B.Tech. (CSE) –

Course Outcomes

Regulation : R19

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A54101

Year & Sem: I /I   Subject Name: Algebra & Calculus

Course Outcomes

CO1: Solve systems of linear equations; determine the rank, eigenvalues and eigenvectors.

CO2:Analyze the behaviour of functions by using mean value theorems

CO3: Find partial derivatives numerically and symbolically and use them to analyze and interpret the way a function varies.

CO4: Apply double integration techniques in evaluating areas bounded by region

CO5: Find beta and gamma functions and its relations

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2												
CO2	2	1												
CO3	1	2												
CO4	1	1												
CO5	2	1												
Average	1.4	1.4												

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: I /I

Subject Code: : 19A51102T

Subject Name: CHEMISTRY

Course Outcomes

CO1: Illustrate the molecular orbital energy level diagram of different molecular species, explain the band theory of solids for conductors, semiconductors and insulators anddiscuss the magnetic behavior and color of complexes.

CO2:Apply Nernst equation for calculating electrode and cell potentials and differentiate between pH metry, potentiometric and conductometric titrations

CO3: Explain the preparation, properties and applications of Bakelite, Nylon-66, and carbon fibers and describe the mechanism of conduction in conducting polymers .

CO4: Understand the principles of different analytical instruments and explain the different applications of analytical instruments .

CO5: Explain supramolecular chemistry and self-assembly anddemonstrate the application of Rotaxanes and Catenanes as artificial molecular machines.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2												
CO2	1	2												
CO3	1	2												
CO4	1	2												
CO5	1	2												
Average	1	2												

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05101T
Year & Sem: I & I   Subject Name: Problem Solving And Programming

Course Outcomes

CO1: Identify the different peripherals, ports and connecting cables in a pc illustrate the working of a computer and solve complex problem using.

CO2: solve computatuional problems apply alogorithmic approach to solving problems and analyze the algoithms.

CO3: Recognize the programming elements of C programming language select the control structure for solving the problem .

CO4: Solve mathematical problems using C programming language and structure the individual data elements to saimplify the solutions.

CO5: Select sorting algorithm based on the type of the data organise hetregeneous data and design a sorting Algorithm.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1							2		2	2
CO2		2	2	1							1		2	1
CO3	3	2	2	1									2	2
CO4		2	2	1									1	1
CO5		2	2	1							1		2	1
Averag	1	2	2	1							0.8		1.8	1.4

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19
Year & Sem: I & I

Subject Code: 19A05202
Subject Name: ITWORKSHOP

Course Outcomes
Students will be able to

CO1:   Understand the procedure for disassemble and assemble a personal computer

CO2:   Describe the procedure for interconnection of two or more computers

CO3:   Design slide presentation, document & spreadsheet preparation

CO4:   Interpret various antivirus software tools and its features

CO5:   Use internet and browse it to obtain the required information

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	3	1	1		2		3	2	3	3
CO2	3	3	2	1	3	2			1		3	2	3	3
CO3	3	2	3	2	2				1		3	2	3	3
CO4	3				2								2	1
CO5	3					3			2		3	3	2	2
Average	3.0	2.7	2.3	1.7	2.5	2.0	1.0		1.5		3.0	2.3	2.6	2.4

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Subject Code: : 19A51102P

Year & Sem: I /I

Subject Name: **CHEMISTRY LAB**

Course Outcomes

CO1: An understand how to determine the cell constant and conductance of solution.

CO2: To learn measure the strength of an acid present in secondary batteries.

CO3: An understand how to determine the viscosity of different fuels

CO4: To learn the preparation of advance polymer materials.

CO5: An understand how to determine gas calorific values

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2												
CO2	1	2												
CO3	1	2												
CO4	1	2												
CO5	1	2												
Average	1	2												

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   **Subject Code: 19A05101P**

Year & Sem: I & I   **Subject Name:** **Problem Solving & Programming Lab**

Course Outcomes

CO1:Implement and test simple C programs using arithmetic operators in C language

CO2: Develop and test simple C programs using control structures in C language

CO3: Construct some C programs on arrays, pointers and functions in C Language

CO4:Implement basic programs on pointers and functions in C language

CO5: Develop basic programs on Structures,Unions and Sorting in C language

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2										3	2
CO2	2	2	3										3	2
CO3	3	3	2										3	1
CO4	3	2	2										3	2
CO5	3	2	3										3	2
Average	2.8	2.2	2.4										3	1.8

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: I /II

Subject Code: : 19A54202

Subject Name: PROBABILITY AND STATISTICS

Course Outcomes

CO1: Summarize the basic concepts of data science and apply correlation methods and principle of least squares, regression analysis.

CO2: Apply Baye's Theorem, the notion of random variable, distribution functions and expected value to real time problems.

CO3: Apply Binomial, poisson and normal distributions for real data to compute probabilities, theoretical frequencies.

CO4: Explain the concept of estimation, interval estimation and confidence intervals and Apply the concept of hypothesis testing for large samples.

CO5: Apply the concept of hypothesis testing for small samples to draw the inferences and Estimate the goodness of fit.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2												
CO2	1	2												
CO3	1	2												
CO4	1	1												
CO5	2	1												
Average	1.2	1.6												

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: I /II

Subject Code: : 19A56101T

Subject Name: Applied Physics

Course Outcomes

CO1: Identify the importance of the optical phenomenon.

CO2: Explain the significant concepts of dielectric and magnetic materials.

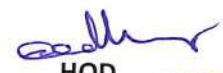CO3: Impart knowledge in basics concepts of electromagnetic waves.

CO4: Identify the importance of semiconductor and super conductivity .

CO5: Familiarize the applications of nanomaterials relevant to engineering branches.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2												
CO2	1	2												
CO3	1	2												
CO4	1	2												
CO5	1	2												
Average	1	2												

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: I & II

Subject Code: 19A05901T

Subject Name: Data Structures

Course Outcomes

CO1: Select the algorithm to find the time and space complexities

CO2: Create the applications using stacks and queues

CO3: Outline the concepts of tree and its types

CO4: Apply various graph traversal methods to applications

CO5:: Identify the data in the form of files

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	3	2	2							1		2	1
CO2	2	2	1	2	1						2		3	1
CO3	2	2	1	2	1								2	
CO4	3	2	2			3							3	
CO5	2	2	1								3		3	1
Average	1.4	1.2	1.6								1.4		2.6	0.6

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: : 19A52101T

Year & Sem: I /II   Subject Name: **Communicative English - I**

Course Outcomes

CO1: Compose letters and writing paragraphs.

CO2: Could analyze graphs and charts .
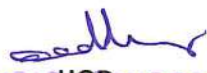
CO3: Compose SMS and writing E-mails.

CO4: Participate effectively in GD and debate.

CO5: Comprehend and write report according to the requirement.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1											3	3		3
CO2											2	3	1	2
CO3											2	3		3
CO4											2	3		2
CO5											3	3		3
Average											2.4	3	1	2.6

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05202

Year & Sem: I & II   Subject Name: Computer Science and Engineering Workshop

Course Outcomes
Students will be able to

CO1:   Understand the procedure for disassemble and assemble a personal computer

CO2:   Describe the procedure for interconnection of two or more computers

CO3:   Design slide presentation, document & spreadsheet preparation

CO4:   Interpret various antivirus software tools and its features

CO5:   Use internet and browse it to obtain the required information

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	3	1	1		2		3	2	3	3
CO2	3	3	2	1	3	2			1		3	2	3	3
CO3	3	2	3	2	2				1		3	2	3	3
CO4	3				2								2	1
CO5	3					3			2		3	3	2	2
Average	3	2.67	2.3	1.67	2.5	2	1		1.5		3	2.25	2.6	2.4

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Subject Code: : 19A52101P

Year & Sem: I /II

Subject Name: Communicative English - I Lab

Course Outcomes

CO1: Make use of pronunciation and accent.

CO2: Apply the stress pattern and voice modulation

CO3: Improves participation in just a minute and roleplay.

CO4: Develop interview skills.

CO5: Illustrate fluently a review of book or movie efficiently.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1									1	3				
CO2									2	3				
CO3									1	3				
CO4									2	3				
CO5									1	3				
Average									1.4	3				

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: I /II

Subject Code: : 19A56101P

Subject Name: Applied Physics Lab

Course Outcomes

CO1: Understands the concepts of interference and diffraction and their applications.

CO2: Understand the role of optical fiber parameters in communication.

CO3: Recognize the importance of energy gap in the study of conductivity and hall effect in a

CO4: Illustrate the magnetic and dielectric materials applications.

CO5: Apply the principle of semiconductor in various electronic devices.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2												
CO2	1	2												
CO3	1	2												
CO4	1	2												
CO5	1	2												
Average	1	2												

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05201P

Year & Sem: I & II   Subject Name: Data Structures Lab

Course Outcomes

CO1: Understand the different data structure appropriate

CO2: Design searching and sorting algorithm

CO3: Operations on different data structures

CO4: Interpret the working of data structures

CO5: Identify the data in the form of files

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2		1								2	1
CO2	2	2	2		1						1		2	1
CO3	2	2	2		1						1		2	3
CO4	2	2		2							2		2	
CO5	2				1						1		2	
Average	1	0.8	1.4	0.4	0.8						1		1.2	0.8

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05303P

Year & Sem: II & I   Subject Name: OOPs through Java Lab

Course Outcomes

CO1: Define an object oriented way of solving.

