CO-PO Matrices of Courses:

MCA-I SEMESTER –I

1. **SEM I Subject Code: CC101: Introduction to Programming**

Course Code	Course Outcomes
CC101-1	Understand Basic Syntax of Python Programming.
CC101-2	Demonstrate and implement concepts of object oriented methodology using Python.
CC101-3	Develop problem solving skills and their implementation through Python
CC101-4	Design Graphical user Interfaces in Python.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
C101.1	2	2	2	2	2	-	2	-
C101.2	2	2	3	3	2	-	2	-
C101.3	2	3	3	3	2	-	3	-
C101.4	2	2	3	2	2	-	2	-
Average	**2**	**2.25**	**2.75**	**2.5**	**2**	**-**	**2.25**	**-**

2. SEM I Subject Code: CC102: Computer Architecture and Operating System

Course Code	Course Outcomes
CC102-1	Understand the architecture and working of hardware components in digital computer
CC102-2	Compare different memory devices used in digital computer.
CC102-3	Describe the basic concepts and functions of Operating System.
CC102-4	Illustrate features and significance of Linux operating system.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
C102.1	3	3	2	2	1	-	-	-
C102.2	3	3	2	2	1	-	-	-
C102.3	3	3	3	2	1	-	-	-
C102.4	3	3	3	2	1	-	-	-
Average	**3**	**3**	**2.5**	**2**	**1**	**-**	**-**	**-**

3. SEM I Subject Code: CC103: RDBMS

Course Code	Course Outcomes

CC103-1	1. Understand the fundamentals of relational systems including data models, database architectures, and database manipulations using SQL.
CC103-2	2. Design normalized database for business applications.
CC103-3	3. Understand the use of procedural Structured Query Language (PL/SQL).
CC103-4	4. Demonstrate programs using PL/SQL.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
C103.1	3	2	2	1	3	-	2	1
C103.2	2	3	3	1	3	-	2	2
C103.3	2	2	2	1	3	-	2	1
C103.4	3	2	2	1	3	-	2	1
Average	**2.5**	**2.25**	**2.25**	**1**	**3**	**-**	**2**	**1.25**

4. SEM I Subject Code: CC104: Statistical and Mathematical Foundations

Course Code	Course Outcomes
CC104-1	Understand the fundamentals of relational systems including data models, database architectures, and database manipulations using SQL.
CC104-2	Implement the algorithms using descriptive Statistical Analysis.
CC104-3	Apply a variety of methods for explaining, summarizing and presenting data and interpreting results clearly.
CC104-4	Perform the data analysis using classification and present the results of the analysis.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
AEC104.1	3	2	2	2	1	-	-	2
AEC104.2	3	2	2	3	1	-	-	2
AEC104.3	3	3	2	3	2	-	-	2
AEC104.4	2	3	3	3	2	1	-	2
Average	**2.75**	**2.5**	**2.25**	**2.75**	**1.5**	**1**	**-**	**2**

5. SEM I Subject Code: AEC105: Principles of Management and Organizational Behavior

Course Code	Course Outcomes
AEC 105-1	Understand basics of principles of management and organization behavior.
AEC 105-2	Understand concepts of Personality, learning, emotions, motivation and staffing & control
AEC 105-3	Understand Group behavior, team building, communication and leadership.
AEC 105-4	Understand Organizational culture, change and development.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
AEC105.1	2	2	2	-	2	3	1	2
AEC105.2	1	1	1	-	3	2	2	3
AEC105.3	1	2	1	-	3	2	2	2
AEC105.4	1	2	1	-	2	2	2	3
Average	**1.25**	**1.75**	**1.25**	**-**	**2.5**	**2.25**	**1.75**	**2.5**

6. SEM I Subject Code: GE107: Knowledge Management

Course Code	Course Outcomes
GE107-1	Understand concept of knowledge management and technology application for Knowledge Management.
GE107-2	Use the knowledge management tools.
GE107-3	Understand knowledge management Applications.
GE107-4	Design knowledge management strategy for organization.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
GE107.1	2	2	1	1	1		1	1
GE107.2	1	1	2	3	1		1	1
GE107.3	1	2	2	2	2	1	1	1
GE107.4	1	3	3	3	3	2	2	2
Average	**1.25**	**2**	**2**	**2.25**	**1.75**	**1.5**	**1.25**	**1.25**