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PRESIDENCY UNIVERSITY BENGALURU

SCHOOL OF COMMERCE

# Make-Up Examinations, July 2024

**Semester**: III

**Course Code**: MGI239

**Course Name**: R for Business Analytics

**Date**: 02/ July / 2024

**Time**: 9:30 AM-12:30PM

**Max Marks**: 100

**Weightage**: 50%

# Instructions:

1. *Read the all questions carefully and answer accordingly.*
2. *Question paper consists of three parts.*
3. *Scientific and Non Programable Calculators are Permitted.*
4. *Do not write any information on the question paper other than roll number.*

# Part A

**Answer any FIVE Questions. (5 Q x 2 M = 10 M)**

1. Describe the primary categories of datasets in R programming.
2. What syntax is used to assign a value to a variable in R?

(C.O.No.1) [Understand]

(C.O.No.2) [Remember]

1. Why is it important to address missing values in a dataset during data analysis?

(C.O.No.2) [Remember]

1. List any two visualization tools available in R programming.

(C.O.No.1) [Understand]

1. How would you write R code to calculate the square root of a given number x?

(C.O.No.3) [Apply]

1. What is the command for installing a package in R?
2. Define vector in R and its utility in data analysis?

(C.O.No.3) [Apply]

(C.O.No.1) [Understand]

# Part B

**Answer any FIVE Questions. (5 Q x 10 M = 50 M)**

1. Describe the concept of a matrix in R and illustrate its structure with an example.

(C.O.No.3) [Apply]

1. List some popular file formats that can be imported into R, and explain the advantages of each format.
2. Describe the key features of R as a programming language.

(C.O.No.3) [Apply]

(C.O.No.2) [Remember]

1. Illustrate the difference between R's built-in packages and user-installed libraries.

(C.O.No.3) [Apply]

1. Analyze the distinction between correlation and regression analysis in statistics, and provide examples of scenarios where each method would be appropriately applied.

(C.O.No.3) [Apply]

# Part C

**Answer any TWO Questions. (2 Q x 20 M = 40 M)**

1. Create an R program to calculate the discount based on the total order value with the following criteria: if the total order value is greater than 10,000, apply a 7% discount; if the total order value is between 5,000 and 10,000, apply a 5% discount; otherwise, apply a 3% discount. Write the R code to implement this logic.

(C.O.No.3) [Apply]

1. Write an R script that performs the following tasks:
   * Create a vector named as sales containing the monthly sales figures ($) for a company for one year: 1500, 2000, 1700, 2200, 2500, 2100, 1900, 2300, 2400, 1800, 2600, 2700.
   * Calculate the total sales for the year and print the result.
   * Calculate the average monthly sales and print the result.
   * Create a bar plot to visualize the monthly sales data. Label the x-axis as "Month" and the y- axis as "Sales in Dollars".

(C.O.No.3) [Apply]

1. Write an R script to create a simple calculator that performs basic arithmetic operations \ (addition, subtraction, multiplication, and division) based on user input. The script should follow these steps:
   * