



SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM I]

NBCA-101: Fundamentals of Computers and its Applications

Course Outcomes (CO)

At the end of this course, the student will be able to:

CO1	Understand the components, characteristics and limitation of the computer system.
CO2	Understand different types of input devices, output devices and their advantages and disadvantages.
CO3	Understand various types of storage devices and their storage capacities.
CO4	Understand the concept of number system.
CO5	Understand the computer software need and types of software.

CO - PO - PSO Mapping

COURSE OUTCOMES (CO)	PO CO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
	CO1	2	2	2	2	1	2	2	1	1
	CO2	2	2	2	2	2	2	1	2	1
	CO3	2	1	2	2	2	2	2	1	1
	CO4	2	2	1	1	2	2	1	1	1
	CO5	2	2	2	1	2	2	1	1	1
	CO (Average)	2	1.8	1.8	1.6	1.8	2	1.4	1.2	1

The extent of mapping is as follows: 1 → Slight (Low), 2 → Moderate (Medium), 3 → Substantial (High). '-' denotes no correlation between CO, PO & PSO.

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Shri Ramswaroop Memorial College of Management
Mob.: 9839010407



SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM I]

NBCA 102: PROGRAMMING IN C

Course Outcomes (CO)

At the end of this course, the student will be able to:

- CO1 : Understand about writing, compiling and executing a program in C language.
- CO2 : Learn the fundamental building blocks of C Language like constants, variables, identifiers, operators, and type conversion.
- CO3 : To write programs in C-language that involves decisions and iterations.
- CO4 : Understand the implementation of functions, arrays and pointers in C programming language.

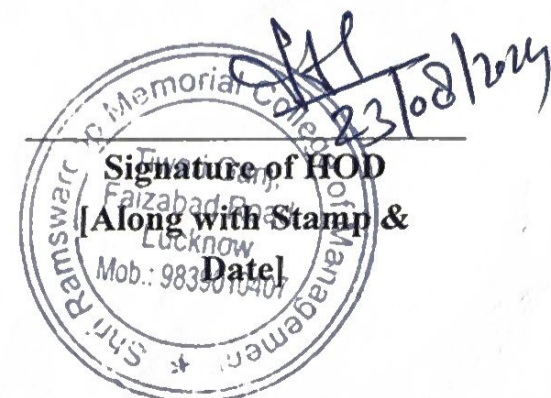
CO - PO - PSO Mapping

CO \ PO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
CO1	3	2	2	2	1	2	-	1	1
CO2	2	3	3	2	2	2	1	1	1
CO3	2	2	2	2	2	2	2	1	1
CO4	1	2	3	3	2	2	2	1	1
CO (Average)	2	2.25	2.5	2.25	1.75	2	1.25	1	1

The extent of mapping is as follows: 1→ Slight (Low), 2→ Moderate (Medium), 3→ Substantial (High).
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Coordinator(s)
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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM I]

NBCA-103: BASICS OF INFORMATION SYSTEM

Course Outcomes (CO)

At the end of this course, the student will be able to:

CO1	Understand fundamental of information system.
CO2	Visualize structure of management information system & decision support system.
CO3	Learn various business application of information system.
CO4	Explore ERP, supply chain management and CRM based information system.

CO - PO - PSO Mapping

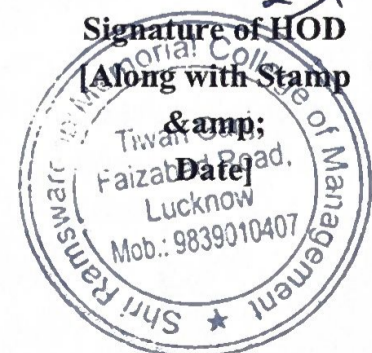
COURSE OUTCOMES (CO)	PO CO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
CO1		3	2	2	2	1	2	1	1	2
CO2		2	2	2	2	2	2	1	1	2
CO3		2	2	2	1	2	2	2	1	2
CO4		2	2	2	2	2	2	2	1	2
CO (Average)		2.25	2	2	1.75	1.75	2	1.5	1	2

The extent of mapping is as follows: 1→ Slight (Low), 2→ Moderate (Medium), 3→ Substantial (High).
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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM I]