CO2: Implement interface & method overloading concept.

CO3: utilise exception handling concept.

CO4: Develop a Java application for using thread ,stack and buttons.

CO5: Creat a java application by using JDBC and J text field.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3													
CO2		3	2											3
CO3	3													3
CO4	3													3
CO5		2		2							3		2	2
Average	1.8	1	0.4	0.4							0.6		0.4	2.2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Subject Code: 19A05304P

Year & Sem: II & I

Subject Name: Python Programming Lab

Course Outcomes

CO1: Implement functions to draw defferernt structures.

CO2: Use turtle world to design mathematical shapes.

CO3: Solve mathematical problems & string oriented concept .

CO4: Illustrate OOPS concept & data in the form of files.

CO5: Determine the difference in date & time.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PS02
CO1	3	2	2								2	1	3	2
CO2	3	2	3								2		2	2
CO3	3	2	1	2									2	2
CO4	2			2							2		2	2
CO5	1												2	2
Average	2.4	1.2	1.2	0.8							0.2		2.2	2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: II & I

Subject Code: 19A05302

Subject Name: Database Management Systems

Course Outcomes

CO1: Understand the general sql concepts such as functions&procedures,triggers etc

CO2: Discuss Structured query language for database manipulation

CO3: Describe about entity relationship model and Normalization types

CO4: Demonstrate the Query to process and optimize with proper example

CO5: Explain about transaction management,concurrency control and recovery system

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2													
CO2	2	2	2	2									1	1
CO3	2	1	1	1									1	1
CO4	2	2	2	1									2	2
CO5	2	2	2	2									2	2
Average	2.2	1.4	1.4	1.2									1.2	1.2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: II & I

Subject Code: 19A05302P

Subject Name: Database Management Systems LAB

Course Outcomes

CO1:   Create database for any real world applications

CO2: .   Demonstrate PL/SQL program to solve simple problems

CO3:   Write PL/SQL programs with the help of procedures and functions

CO4:   Identify the constraints

CO5:   Analyze for data inconsistency

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		2		3						1		3	3
CO2	3	2			3								2	1
CO3	2	3			2								3	2
CO4	3		2		1	2					1		2	3
CO5			2		3								1	2
Average	2.2	1	1.2		2.2	0.4					0.4		2.4	2.4

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: II & I

Subject Code: 19A05303T

Subject Name: OOPS Through Java

Course Outcomes

CO1: Identify the basic functional units and understand how these units are interconnected to form a computer.

CO2: Describe the operation performed on floating point numbers and also identify different methods of generating control signals .

CO3:Identify different types of memories and analyse the performance of the same .

CO4: Examine how different devices are connected and accessed .

CO5: Develop programs for us applet swing & JDBC.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2			2							2		2	2
CO2	2	2	2	2							2		3	2
CO3	3	2	2										2	2
CO4	3	2	2										3	2
CO5		2	2								3		3	2
Average	2	1.8	1.6	0.8							1.4		2.6	2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19
Year & Sem: II & I

Subject Code: 19A05304T
Subject Name: Python Programming

Course Outcomes

CO1: Understand the basic concept & function oriented Programming through python.
CO2: Illustrate the conditional execution,recursion & fruitful functions of the program.
CO3: Demonstrate the Data structure list & manipulating string .
CO4: Utilize data in the form of field & data structure dictionaries.
CO5: Develop programs using object orientation.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	1								2		2	2
CO2	2	2	2										3	
CO3	2										1	.	3	2
CO4	1	2	3										2	2
CO5	2	2	3								2		2	2
Average	1.8	1.6	1.8								1		2.4	1.6

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19　　　　　　Subject Code: 19A99304

Year & Sem: II & I　　　　　 Subject Name:　**Design Thinking**

Course Outcomes

CO1: Understand characteristics of successful product development.

CO2: Discribe design thinking principles and process.

CO3: Analysis various idea generation technique.

CO4: Differentiate various model in design thinking.

CO5: Illustrate design thinking for service design.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3			2		2	2							
CO2	3	3		2	2									
CO3	3	3	2	2	2								2	
CO4	3			3	2								2	
CO5	3	2	3										2	
Average	3	2.67	2.5	2.25	2	2	2						2	

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05403P

Year & Sem: II & II   Subject Name: **Operating Systems Lab**

Course Outcomes

CO1: Understand the various operating system components services and environment

CO2: Outline various process management and communication.

CO3: Apply various memory management techniques in design of operating sysem.

CO4: Define problems in dead lock and understand the functionalities of file system.

CO5: Acquring knowledge about operating sysytem administration.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1		1					1		2	2
CO2	3	2	1	2		1					1	1	2	2
CO3	3	2	2	2		1					1		2	2
CO4	3	3	3	2	1	1					1		3	3
CO5	3	3	3	3	1	1					2		3	3
Average	3	2.4	2	2	1	1					1.2	1	2.4	2.4

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Subject Code: 19A05404P

Year & Sem: II & II

Subject Name: software Engineering Lab

Course Outcomes

CO1: Identify & analyze all the Possible risk.

CO2: Estimate the effort using function & use case.

CO3: Develop program for coupling, cohesion & OO metrics.

CO4: Construct UML diagrams and DFD.

CO5: Test the percentage of code to be tested by code coverage tools.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2								2	1				
CO2	1										3			
CO3	1		2								1			2
CO4		2		3										
CO5		3									3			2
Average	0.8	1	0.4	0.6					0.4	0.2	1.4			0.8

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: II & II

Subject Code: 19A04501

Subject Name: Computer Organisation

Course Outcomes

CO1: Understand knowledge of features of java, classes, object, methods & constrcuctors.

CO2: Interpret inheritance, package & interface.

CO3: Demonstrate exception handling and I/O streams.

CO4: Implement Multithread & collection classes.

CO5: Understands the concept of pipelining and describes the interconnection networks for multiprocessors

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1		3	1										1	
CO2	3	2		1										
CO3	2	3											1	
CO4				3									1	
CO5		2	3										1	
Average	2.5	2.33	3	2									1	

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: II & II

Subject Code: 19A05402T

Subject Name: Design and Analysis Of Algorithm

Course Outcomes

CO1: Analyze the complexity of the algorithm by use techniques of divide and conquer.

CO2: Design and analyze the efficiency of greedy and dynamic programming techniques to solve optimization.

CO3: Apply Backtracking technique for solving constraint satisfaction problems.

CO4: llustrate the state space search tree and analyse the LC abd FIFO branch and bound solutions.

CO5: Understand the satisfiahility problem and reduction techniques.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3		1	1								3	2
CO2	1	3	2	1	1								3	
CO3	1	3	2	1	1								3	
CO4		3	2	1	1								3	
CO5		2	1	1	1							1	3	
Average	0.8	2.8	1.2	1	1							0.4	2.4	0.4

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05403T
Year & Sem: II & II   Subject Name: Operating systsem

Course Outcomes

CO1: Understand the various operating system components services and environment
CO2: Outline various process management and communication.
CO3: Apply various memory management techniques in design of operating sysem.
CO4: Define problems in dead lock and understand the functionalities of file system.
CO5: Acquring knowledge about operating sysytem administration.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1		1					1		2	2
CO2	3	2	1	2		1					1	1	2	2
CO3	3	2	2	2		1					1		2	2
CO4	3	3	3	2	1	1					1		3	3
CO5	3	3	3	3	1	1					2		3	3
Average	3	2.4	2	2	1	1					1.2	1	2.4	2.4

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05404T

Year & Sem: II & II   Subject Name: software Engineering

Course Outcomes

CO1: Understand the basic concepts of software Engineering & SPM.

CO2: Construct SRS document, algebraic & Axiometric specifications for Simple problem.

CO3: Analyze issue in software design and & apply SA/SD mathodoloogy .

CO4: Estimate the test cases for black box and white box testing.

CO5: Illustrate methods of software quality management.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		3								1			3
CO2			2								2		2	
CO3	1		2								2			3
CO4		2									2		2	
CO5		3									3		1	
Average	0.8	1.5	1.4								1.6		1	1.2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: III & I

Subject Code: : 19A05501

Subject Name Formal Languages and Automata Theory

Course Outcomes

1. Construct finite automata with epsilon transitions and to convert one machine to other machine.
2. Apply Finite automata for Converting Regular Expression.
3. Solve various problems in context free grammars.
4. Compare the equivalence of PDA's and CFG problems.
5. Classify Regular Expression Problems from Turing Machine

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	1									2	1
CO2	2	2	1	1									2	
CO3	2	2	1	2									1	
CO4	2	2	1	1									1	
CO5	2	2	1	1									1	
Average	2.2	2	1.2	1.2									1.4	0.2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05502T

Year & Sem: III & I   Subject Name: **Artificial Intelligence**

Course Outcomes

CO1: Understand the artificial intelligence (AI) and various algorithm for a problem solving and estimate its time and space complexities

CO2: Apply basic principles of AI in solutions that require various logical reasoning

CO3: Describe and list the key aspects of planning in artificial intelligence

CO4: Demonstrate the Agent's uncertain knowledge by applying probabilistic Reasoning and Bayesian networks

CO5: Design the learning agents by observation, decision trees, statistical and reinforcement learning methods

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	1	1							1	2	2	2
CO2	2	3	1	1							1	2	2	2
CO3	2	2	3	1							1	2	3	3
CO4	2	2	2	3	2	1					2	2	3	3
CO5	2	2	2	3	2	1					2	2	3	3
Average	2	2.2	1.8	1.8	2	1					1.4	2	2.6	2.6

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Subject Code: 19A05503T

Year & Sem: III & I

Subject Name: Object oriented analysis Design & Testing

Course Outcomes

CO1: Recognise the basic issues of object oriented concepts.

CO2: Build the model using use case diagram, class diagram, sequence diagram and collaboration diagram.

CO3: Understand the basic design pattern concepts.

CO4: Interpret domain modeling .

CO5: Describe unit test cases and integration test cases.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	3			1								2
CO2	2	3	3			1					2		2	
CO3	1	3	3			1					2			3
CO4	2	1	3	2		1					2		2	
CO5	2	2	3		1				1		1		1	
Average	0.8		1.4	0.4	0.2						1.4		1	1

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05504P
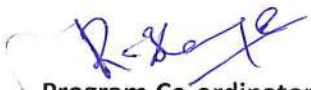
Year & Sem: III & I   Subject Name: **Computer Networks**

Course Outcomes

1. List of layers and identify the performance metrics of computer networks.
2. Analyze the Application layer protocols.
3. Summarize various transport layer services Protocols with its performance and congestion control.
4. Classify and differentiate various routing protocol and its performance
5. Summarize the functions and responsibilities of Data Link layer

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	2	1							2		
CO2	3	2	2	2	2	1						2		
CO3	3	1	1	2	1							2	2	2
CO4	3	2	1	3	1							2	1	1
CO5	2	2	1	2	1							2		
Average														

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A27506b

Year & Sem: III/I   Subject Name: Computer Applicatioon For Food Technolog

Course Outcomes

CO1: Understand the importance of computerization in food industry.

CO2: Write algorithm and flow chart for various in food industry.

CO3: Apply understand basic structure of C with control/looping statement.

CO4: Apply different types of function array in C program.

CO5: Develop various data structures concept implemented in c.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1			2	1	2		1	1		1		
CO2	3	3	2	2	3	2	1					1	1	1
CO3	3	1	2	1	3	1	1				1	1	3	1
CO4	3	3	3	2	1	1					2	1	3	2
CO5	3	3	3	2	2	1					1	1	3	3
Average	2.6	2.2	2.5	1.75	2.2	1.2	1.3		1	1	1.33	1	2.5	1.75

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19 **Batch:**

Year & Sem: III & I **Subject Code:** 19A05505b

Academic Year: **Subject Name:** **Web and Internet Technologies**

Course Outcomes

1. Installation of web browser and designing HTML pages

2. Develop server based program using JSP, Servlet and JDBC

3. Implementation of PHP program

4. Apply various XML techniques in real time examples

5. Develop a new application software using OOAD technique

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2		1									1		
CO2			2									2	3	
CO3					3							2	1	
CO4			2		3							1	3	
CO5			2									2		2
Average														

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05502P

Year & Sem: III & I   Subject Name: ARTIFICIAL INTELLIGENCE LAB

Course Outcomes

1. Implement various Uninformed Searching Techniques.
2. Solve Various Artificial Intelligence problems using Backtracking.
3. Implement various Informed Searching Techniques.
4. Design chatbot and virtual assistant.
5. Develop an Applications in Artificial Intelligence.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	2	2						2	2		
CO2	2	2	3	2	2						2	2		
CO3	2	3	3	2	2						2	2		
CO4	2	3	3	2	2						2	2		
CO5	2	3	3	2	2						2	2		
Average														

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-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05504P

Year & Sem: III & I   Subject Name: Computer networks Lab

Course Outcomes

Co1:Understand the different types of Networks Cables

Co2:Discuss the working of Networking Commands

Co3:Design the Java Program by use of network functionalities

Co4:Analyze the data traffic using tools

Co5:Construct a wired and wireless networks using real hardware

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2		1								1		2	
CO2	2		1								1		2	
CO3	2	1	1								1		1	
CO4	2		2		1						1		1	1
CO5	2		2		1						1		1	1
Average	1.6	0.2	1.4		0.4						1		1.4	0.4

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Subject Code: 19A05503P

Year & Sem: III & I

Subject Name: Object oriented analysis Design & Testing Lab

Course Outcomes

CO1: Analyse the user requirements and model them using appropriate diagrams

CO2: Construct different type of UML diagrams

CO3: Compare the basic design patterns

CO4: Illustrate domain modeling.

CO5: Design unit and Integration test cases.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	1	1					1		1	1		1
CO2	2	3	3	2					1		1	2		2
CO3	2	2	1	1					1		1	1		1
CO4	1	1	1	1					1		1	1		2
CO5	2	2	2	2					2		1	2		1
Average	1.6	1.8	1.4	1.4					1.2		1	1.4		1.4

Program Co-ordinator

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Batch:

Year & Sem: III & I

Subject Code: 19A99501

Academic Year:

Subject Name: **Constitution of India**

Course Outcomes

1. Summarize the origin source and history of Indian Constitute

2. Understand the roles of central government and its structure.

3. Analyse the role of Governor and C.M.

4. Compare and constrast local administration and district administration.

5. Evaluate and learn about the role of election commission and SC/ST/OBC Commissions.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1						2	1	1				1		
CO2						3	2	2				2		
CO3						1	1					2		
CO4						3	2	2				2		
CO5						3	1	2				2		
Average														

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05603b

Year & Sem: III & II   Subject Name: Introduction to machine learning

Course Outcomes

CO1: Understand the basic theory underlying machine learning

CO2: Identify machine learning techniques suitable for a given problem

CO3: Solve the real world problems using various machine learning techniques.

CO4: Apply machine learning algorithms to solve problems of moderate complexity.

CO5: Implement Advanced learning models for language.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2			1							2	2
CO2	2	3	3	1		1					1	2	1	1
CO3	2	3	1			1					2		1	3
CO4	2	1	3	2		1					2		2	
CO5	1	1	3	1		2					1		1	
Average	1.8	2	2.4	0.8		1.2					1.2	0.4	1.4	1.2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Subject Code: 19A05602P

Year & Sem: III/II

Subject Name: Big Data Analytics LAB

Course Outcomes

CO1: Demonstrate Hadoop Configuration and perform file management tasks

CO2: Discuss different approaches for building MapReduce application

CO3: Experiment various MapReduce program in Hadoop framework

CO4: Relate huge datasets using MapReduce and HDFS

CO5: Choose different data processing tools like pig, Hive, Spark.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	2	1	2						1		2	2
CO2	2	1	2	1	2								2	1
CO3	2	1	1	1	2								2	1
CO4	2	1	1	1	2						1		2	1
CO5	2	1	2	1	2								2	1
Average	2	1	1.6	1	2						1		2	1.2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: III/II

Subject Code: 19A099601

Subject Name: Research Methodology

Course Outcomes

CO1: Understanding the basic concept of research process and research problem.

CO2: Utilise scale construction techniques and data collection methods in sample design.

CO3: Identify the methods of Correlations & Regression Analysis to get the result.

CO4: Summarize testing procedure parametric & non-parametric tests in reasearch.

CO5: Illustrate ethical issues and scientific presentation in writing a reasearch report.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2		2					1		1	1	1	1
CO2	2	2	1	1							1	1	1	1
CO3	2	2	2	2							1	1	1	1
CO4	2		2	2	2						1	1	1	1
CO5	2	2	2	2	1	1	1	1	1	1	1	1	1	1
Average	2.2	2	1.75	1.8	1.5	1	1	1	1	1	1	1	1	1

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19
Year & Sem: III/II

Subject Code: 19A05601
Subject Name: Cryptography And Network Security

Course Outcomes

CO1:Acquire knowledge about cryptography concepts of classical and modern encryption techniques.

CO2: Understand and apply Solve the mathematics concepts for designing cryptographic algorithms.

CO3:Analyse and develop security algorithms by using mathematics concepts of Cryptography.

CO4:Design the network security features of authentication and confidentiality in PGP,S/MIME,

CO5:Design of new security approches and protocols,familiar with intrusion.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	2										2	1
CO2	2	2	1								2		2	
CO3	2	2	2								1		2	1
CO4	2	1	2	2							2		2	
CO5					1						1		2	
Average	1.75	1.5	1.75	2	1						1.5		2	1

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05602T

Year & Sem: III/II   Subject Name: **Big Data Analytics**

Course Outcomes

CO1: Understand the basic concepts of Big Data and Hadoop

CO2: Relate the Components of hdfs with MapReduce

CO3: Design simple MapReduce application in Hadoop framework

CO4: Apply Hadoop configuration and compare with various database

CO5: Develop program using hive, spark and Hbase

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	2	1	2						1		2	2
CO2	2	2	1	1	2						1		2	2
CO3	2	2	1	1	2						1		2	2
CO4	2	2	1	1	2						1		2	2
CO5	2	2	1	1	2						1		2	2
Average	2	2	1.2	1	2						1		2	2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19
Year & Sem: IV & I

Subject Code: 19A05406T
Subject Name: Internet Of Things

Course Outcomes

CO1: Understand the signficance of prototyping & Design principles for IOT.

CO2: Develop simple applications using raspberry pi & arduino.

CO3: Utilise the internet communication Protocols for IOT applications .

CO4: Plan the models used for business & predict the marker value.

CO5: Experiment with enbedded boards for creating techniques & adapt the ethics.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PS02
CO1	2		2		1								2	
CO2	2		2			1			2		1		2	
CO3	3		2										2	
CO4	1	2	2	1		1	1		2	2	2	1		1
CO5	1							3	2	1				
Average	1.8	0.4	1.6	0.2	0.2	0.4	0.4	0.6	1.2	0.6	0.6	0.2	1.2	0.2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05702T

Year & Sem: IV/I   Subject Name: Software Testing

Course Outcomes

CO1: Defining test cases that are geared to identify the program defects.

CO2: Construct test cases before writing code and run these tests automatically

CO3: Summarzing different test cases for different programming constructs.

CO4: Examine the applications using different testing methods and automation tools.

CO5: Implement state graphs for testing.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	3	2	2	2					2	3	2
CO2	3	3	3	1								3	2	3
CO3	2	3	2	3							3	3	3	2
CO4	2	2	3	3	2							2	3	3
CO5	2	3	2									2	1	3
Average	2.4	2.6	2.6	2.5	2	2	2				3	2.4	2.4	2.6

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: IV/I

Subject Code: 19A05703a

Subject Name: Cloud Computing

Course Outcomes

CO1: Understanding the concepts of Cloud Services, Cloud Models and Different technologies used in Cloud.

CO2: Summarize the different Cloud Service Models and the Deployment Models, and demonstrate the Hadoop Cluster Setup in the Cloud.

CO3: Understanding the concepts of Building Cloud Applications and describing about Multimedia cloud.

CO4: Select different Cloud Services from different Vendors and use the python language to access those Cloud Services.

CO5: Design Cloud Application by using python for an Organization that has been used for Cloud Enviroment.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	1				1	2	2	2	2	1	2
CO2	3	2	2	1	1			1	2		2	2	2	2
CO3	3	2	3	2	2			1	2	1	2	2	2	2
CO4	3	2	2	1	2			1	2	1	2	2	2	2
CO5	3	2	2	1	2			1	2	1	2	2	2	2
Average	3	2	2.2	1.2	1.75			1	2	1.25	2	2	1.8	2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: IV/I

Subject Code: 19A02704a

Subject Name: **Renewable Energy Systems**

Course Outcomes

CO1:   Understand the solar energy and thermal storage

CO2:   Outline pv energy systems

CO3:   Describe the principles of wind energy conversion

CO4:   Estimate the geothermal energy

CO5:   Discuss about Ocean energy, Bio Mass energy and Fuel cell

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3			2		2	2					3		
CO2	2	3	3				2					2		
CO3	2	3				2	2					3	2	
CO4	2	3	3	2			2					2	2	
CO5	3	3		2		2	2	2				2		
Average	2.4	3	3	2		2	2	2				2.4	2	

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05302P

Year & Sem: IV/I   Subject Name: E-Business

Course Outcomes

CO1:   Understand the concept of Electronic Business

CO2: .   Classify Business Models - B2B, B2C and B2G and Portals

CO3:   Discuss and examine digital payment systems

CO4:   Evaluate Electronic Security

CO5:
         Contrast the E-Customer Relationship Management and E-Supply Chain Management

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	1	2	2		2					2	2
CO2		2	2	1	2			2			1	2		
CO3	3		1		2			2						
CO4	3		2		2									
CO5	2		2		2	2		2			1	2		
Average	2.75	2.5	1.8	1	2	2		2			1	2	2	2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: IV/I

Subject Code: 19A05702P

Subject Name: Software Testing Lab

Course Outcomes

CO1: Execute the basic testing procedures.

CO2: Construct test cases and test suites.

CO3: Operate the Selenium and Bugzilla tools to apply testing.

CO4: Design and test simple programs.

CO5: Interpret bug tracking.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1		3		2	3						3	2	3	3
CO2		2	2	3								3	2	3
CO3	3	2	3	2								2	3	2
CO4		2	2	3								2	3	3
CO5	3	2	3	3								2	3	3
Average	3	2.2	2.5	2.6	3						3	2.2	2.8	2.8

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: IV/I

Subject Code: 19A05701P

Subject Name: Internet of Things Lab

Course Outcomes

CO1: Choose the sensors and actuators for IOT applications

CO2: . Use socket communication, read data from sensor and send to requested client

CO3: Utilize cloud platform for developing IOT applications

CO4: Create mobile app to control an actuator

CO5: Design a solution for a given simple IOT Applications

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	2						2	2	2	
CO2	3		2	2	2						2	2	2	
CO3	3	3	2	2	2	2					2	2	3	
CO4	3	3	2	3	2		2	2			2	2	3	3
CO5	3	2	3	2	2	2	2		2		2	2	3	3
Average	3	2.75	2.2	2.2	2	2	2	2	2		2	2	2.6	3

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   **Subject Code: 19A05302P**

Year & Sem: IV/I   **Subject Name:** Industrial Training / Skill Development / Research Project

Course Outcomes

CO1: Apply the theoretical learning in practical situations by accomplishing the tasks assigned during the internship period

CO2: Develop necessary work habits and attitudes for job success

CO3: Build a record of work experience

CO4: Acquire employment contract leading directly to a full-time job following graduation from college

CO5: Analyze his / her strength, weakness, Opportunities and Threats (SWOT)

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2		2	2			2	2	2	2	2	2	2
CO2						2	2	3	3	3	2	2		
CO3	2	2	2	2			2	2	2	2	2	2	2	2
CO4						3	3	3	3	3	2	2	1	1
CO5		2	2	2	2	2			2	3				
Average	2	2	2	2	2	2.3	2.3	2.5	2.4	2.6	2	2	1.7	1.7

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05801c
Year & Sem: IV & II   Subject Name: Ad Hoc and Sensor Networks

Course Outcomes
Students will be able to

CO1: Summarize on IEEE 802.11 standards and issues in ad-hoc wireless networks

CO2: Categorize different MAC Protocols and its scheduling mechanism

CO3: Compare different routing protocols and can identify suitable routing protocol based on network characteristics

CO4: Interpret the issues in designing a multicast routing protocol and transport layer protocol

CO5: Identify the need for security in ad-hoc networks and can define sensor networks

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1	2	2					1	2	2	2
CO2	2	1			1								2	2
CO3	3	2	2	1	2						2	2	1	2
CO4	3	2	2	1	2						2	2	1	2
CO5	3	2	2	1	2						2	2	1	2
Average	2.8	1.8	1.8	1	1.8	2					1.75	2	1.4	2

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19   Subject Code: 19A05803

Year & Sem: IV & II   Subject Name: Project Work

Course Outcomes
Students will be able to

CO1:Discover potential research area in the field of Computer Science & IT

CO2:Conduct a survey of several literature in the required field of study

CO3:Compare and contrast the several existing methodology and solution for further research

CO4: Demonstrate an ability to work in teams and manage to conduct the research study

CO5:Formulate and propose a plan for creating a solution for the identified
CO6: To report and present the finding of the study conducted in the preferred domain

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1						2	1	3	2	3	2
CO2	3	1	1		1				2	2	3	1	1	1
CO3	3	2	2	2	2				3	3	3	2	2	2
CO4	3	2	2	1	2				3	3	3	2	2	1
CO5	2	2	2	1	2	1	1	2	3	2	2	1	1	1
CO6	1			2				1	2	3	3	2	3	2
Average	2.33	1.6	1.6	1.5	1.75	1	1	1.5	2.5	2.33	2.83	1.67	2	1.5

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Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 19

Year & Sem: IV & II

Subject Code: 19A02802a

Subject Name: : IoT APPLICATIONS IN ELECTRICAL ENGINEERING

Course Outcomes
Students will be able to

CO1:   To get exposed to recent trends in few applications of IoT in Electrical Engineering.

CO2:   To understand about usage of various types of motionless sensors.

CO3:   To understand about usage of various types of motion detectors.

CO4:   To get exposed to various applications of IoT in smart grid.

CO5:   To get exposed to future working environment with Energy internet.

CO_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3		3						2	2	2	2
CO2	3		2										2	1
CO3	3		2										2	1
CO4	3	2	3		3						2	2	2	2
CO5	3	3	3								2	2	3	3
Average	3	2.66	2.6		3						2	2	2.2	1.8

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