



# AALIM MUHAMMAD SALEGH COLLEGE OF ENGINEERING

APPROVED BY AICTE, NEW DELHI, & AFFILIATED TO ANNA UNIVERSITY, CHENNAI  
NAAC ACCREDITED INSTITUTION



ANNA UNIVERSITY COUNSELING CODE: 1101

## CO – PO – PSO MAPPING

### GE3151 Problem Solving and Python Programming

#### LIST OF COURSE OUTCOMES

**CO1:** Develop algorithmic solutions to simple computational problems.

**CO2:** Develop and execute simple Python programs.

**CO3:** Write simple Python programs using conditionals and loops for solving problems.

**CO4:** Decompose a Python program into functions.

**CO5:** Represent compound data using Python lists, tuples, dictionaries etc.

**CO6:** Read and write data from/to files in Python programs.

#### CO –PO-PSO MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
1	3	3	3	3	2	-	-	-	-	-	2	2	3	3	-
2	3	3	3	3	2	-	-	-	-	-	2	2	3	-	-
3	3	3	3	3	2	-	-	-	-	-	2	-	3	-	-
4	2	2	-	2	2	-	-	-	-	-	1	-	3	-	-
5	1	2	-	-	1	-	-	-	-	-	1	-	2	-	-
6	2	2	-	-	2	-	-	-	-	-	1	-	2	-	-
Avg	2	3	3	3	2	-	-	-	-	-	2	2	3	3	-



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## CO – PO – PSO MAPPING

### GE3171 PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY

#### LIST OF COURSE OUTCOMES

**CO1: Develop algorithmic solutions to simple computational problems**

**CO2: Develop and execute simple Python programs.**

**CO3: Implement programs in Python using conditionals and loops for solving problems.**

**CO4: Deploy functions to decompose a Python program.**

**CO5: Process compound data using Python data structures.**

**CO6: Utilize Python packages in developing software applications.**

#### CO –PO-PSO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	2	-	-	-	-	-	2	2	3	3	-
2	3	3	3	3	2	-	-	-	-	-	2	2	3	-	-
3	3	3	3	3	2	-	-	-	-	-	2	-	3	-	-
4	2	2	-	2	2	-	-	-	-	-	1	-	3	-	-
5	1	2	-	-	1	-	-	-	-	-	1	-	2	-	-
6	2	2	-	-	2	-	-	-	-	-	1	-	2	-	-
AVg.	2	3	3	3	2	-	-	-	-	-	2	2	3	3	-



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## CO – PO – PSO MAPPING

### CS3251 PROGRAMMING IN C

#### LIST OF COURSE OUTCOMES

**CO1: Demonstrate knowledge on C Programming constructs.**

**CO2: Develop simple applications in C using basic constructs.**

**CO3: Design and implement applications using arrays and strings.**

**CO4: Develop and implement modular applications in C using functions.**

**CO5: Develop applications in C using structures and pointers.**

**CO6: Design applications using sequential and random-access file processing.**

#### CO –PO-PSO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	2	2	1	2	1	1	1	2	-	3	2	1	2	-
2	2	2	2	1	2	1	1	1	2	-	3	3	2	2	-
3	2	3	2	1	2	1	1	1	2	-	3	2	2	2	-
4	3	2	2	1	3	1	1	1	2	-	3	3	2	2	-
5	2	3	3	1	2	1	2	1	2	-	3	2	2	3	-
6	2	2	3	2	1	2	-	-	2	1	2	2	2	2	-
Avg	2	2	2	1	2	1	1	1	2	-	3	2	2	2	-



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## CO – PO – PSO MAPPING

### CS3271 PROGRAMMING IN C LABORATORY

#### LIST OF COURSE OUTCOMES

**CO1: Demonstrate knowledge on C programming constructs.**

**CO2: Develop programs in C using basic constructs.**

**CO3: Develop programs in C using arrays.**

**CO4: Develop applications in C using strings, pointers, functions.**

**CO5: Develop applications in C using structures.**

**CO6: Develop applications in C using file processing.**

#### CO –PO-PSO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO3
1	1	3	3	1	1	1	-	-	2	1	2	2	2	2	
2	2	3	3	2	1	1	-	-	2	1	2	2	2	3	
3	2	2	2	1	1	2	-	-	2	-	2	2	2	2	
4	2	2	2	2	1	2	-	-	3	-	3	3	3	2	
5	2	2	3	2	3	2	-	-	3	-	3	3	3	3	
6	2	2	3	2	1	2	-	-	2	1	2	2	2	2	
Avg	2	2	3	2	1	2	-	-	2	1	2	2	2	2	



