00	2.00					2.00			3.0		CO 3	3.0	3.0	3.0
CO4	3.0	3.0	2.00	2.00	3.0			3.0	3.0	2.00		3.0		CO 4	3.0	3.0	3.0
Avg	3.0	3.0	2.00	2.00	3.0			3.0	2.33	2.00		2.75		Avg	2.50	3.0	3.0

CS405	Computer System Architecture	3	Livya george, Anusree k
--------------	-------------------------------------	----------	--------------------------------

CO1	Summarize different parallel computer models
CO2	Analyze the advanced processor technologies
CO3	Interpret memory hierarchy
CO4	Compare different multiprocessor system interconnecting mechanisms and interpret the mechanisms for enforcing cache coherence
CO5	Analyze different message passing mechanisms and different pipe lining techniques
CO6	Appraise concepts of multi-threaded and data flow architectures

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CO/ PO	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO8	PO9	PO1 0	PO 11	PO1 2		CO/ PSO	PS O1	PS O2	PS O3
CO1	3.00	3.0 0										3.00		CO1	3.0 0	3.0 0	3.0 0
CO2	3.00	3.0 0	3.0 0	3.0 0	3.0 0									CO2	3.0 0	3.0 0	3.0 0
CO3	3.00	2.0 0	2.0 0	3.0 0								2.00		CO3	3.0 0	3.0 0	3.0 0
CO4	3.00	3.0 0	3.0 0	3.0 0								2.00		CO4	3.0 0	3.0 0	3.0 0
CO5	3.00		3.0 0	3.0 0								2.00		CO5	3.0 0	3.0 0	3.0 0
CO6	3.00		3.0 0	3.0 0								2.00		CO6	3.0 0	3.0 0	3.0 0
Avg	3.00	2.7 5	2.8 0	3.0 0	3.0 0							2.20		Avg	3.0 0	3.0 0	3.0 0

CS407	Distributed Systems	3	Scaria Alex
--------------	----------------------------	----------	--------------------

CO1	Demonstrate knowledge of the basic elements and core architectural aspects of distributed systems
CO2	Apply appropriate distributed system principles in ensuring transparency, consistency and fault tolerance in distributed file systems.
CO3	Analyze different client server communication models and their practical applications
CO4	Compare the different process synchronization algorithms and its application in real time systems.

CO/ PO	PO1	PO2	PO 3	PO4	PO5	P O 6	P O 7	PO8	PO 9	PO 10	PO 11	PO 12			PS O1	PS O2	PS O3
-----------	-----	-----	---------	-----	-----	-------------	-------------	-----	---------	----------	----------	----------	--	--	----------	----------	----------

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CO1	3	3	3	2	3	3	3							CO1	3	3	
CO2	3	3	3	3	3	3	3	3				3		CO2	3	3	
CO3	3	3	3	2	2		3					3		CO3	3	3	2
CO4	2	3	3	3	2		3					3		CO4	3	3	2
Avg	2.75	3	3	2.5	2.5	3	3	3				3		Avg	3	3	2

CS409	Cryptography & Network Security	3	Ms. Roshni R Menon
--------------	--	----------	---------------------------

CO1	Analyze the different classical encryption techniques
CO2	Make use of the various mathematical concepts for different cryptographic algorithms
CO3	Apply Cryptographic algorithms for Encryption and Key-Exchange in real time projects.
CO4	Summarize different authentication and digital signature schemes
CO5	Identify the security issues in network, transport and application layers and outline appropriate security protocols

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CO/ PO	PO 1	PO 2	PO3	PO4	PO5	PO 6	PO 7	PO8	PO 9	PO 10	PO 11	PO 12			PS O1	PS O2	PS O3
CO1	3	2			2						3			C O1	3	3	3
CO2	3	3	3	3		2						3		C O2	3	3	3
CO3	3	3	3			2		3						C O3	3	3	3
CO4	3	3	3			2		3				2		C O4	3	3	3
Avg	3	2.7 5	3	3		2		3			3	2.5		Av g	3	3	3

CS451	Seminar and Project Preliminary	2	Anusree.K Anly Antony M
--------------	--	----------	--

CO1	Analyze a current topic of professional interest and present it before an audience
CO2	Identify an engineering problem, analyze it and propose a work plan to solve it.
CO3	Design a model with respect to recent technologies in the field of computer science.
CO4	Describe, compare and evaluate different technologies

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CO/ PO	PO1	PO 2	PO3	PO4	PO5	PO 6	PO7	PO 8	PO 9	PO 10	PO 11	PO 12			PS O1	PS O2	PS O3
CO1	3					3	3	3	3		3	3		CO1	3		3
CO2		3	3	3					3			3		CO2	3	3	3
CO3					3				3			3		CO3	3	3	3
CO4		3	3	3	3	3	3		3		3	3		CO4	2	3	3
CO5									3	3	3	3		CO5		2	
Avg	3	3	3	3	3	3	3	3	3	3	3	3		Avg	2.7 5	2.7 5	3

CS463	Digital Image Processing	3	Jasmy Davies
--------------	---------------------------------	----------	---------------------

CO1	compare different methods for image acquisition, storage and representation in digital devices and computers
CO2	Demonstrate role of image transforms in representing, highlighting, and modifying image features
CO3	Examine the mathematical principles in digital image enhancement and apply them in spatial domain and frequency domain
CO4	Examine the mathematical principles in image segmentation, Representation and description of images

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CS467	Machine Learning	3	Ann Rija Paul
--------------	-------------------------	----------	----------------------

CO1	Identify the basic Principles and Applications of Machine Learning in various real time problems such as dimensionality reduction
CO2	Illustrate the working of classifier models such as SVM, Neural networks and Identify classifier model for typical machine learning application
CO3	Apply different classification and clustering algorithms and identify its applicability in real life problems
CO4	Identify the state sequence and evaluate a sequence emission probability from given HMM

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2		CO/ PSO	PSO 1	PSO 2	PSO 3
CO 1	2	2	2	2								2		CO1	2	2	
CO 2	3	3	3	3								3		CO2	3	2	
CO 3	3	2	3	3								3		CO3	3	2	
CO 4	3	3	2	3								3		CO4	2	2	
Avg	2.75	2.5	2.5	2.7 5								2.7 5		Avg	2.5	2	

CS465	Bioinformatics	3	SREETHA E S
--------------	-----------------------	----------	--------------------

CO1	Demonstrate the need and applications of bioinformatics
CO2	Analyze and apply various biological databases such as nucleic acid and protein sequence databases to perform sequence analysis.
CO3	Determine the aligned sequence using Global and Local alignment technique to construct phylogenetic tree
CO4	Investigate the principles of genomics, protein secondary structure prediction and

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

	various gene prediction techniques
--	------------------------------------

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12		PS O1	PS O2	PS O3
CO1	3	3	2			2		3					CO1	3		
CO2	3	3	3	3	3	3		3					CO2	3	3	3
CO3	3	3	3	3	3	3		3					CO3	3	3	3
CO4	3	3	3	3	3	3		3					CO4	3	2	2
Avg	3	3	2.75	3	3	2.75		3					Avg	3	2.67	2.67

S8 CSE

CS402	Data Mining and Warehousing	3	Uma E S Megha K. K
--------------	------------------------------------	----------	-------------------------------

CO1	Identify the key process of Data mining and Warehousing and apply appropriate techniques to convert raw data into suitable format for practical data mining tasks
CO2	Evaluate various classification algorithms using performance matrices
CO3	Analyze the different categories of clustering algorithms and its applications
CO4	Apply association rule mining in real world scenario to extend data mining methods to the new domains like web mining.

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CO/ PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO7	PO 8	PO 9	PO 10	PO 11	PO 12			PSO 1	PSO 2	PSO 3	
CO1	2	2	2	3	2						3	3			CO1	2	3	
CO2	2	2	3	2	2						3	3			CO2	2	3	
CO3	2	2	3	2	2						3	3			CO3	2	3	
CO4	2	2	2	2	2						3	3			CO4	2	3	
Avg	2	2	2.5	2.25	2						3	3			Av g	2	3	

CS404	Embedded Systems	3	Ann Rija Paul Lakshmi M B
--------------	-------------------------	----------	--------------------------------------

CO1	Understand the process and concepts of embedded system and discuss various software components involved in embedded system design and development.
CO2	Model the operation of a given embedded system and to design simple tasks to run on an RTOS
CO3	Design embedded products and firmware using firmware languages
CO4	Demonstrate various embedded hardware and firmware using SDE's and to understand various embedded system networks and its latest trends.

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA

Department of Computer Science and Engineering

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12		PSO1	PSO2	PSO3
CO1	2.00	2.00	3.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00	3.00	CO1	2.00	2.00	3.00
CO2	3.00	2.00	2.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	CO2	2.00	3.00	3.00
CO3	3.00	3.00	3.00	2.00	3.00		2.00	3.00	3.00	2.00	2.00	3.00	CO3	3.00	3.00	3.00
CO4	3.00	3.00	2.00	2.00	2.00					2.00		2.00	CO4	3.00	3.00	3.00
Avg	2.75	2.50	2.50	2.25	2.75	2.00	2.00	2.33	2.67	2.00	2.33	2.75	Avg	2.50	2.75	3.00

CS 472	Principles of Information Security	3	Roshni R Menon SCARIA ALEX
---------------	---	----------	---------------------------------------

CO1	Appreciate the common threats faced today & Interpret the foundational theory behind information security
CO2	Design a secure system & Identify the potential vulnerabilities in software
CO3	Appreciate the relevance of security in various domains
CO4	Develop secure web services and perform secure e-transactions

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CO/ PO	PO1	P O2	PO 3	PO4	PO5		P O 6	P O7	PO8	PO 9	P O1 0	P O1 1	P O1 2					P S O 1	P S O 2	P S O 3	
CO1	3.00	2.00		2.00			2.00		2.00				2.00					CO 1	2		
CO2	3.00	2.00		2.00			2.00		2.00				2.00					CO 2	2	3	
CO3	3.00	3.00	3.00				2.00		2.00				2.00					CO 3	3	3	
CO4	3.00	2.00					2.00		2.00				2.00					CO 4	2		
Avg	3.00	2.25	3.00	2.00			2.00		2.00				2.00					Avg	2.25	3	

CS492	Project	3	Roshni R Menon Anly Antony
--------------	----------------	----------	---

CO1	Develop innovative components, products, processes or technologies in the engineering field.
CO2	Apply knowledge gained in solving real life engineering problems
CO3	Evaluate the work and present the results in front of an audience
CO4	Learn to work as a team and to develop a working project done on time with each student being held accountable for their part of the project.

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA
Department of Computer Science and Engineering

CO/ PO	PO1	PO 2	PO3	PO4	PO5	PO 6	PO7	PO 8	PO 9	PO 10	PO 11	PO 12			PS O1	PS O2	PS O3
CO1	3.00	3.0 0	3.00	3.00										CO1	3.0 0	3.0 0	3.0 0
CO2	3.00		3.00			3.0 0	3.00		3.0 0		3.0 0	3.0 0		CO2	3.0 0	3.0 0	3.0 0
CO3			3.00		3.00									CO3	3.0 0	3.0 0	3.0 0
CO4								3.0 0	3.0 0	3.0 0		3.0 0		CO4		2.0 0	
CO5						3.0 0	3.00	3.0 0	3.0 0	3.0 0	3.0 0	3.0 0		CO5		3.0 0	3.0 0
Avg	3.00	3.0 0	3.00	3.00	3.00	3.0 0	3.00	3.0 0	3.0 0	3.0 0	3.0 0	3.0 0		AVG	3.0 0	2.7 5	3.0 0