NBCA-104: MATHEMATICS

Course Outcomes (CO)

At the end of this course, the student will be able to:

CO1	Use matrices, determinants and techniques for solving systems of linear equations in the different areas of Linear Algebra, Solve Eigen value problems and apply Cayley Hamilton Theorem.
CO2	Study the functions of more than one independent variable and calculate partial derivatives along with their applications.
CO3	Understand and implement the concept of differential equations and learn various methods to solve ordinary differential equations.
CO4	Identify a range of techniques to form the partial differential equations (PDE) and solutions of standard linear PDEs.
CO5	Compute and interpret the results of Bivariate Regression and Correlation Analysis.

CO - PO - PSO Mapping

CO	PO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
COURSE OUTCOMES (CO)	CO1	2	2	3	2	1	2	1	1	1
	CO2	2	2	3	1	1	2	2	2	1
	CO3	2	2	2	1	1	2	2	1	1
	CO4	2	1	2	2	1	2	2	1	1
	CO5	2	3	2	2	2	1	1	1	2
CO (Average)		2	2	2.4	1.6	1.2	1.8	1.6	1.2	1.2

The extent of mapping is as follows: 1→ Slight (Low), 2→ Moderate (Medium), 3→ Substantial (High).
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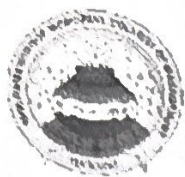
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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM I]

NBCA-105: SOFT SKILLS AND PERSONALITY DEVELOPMENT

Course Outcomes (CO)

At the end of this course, the student will be able to:

CO1	Understand personality and personality aspects.
CO2	Be able to communicate professionally.
CO3	Be able to put forward own view point and create a professional and profitable Pitch.
CO4	Be able to communicate across organizational levels and cultures effectively.
CO5	Be able to negotiate with the odds and bring in best of the results with specific success.
CO6	Understand the need for feedback and constant improvement.

CO - PO - PSO Mapping

CO	PO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO3
CO1		2	3	1	1	3	1	1	1	2
CO2		2	3	1	1	3	1	1	1	2
CO3		2	3	1	1	3	1	1	1	2
CO4		2	3	1	1	3	1	1	1	2
CO5		1	1	1	1	2	1	1	1	1
CO6		1	1	1	1	3	1	1	1	3
CO (Average)		1.6	2.3	1	1	2.8	1	1	1	2

The extent of mapping is as follows: 1→ Slight (Low), 2→ Moderate (Medium), 3→ Substantial (High).
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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM I]

NBCA-106P: COMPUTER APPLICATION LAB

Course Outcomes (CO)

At the end of this course, the student will be able to:

CO1	Understand and implement Microsoft Windows like using notepad word pad to create, delete, and rename text files and folders.
CO2	Understand and implement word processing software like MS Word, MS Excel, MS Power Point.
CO3	Analyze and learn disk operating system and perform its internal and external commands.
CO4	Disassembling and assembling of Computer system and Installation of operating systems (Windows, Linux, etc.), Creating bootable pen drive and Familiarization with data recovery tools.
CO5	Designing of posters/ flyers/ pamphlets etc using online portals like Canva.

CO - PO - PSO Mapping

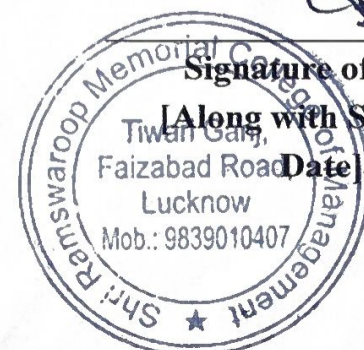
CO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)				
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	2	2	1	2	1	1	1	1
CO2	2	2	2	2	2	2	1	2	1	1
CO3	2	1	2	2	2	2	2	1	1	1
CO4	2	2	2	1	2	2	1	1	1	1
CO5	2	2	2	1	2	2	1	1	1	1
CO (Average)	2	1.8	2	1.6	1.8	2	1.2	1.2	1	1

The extent of mapping is as follows: 1→ Slight (Low), 2→ Moderate (Medium), 3→ Substantial (High). '-' denotes no correlation between CO, PO & PSO.