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## CO – PO – PSO MAPPING

### MA3354 DISCRETE MATHEMATICS

#### LIST OF COURSE OUTCOMES

**CO1:** Have knowledge of the concepts needed to test the logic of a program.

**CO2:** Have an understanding in identifying structures on many levels.

**CO3:** Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science.

**CO4:** Be aware of the counting principles.

**CO5:** Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.

#### CO –PO-PSO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	2	-	-	-	-	-	-	-	-	2	-	-	-
2	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	3	2	-	-	2	-	-	-	3	-	-	-	-	-
4	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-
5	-	2	2	2	-	-	-	-	-	2	-	-	-	-	-
AVg.	1	3	2	1	-	-	-	-	-	1	-	-	-	-	-



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## CO – PO – PSO MAPPING

### CS3351DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION

#### LIST OF COURSE OUTCOMES

**CO1: Design various combinational digital circuits using logic gates.**

**CO2: Design sequential circuits and analyze the design procedures.**

**CO3: State the fundamentals of computer systems and analyze the execution of an instruction.**

**CO4: Analyze different types of control design and identify hazards.**

**CO5: Identify the characteristics of various memory systems and I/O communication.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	3	3	3	3	2	1	1	1	1	2	3	2	3	3
2	3	3	3	3	2	1	1	1	1	1	2	3	1	2	2
3	3	3	3	3	2	2	1	1	1	1	2	3	2	3	1
4	3	3	3	3	1	1	1	1	1	1	1	2	1	3	1
5	3	3	3	3	1	2	1	1	1	1	1	2	1	2	1
AVg.	3	3	3	3	1.8	1.6	1	1	1	1	1.6	2.6	1.4	2.6	1.6



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## CO – PO – PSO MAPPING

### CS3352 FOUNDATION OF DATA SCIENCE

#### LIST OF COURSE OUTCOMES

**CO1: Define the data science process**

**CO2: Understand different types of data description for data science process**

**CO3: Gain knowledge on relationships between data**

**CO4: Use the Python Libraries for Data Wrangling**

**CO5: Apply visualization Libraries in Python to interpret and explore data**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	2	2	1	2	2	-	-	-	1	1	1	2	2	2	2
2	2	1	-	1	1	-	-	-	2	1	1	2	2	3	1
3	2	2	1	2	2	1	1	-	1	2	1	3	2	2	3
4	3	2	2	1	2	-	-	-	1	1	2	2	3	3	2
5	2	2	1	2	2	-	-	-	1	1	1	2	2	2	2
AVg.	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2



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## CO – PO – PSO MAPPING

### CS3301 DATA STRUCTURES

#### LIST OF COURSE OUTCOMES

**CO1: Define linear and non-linear data structures.**

**CO2: Implement linear and non-linear data structure operations.**

**CO3: Use appropriate linear/non-linear data structure operations for solving a given problem.**

**CO4: Apply appropriate graph algorithms for graph applications.**

**CO5: Analyze the various searching and sorting algorithms.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	2	3	1	2	2	1	1	-	1	2	1	3	2	1	3
2	1	2	1	2	2	-	-	-	1	1	1	2	2	2	2
3	2	3	1	2	3	-	-	-	1	1	1	2	2	1	2
4	2	1	-	1	1	-	-	-	2	1	1	2	2	3	1
5	1	2	1	2	2	1	1	-	1	2	1	3	2	2	3
AVg.	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2





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## CO – PO – PSO MAPPING

### CS3311 DATA STRUCTURES LABORATORY

#### LIST OF COURSE OUTCOMES

**CO1: Implement Linear data structure algorithms.**

**CO2: Implement applications using Stacks and Linked lists.**

**CO3: Implement Binary Search tree and AVL tree operations.**

**CO4: Implement graph algorithms.**

**CO5: Analyze the various searching and sorting algorithms.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	1	2	2	1	-	-	-	-	2	1	2	2	2	2	3
2	3	3	1	1	-	-	-	-	1	1	1	3	1	2	2
3	2	1	3	1	-	-	-	-	1	1	2	3	3	3	3
4	3	1	3	3	-	-	-	-	1	2	3	3	2	1	2
5	3	2	1	1	2	-	-	-	3	3	3	1	3	1	3
<b>AVg.</b>	2	2	2	1	2	-	-	-	2	2	2	2	2	2	3



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## CO – PO – PSO MAPPING

### CS3361 DATA SCIENCE LABORATORY

#### LIST OF COURSE OUTCOMES

**CO1: Make use of the python libraries for data science.**

**CO2: Make use of the basic Statistical and Probability measures for data science.**

**CO3: Perform descriptive analytics on the benchmark data sets.**

**CO4: Perform correlation and regression analytics on standard data sets.**

**CO5: Present and interpret data using visualization packages in Python.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	2	1	1	-	-	-	-	1	3	3	3	1	3	2
2	3	2	2	3	1	-	-	-	3	1	3	2	1	3	3
3	3	2	1	3	1	-	-	-	2	1	1	1	3	2	3
4	2	3	1	3	-	-	-	-	2	3	2	3	3	3	1
5	1	2	3	1	1	-	-	-	2	1	3	1	1	3	3
AVg.	2	2	2	2	1	-	-	-	2	2	2	2	2	3	2



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## CO – PO – PSO MAPPING

### CS3311 OBJECT ORIENTED PROGRAMMING

#### LIST OF COURSE OUTCOMES

**CO1: Apply the concepts of classes and objects to solve simple problems.**

**CO2: Develop programs using inheritance, packages and interfaces.**

**CO3: Make use of exception handling mechanisms and multithreaded model to solve real world problems.**

**CO4: Build Java applications with I/O packages, string classes, Collections and generics concepts.**

**CO5: Integrate the concepts of event handling and JavaFX components and controls for developing GUI based applications.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	1	1	3	1	3	-	-	-	3	2	2	2	3	1	2
2	2	1	3	2	1	-	-	-	2	1	1	3	3	3	2
3	3	3	1	2	2	-	-	-	3	2	1	2	3	1	3
4	3	1	2	2	2	-	-	-	1	2	1	3	3	1	1
5	1	1	2	3	2	-	-	-	3	2	1	2	3	3	3
AVg.	2	1	2	2	2	-	-	-	2	2	1	2	3	2	2



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## CO – PO – PSO MAPPING

### CS3381 OBJECT ORIENTED PROGRAMMING LABORATORY

#### LIST OF COURSE OUTCOMES

**CO1: Design and develop java programs using object-oriented programming concepts.**

**CO2: Develop simple applications using object-oriented concepts such as package, exceptions.**

**CO3: Implement multithreading, and generics concepts.**

**CO4: Create GUIs and event driven programming applications for real world problems.**

**CO5: Implement and deploy web applications using Java.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	2	1	2	1	-	-	-	-	1	2	2	2	1	2	3
2	2	1	3	1	-	-	-	-	2	3	3	2	1	3	1
3	2	2	1	2	1	-	-	-	1	2	1	3	2	3	2
4	2	2	1	3	-	-	-	-	3	1	1	1	2	1	2
5	1	3	3	1	3	-	-	-	1	1	1	1	2	1	2
<b>AVg.</b>	2	2	2	2	2	-	-	-	2	2	2	2	2	2	2



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## **CO – PO – PSO MAPPING**

### **GE3361 PROFESSIONAL DEVELOPMENT**

#### **LIST OF COURSE OUTCOMES**

- CO1: Use MS Word to create quality documents, by structuring and organizing content for their day to day technical and academic requirements.**
- CO2: Use MS EXCEL to perform data operations and analytics, record, retrieve data as per requirements and visualize data for ease of understanding.**
- CO3: Use MS PowerPoint to create high quality academic presentations by including common tables, charts, graphs, interlinking other elements, and using media objects.**



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## CO – PO – PSO MAPPING

### CS3452 THEORY OF COMPUTATION

#### LIST OF COURSE OUTCOMES

**CO1: Construct automata theory using Finite Automata**

**CO2: Write regular expressions for any pattern**

**CO3: Design context free grammar and Pushdown Automata**

**CO4: Design Turing machine for computational functions**

**CO5: Differentiate between decidable and undecidable problems**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	1	3	2	3	-	-	-	-	1	1	2	3	1	3	2
2	2	2	3	2	1	-	-	-	3	3	2	3	3	1	2
3	2	2	3	2	1	-	-	-	1	3	1	2	1	2	2
4	2	2	2	1	-	-	-	-	1	3	3	2	1	3	2
5	2	2	2	1	1	-	-	-	1	1	3	2	3	1	3
Avg.	2	2	2	2	1	-	-	-	1	2	2	2	2	2	2



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## CO – PO – PSO MAPPING

### CS3491 ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

#### LIST OF COURSE OUTCOMES

**CO1: Use appropriate search algorithms for problem solving**

**CO2: Apply reasoning under uncertainty**

**CO3: Build supervised learning models**

**CO4: Build ensembling and unsupervised models**

**CO5: Build deep learning neural network models**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	2	3	3	-	-	-	-	1	3	3	3	1	2	2
2	1	1	1	3	1	-	-	-	1	2	1	3	2	3	2
3	2	1	2	1	1	-	-	-	2	1	1	3	1	1	1
4	3	1	3	1	-	-	-	-	2	1	2	1	2	2	2
5	3	1	1	2	2	-	-	-	3	1	2	3	2	1	2
AVg.	2	1	2	2	1	-	-	-	2	2	2	3	2	2	2



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## CO – PO – PSO MAPPING

### CS3492 DATABASE MANAGEMENT SYSTEMS

#### LIST OF COURSE OUTCOMES

**CO1: Construct SQL Queries using relational algebra.**

**CO2: Design database using ER model and normalize the database**

**CO3: Construct queries to handle transaction processing and maintain consistency of the database.**

**CO4: Compare and contrast various indexing strategies and apply the knowledge to tune the performance of the database.**

**CO5: Appraise how advanced databases differ from Relational Databases and find a suitable database for the given requirement.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	2	2	3	2	1	-	-	-	2	1	1	1	2	1	3
2	3	1	1	1	1	-	-	-	2	3	3	3	3	1	2
3	3	2	3	2	1	-	-	-	2	1	1	2	2	3	3
4	1	2	3	2	-	-	-	-	3	2	3	3	1	2	3
5	1	1	3	3	2	-	-	-	1	3	3	1	2	2	2
AVg.	2	2	3	2	1	-	-	-	2	2	2	2	2	2	3





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## CO – PO – PSO MAPPING

### CS3401 ALGORITHMS

#### LIST OF COURSE OUTCOMES

**CO1: Analyze the efficiency of algorithms using various frameworks.**

**CO2: Apply graph algorithms to solve problems and analyze their efficiency.**

**CO3: Make use of algorithm design techniques like divide and conquer, dynamic programming and greedy techniques to solve problems.**

**CO4: Use the state space tree method for solving problems.**

**CO5: Solve problems using approximation algorithms and randomized algorithms.**

#### CO – PO – PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	2	-	-	-		1	-	-	-	-	1	-	1	-
2	2	3	-	-	-	-	1	-	-	-	-	1	-	1	-
3	1	2	3	1	-	-	2	-	-	-	-	-	-	1	1
4	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
5	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
AVg.	2.67	1.8	3	1	-	-	1.33	-	-	-	-	1	-	1	1



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## CO – PO – PSO MAPPING

### CS3451 INTRODUCTION TO

### OPERATING SYSTEMS

#### LIST OF COURSE OUTCOMES

**CO1: Analyze various scheduling algorithms and process synchronization.**

**CO2: Explain deadlock prevention and avoidance algorithms.**

**CO3: Compare and contrast various memory management schemes.**

**CO4: Explain the functionality of file systems, I/O systems, and Virtualization.**

**CO5: Compare iOS and Android Operating Systems.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	1	2	2	-	-	-	-	3	2	3	1	1	2	2
2	2	2	3	1	1	-	-	-	2	1	1	2	2	1	2
3	1	3	2	2	1	-	-	-	2	2	1	1	1	2	2
4	1	3	3	3	-	-	-	-	1	2	1	2	1	3	2
5	3	1	2	1	1	-	-	-	3	2	3	2	2	2	1
<b>AVg.</b>	2	2	2	2	1	-	-	-	2	2	2	2	1	2	2



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## CO – PO – PSO MAPPING

### GE3451 ENVIRONMENTAL SCIENCES AND SUSTAINABILITY

#### LIST OF COURSE OUTCOMES

**CO1: To recognize and understand the functions of environment, ecosystems and biodiversity and their conservation.**

**CO2: To identify the causes, effects of environmental pollution and natural disasters and contribute to the preventive measures in the society.**

**CO3: To identify and apply the understanding of renewable and non renewable resources and contribute to the sustainable measures to preserve them for future generations.**

**CO4: To recognize the different goals of sustainable development and apply them for suitable technological advancement and societal development.**

**CO5: To demonstrate the knowledge of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization.**

#### CO – PO – PSO MAPPING

CO	PO												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	2	1	-	-	-	2	3	-	-	-	-	2	-	-	-
2	3	2	-	-	-	3	3	-	-	-	-	2	-	-	-
3	3	-	1	-	-	2	2	-	-	-	-	2	-	-	-
4	3	2	1	1	-	2	2	-	-	-	-	2	-	-	-
5	3	2	1	-	-	2	2	-	-	-	-	1	-	-	-
Avg.	2.8	1.8	1	1	-	2.2	2.4	-	-	-	-	1.8	-	-	-



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## CO – PO – PSO MAPPING

### CS3461 OPERATING SYSTEMS LABORATORY

#### LIST OF COURSE OUTCOMES

CO1 :Define and implement UNIX Commands.

CO2 :Compare the performance of various CPU Scheduling Algorithms.

CO3 :Compare and contrast various Memory Allocation Methods.

CO4 :Define File Organization and File Allocation Strategies.

CO5 :Implement various Disk Scheduling Algorithms.

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	1	3	1	1	-	-	-	1	3	3	3	2	1	3
2	3	1	1	2	2	-	-	-	3	2	1	1	3	1	2
3	3	3	2	1	2	-	-	-	3	3	1	2	2	2	2
4	1	2	2	3	2	-	-	-	3	1	3	1	1	2	1
5	2	2	1	1	3	-	-	-	1	2	2	3	1	3	3
Avg.	2	2	2	2	2	-	-	-	2	2	2	2	2	2	2



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## CO – PO – PSO MAPPING

### CS3481 DATABASE MANAGEMENT SYSTEMS LABORATORY

#### LIST OF COURSE OUTCOMES

**CO1: Create databases with different types of key constraints.**

**CO2: Construct simple and complex SQL queries using DML and DCL commands.**

**CO3: Use advanced features such as stored procedures and triggers and incorporate in GUI based application development.**

**CO4: Create an XML database and validate with meta-data (XML schema).**

**CO5: Create and manipulate data using NOSQL database.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	3	3	3	-	-	-	-	3	1	3	2	2	3	2
2	2	2	3	2	2	-	-	-	1	2	3	3	2	1	2
3	3	3	2	1	1	-	-	-	1	1	1	3	2	3	3
4	1	3	3	3	1	-	-	-	1	1	3	2	3	1	3
5	3	2	1	1	1	-	-	-	2	2	3	1	3	1	2
Avg.	2	3	2	2	1	-	-	-	2	1	3	2	2	2	2



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## CO – PO – PSO MAPPING

### CS3591 COMPUTER NETWORKS

#### LIST OF COURSE OUTCOMES

**CO 1:** Explain the basic layers and its functions in computer networks.

**CO 2:** Understand the basics of how data flows from one node to another.

**CO 3:** Analyze routing algorithms.

**CO 4:** Describe protocols for various functions in the network.

**CO 5:** Analyze the working of various application layer protocols.

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	-	2	-	-	-	-	-	-	-	-	-	-	3	-	-
2	-	1	-	-	2	-	-	-	-	-	-	2	-	2	-
3	-	2	-	-	3	-	-	-	-	-	-	-	-	3	-
4	-	-	-	1	2	-	-	-	-	3	-	-	-	-	-
5	-	3	2	-	-	-	-	-	-	-	-	-	-	-	3
AVg.	-	1	-	-	1	-	-	-	-	1	-	-	-	1	1



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## CO – PO – PSO MAPPING

### CS3501 COMPILER DESIGN

#### LIST OF COURSE OUTCOMES

**CO1:Understand the techniques in different phases of a compiler.**

**CO2:Design a lexical analyser for a sample language and learn to use the LEX tool.**

**CO3:Apply different parsing algorithms to develop a parser and learn to use YACC tool**

**CO4:Understand semantics rules (SDT), intermediate code generation and run-time environment.**

**CO5:Implement code generation and apply code optimization techniques.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	3	3	3	-	-	-	-	3	3	1	3	2	3	2
2	3	3	3	3	3	-	-	-	3	2	3	2	2	1	2
3	3	3	2	2	3	-	-	-	3	1	1	1	2	2	3
4	3	2	2	1	1	-	-	-	2	3	2	3	1	2	1
5	3	3	3	2	1	-	-	-	2	1	1	3	2	1	2
AVg.	3.00	2.80	2.60	2.20	2.00	-	-	-	2.60	2.00	1.60	2.40	1.80	1.80	2.00



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## CO – PO – PSO MAPPING

### CB3491 CRYPTOGRAPHY AND CYBER SECURITY

#### LIST OF COURSE OUTCOMES

**CO1: Understand the fundamentals of networks security, security architecture, threats and vulnerabilities**

**CO2: Apply the different cryptographic operations of symmetric cryptographic algorithms**

**CO3: Apply the different cryptographic operations of public key cryptography**

**CO4: Apply the various Authentication schemes to simulate different applications.**

**CO5: Understand various cyber crimes and cyber security.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	2	1	2	2	-	-	-	1	-	-	1	2	3	3
2	3	3	3	3	3	-	-	-	2	-	-	1	3	3	3
3	3	3	3	3	3	-	-	-	2	-	-	1	3	3	3
4	3	3	3	3	3	-	-	-	2	-	-	1	3	3	3
5	3	2	3	2	3	-	-	-	3	-	-	2	3	2	3
AVg.	3	2.6	2.6	2.6	2.8	-	-	-	2	-	-	1.2	2.8	2.8	3





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## CO – PO – PSO MAPPING

### CS3551 DISTRIBUTED COMPUTING

#### LIST OF COURSE OUTCOMES

**CO1: Explain the foundations of distributed systems (K2)**

**CO2: Solve synchronization and state consistency problems (K3)**

**CO3 Use resource sharing techniques in distributed systems (K3)**

**CO4: Apply working model of consensus and reliability of distributed systems (K3)**

**CO5: Explain the fundamentals of cloud computing (K2)**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	2	2	3	3	1	-	-	-	2	1	3	3	2	1	1
2	1	3	2	1	2	-	-	-	2	2	2	2	1	3	2
3	2	2	1	3	3	-	-	-	3	2	1	1	1	2	1
4	1	2	2	3	1	-	-	-	3	3	2	1	3	1	1
5	3	3	1	2	3	-	-	-	3	3	3	1	3	2	3
AVg.	1.8	2.4	1.8	2.4	2	-	-	-	2.6	2.2	2.2	1.6	2	1.8	1.6



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## CO – PO – PSO MAPPING

### CCW331 BUSINESS ANALYTICS

#### LIST OF COURSE OUTCOMES

**CO1: Explain the real world business problems and model with analytical solutions.**

**CO2: Identify the business processes for extracting Business Intelligence**

**CO3 : Apply predictive analytics for business fore-casting**

**CO4: Apply analytics for supply chain and logistics management**

**CO5: Use analytics for marketing and sales.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	2	2	3	1	1	-	-	-	1	2	1	1	3	2	1
2	3	3	3	2	3	-	-	-	1	2	2	2	3	1	2
3	2	2	3	3	2	-	-	-	3	1	1	3	3	1	2
4	2	1	1	2	2	-	-	-	3	3	2	1	1	3	1
5	2	3	2	3	2	-	-	-	3	3	1	3	3	1	1
AVg.	2.2	2.2	2.4	2.2	2	-	-	-	2.2	2.2	1.4	2	2.6	1.6	1.4

## CO – PO – PSO MAPPING

### CCS375 WEB TECHNOLOGIES

#### LIST OF COURSE OUTCOMES

**CO1: Construct a basic website using HTML and Cascading Style Sheets**

**CO2: Build dynamic web page with validation using Java Script objects and by applying different event handling mechanisms.**

**CO3: Develop server side programs using Servlets and JSP.**

**CO4: Construct simple web pages in PHP and to represent data in XML format.**

**CO5: Develop interactive web applications.**

#### CO –PO-PSO MAPPING

CO's	PO's												PSO's		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	2	3	3	3	-	-	-	1	3	3	1	3	2	3
2	2	2	2	1	2	-	-	-	2	2	1	3	2	2	2
3	1	1	3	2	3	-	-	-	1	2	1	1	1	2	1
4	2	3	3	1	2	-	-	-	3	1	2	2	2	2	2
5	1	2	3	2	2	-	-	-	2	1	3	1	1	1	2
AVg.	1.8	2	2.8	1.8	2.4	-	-	-	1.8	1.8	2	1.6	1.8	1.8	2