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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM I]

NBCA107P: PROGRAMMING IN C LAB

Course Outcomes (CO)

At the end of this course, the student will be able to:

- CO1 : Understand the structure, Writing, compilation and Execution of a C program.
- CO2 : Students are able to understand various programming paradigms like conditional statements and iterations.
- CO3 : Understanding Modular approach of problem solving by creating and using functions.
- CO4 : Understanding Data Structures using Arrays and structure types. Also understand the concept of addressing using pointers.

CO - PO - PSO Mapping

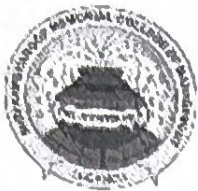
COURSE OUTCOMES (CO)	PO CO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
CO1		3	2	2	2	1	2	-	1	1
CO2		2	2	3	3	2	2	1	1	1
CO3		2	3	3	3	2	2	2	1	1
CO4		1	2	3	3	2	2	2	1	1
CO (Average)		2	2.25	2.75	2.75	1.75	2	1.25	1	1

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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM I]

NBCA-108P: SOFT SKILLS AND PERSONALITY DEVELOPMENT

Course Outcomes (CO)

At the end of this course, the student will be able to:

CO1	To introduce themselves in a professionally curated method in an interview as well as in the social gathering in order to stand out of the crowd with professional grooming and enhanced behavioural traits.
CO2	To display professional attitude as well as speech articulatory skills in order to attain a sustained professional growth in their lives.
CO3	To be able to articulate error free and logical point of view so as to help the policy makers take qualitative decisions.
CO4	To understand the role given to them at their workplace and get in to it seamlessly.
CO5	To understand the public address system so as to overcome technical glitches during their speech delivery. Also, to understand the etiquettes of movement during a public address.

CO - PO - PSO Mapping

COURSE OUTCOMES (CO)	PO CO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	.	.	PSO1	PSO2	.	.
	CO1	3	3	2	1	2	-	-	2	2
	CO2	3	3	1	1	3	1	1	3	3
	CO3	2	1	1	1	3	2	1	2	2
	CO4	3	1	2	1	2	1	1	2	2
	CO5	3	1	1	1	3	-	2	1	2
	CO (Average)	2.8	1.8	1.4	1	2.6	1.3	1.25	2	2.2

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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM II]

BCA 201: DATA STRUCTURE

Course Outcomes (CO)

At the end of this course, the student will be able to:

- CO1 : Learn about Arrays, Data Structure and Linked List with its Operations.
- CO2 : Students develop knowledge about concept of Recursion, Stack & Queue and its Operations.
- CO3 : Understand the working of Binary Tree, and its Operations.
- CO4 : Understand about various searching and sorting techniques, Hashing
- CO5 : Analyze the importance of Graph and its applications as well as traversal of Graph and Minimum Cost Spanning Tree.

CO - PO - PSO Mapping

		PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
COURSE OUTCOMES (CO)	CO1	2	2	2	2	1	2	-	1	1
	CO2	2	2	2	1	2	2	1	2	1
	CO3	2	2	2	2	2	2	2	1	1
	CO4	1	2	2	1	2	2	1	1	1
	CO5	2	2	2	1	1	1	1	-	1
CO (Average)		1.8	2	2	1.4	1.6	1.8	1	1	1

The extent of mapping is as follows: 1→ Slight (Low), 2→ Moderate (Medium), 3→ Substantial (High).
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Date of Approval



SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM II]

NBCA-202: DATABASE MANAGEMENT SYSTEM

Course Outcomes (CO)

At the end of this course, the student will be able to:

CO1	Understand database concepts, structures and query language.
CO2	Understand the E R model and relational model.
CO3	Design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS.
CO4	Understand concept of transaction processing.
CO5	Identify the concurrency control techniques.

CO - PO - PSO Mapping

CO \ PO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
CO1	2	3	3	1	2	2	-	3	3
CO2	2	3	3	3	2	2	1	3	2
CO3	2	3	2	3	2	2	2	2	3
CO4	2	2	2	3	3	2	2	2	2
CO5	2	2	2	2	2	2	2	1	1
CO (Average)	2	2.6	2.4	2.4	2.2	2	1.4	2.2	2.2

The extent of mapping is as follows: 1 → Slight (Low), 2 → Moderate (Medium), 3 → Substantial (High).
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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM II]

NBCA-203: OPERATING SYSTEM

Course Outcomes (CO)

At the end of this course, the student will be able to:

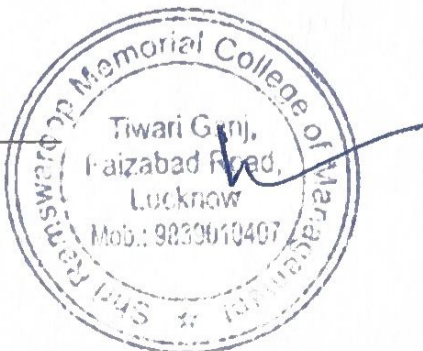
CO1	:	Analyze various process scheduling Algorithms and their comparisons.
CO2	:	Understand the process synchronization problems.
CO3	:	Implement the concept of deadlock detection and avoidance.
CO4	:	Compare and contrast various Memory Management schemes and Page replacement policies..
CO5	:	Understand the concept of File and Disk Management.

CO - PO - PSO Mapping

COURSE OUTCOMES (CO)	PO CO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
CO1		3	3	2	1	2	3	2	1	2
CO2		3	2	2	3	2	3	2	1	1
CO3		3	2	2	1	2	3	2	1	2
CO4		3	2	1	2	3	2	3	2	2
CO5		2	1	2	2	1	2	2	1	2-
CO (Average)		2.8	2	1.8	1.8	2	2.6	2.2	1.2	1.8

The extent of mapping is as follows: 1→ Slight (Low), 2→ Moderate (Medium), 3→ Substantial (High).
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Date of Approval

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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM II]

NBCA-204: DISCRETE MATHEMATICAL STRUCTURES

Course Outcomes (CO)

At the end of this course, the student will be able to:

CO1	Apply logical skills developed in this course, in various computer applications
CO2	Apply the computing skills to formulate, solve and analyze interdisciplinary real-world problems for higher study and research.
CO3	Apply various algebraic structures in different branches of computer science.
CO4	Apply Graph theoretical concepts to modal, analyze and solve real-world problems.

CO - PO - PSO Mapping

CO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
CO1	2	1	2	2	1	2	2	2	1
CO2	2	1	2	2	1	2	2	2	1
CO3	2	1	2	2	1	2	2	1	1
CO4	2	1	2	2	1	2	2	2	1
CO (Average)	2	1	2	2	1	2	2	1.75	1

The extent of mapping is as follows: 1 → Slight (Low), 2 → Moderate (Medium), 3 → Substantial (High).
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Dr. S. Ali

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27/02/2024

Date of Approval



SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM II]

NBCA 205: DIGITAL ELECTRONICS & COMPUTER ORGANIZATION

Course Outcomes (CO)


At the end of this course, the student will be able to:

- CO1 : Design various logic gates and simplify Boolean functions.
- CO2 : Design various flip flops, shift registers and determining outputs.
- CO3 : Analyze, design and implement combinational logic gates.
- CO4 : Perform computer arithmetic operations.
- CO5 : Understand the control unit, memory design and I/O organization of computer system.

CO - PO - PSO Mapping

		PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
COURSE OUTCOMES (CO)	CO1	3	2	2	2	1	2	1	1	1
	CO2	2	2	2	1	2	2	1	1	1
	CO3	2	2	2	1	2	2	1	1	1
	CO4	2	2	2	1	2	2	2	1	1
	CO5	1	2	2	1	2	2	2	1	1
CO (Average)		2	2	2	1.2	1.8	2	1.4	1	1

The extent of mapping is as follows: 1→ Slight (Low), 2→ Moderate (Medium), 3→ Substantial (High).
'-' denotes no correlation between CO, PO & PSO.


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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM II]

NBCA-206P: DATA STRUCTURE LAB

Course Outcomes (CO)

At the end of this course, the student will be able to:

CO1	:	Understand the programming concepts of array, queue, and linked list.
CO2	:	Understand the role of BFS and DFS.
CO3	:	Implement linear and binary searching techniques in C programming.
CO4	:	Implement various sorting techniques in C programming.

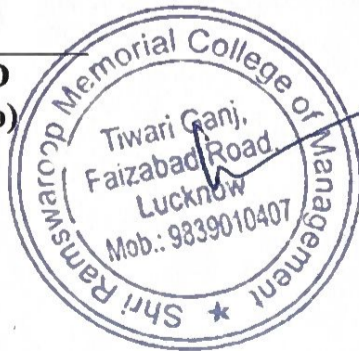
CO - PO - PSO Mapping

COURSE OUTCOMES (CO)	PO CO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
CO1		2	2	2	2	1	2	-	1	1
CO2		2	2	2	2	2	2	1	2	1
CO3		2	1	2	2	2	2	2	1	1
CO4		2	2	2	1	2	2	1	1	1
CO (Average)		2	1.75	2	1.75	1.75	2	1	1.25	1

The extent of mapping is as follows: 1→ Slight (Low), 2→ Moderate (Medium), 3→ Substantial (High).
'-' denotes no correlation between CO, PO & PSO.

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Date of Approval



SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM II]

NBCA-207P: DATABASE MANAGEMENT SYSTEM LAB

Course Outcomes (CO)

At the end of this course, the student will be able to:

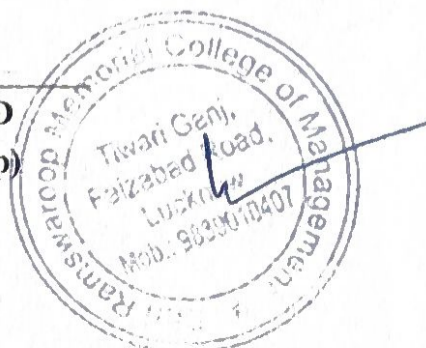
CO1	:	Design and implement a data base schema for a given problem domain.
CO2	:	Create and maintain tables using SQL.
CO3	:	Populate and query a database using SQL.
CO4	:	Create and implement cursors, triggers, procedures and functions.

CO - PO - PSO Mapping

		PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
COURSE OUTCOMES (CO)	CO									
	CO1	2	2	1	1	1	3	2	2	1
	CO2	2	2	1	1	1	2	2	2	1
	CO3	2	2	1	1	1	2	1	1	2
	CO4	2	2	1	1	1	1	1	1	1
CO (Average)	2	2	1	1	1	2	1.5	1.5	1.25	

The extent of mapping is as follows: 1→ Slight (Low), 2→ Moderate (Medium), 3→ Substantial (High). '-' denotes no correlation between CO, PO & PSO.

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SHRI RAMSWAROOP MEMORIAL COLLEGE OF MANAGEMENT

BCA [SEM II]

NBCA-208P: OPERATING SYSTEM LAB

Course Outcomes (CO)

At the end of this course, the student will be able to:

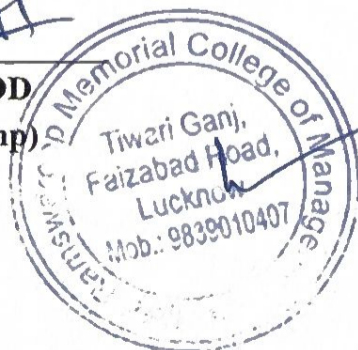
CO1	Analyze various process scheduling Algorithms and their comparisons.
CO2	Understand the concept of deadlock handling utilizing Banker's algorithm.
CO3	Contrast FIFO, LRU and Optimal Page replacement policies.
CO4	Demonstration of memory management using paging technique.

CO - PO - PSO Mapping

CO	PO	PROGRAM OUTCOMES (PO)					PROGRAM SPECIFIC OUTCOMES (PSO)			
		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
COURSE OUTCOMES (CO)	CO1	1	1	2	3	1	2	-	3	2
	CO2	2	2	3	3	2	2	1	2	2
	CO3	2	2	2	3	2	2	2	2	2
	CO4	2	2	3	2	1	2	2	1	2
CO (Average)		1.75	1.75	2.50	2.75	1.50	2	1.25	2	2

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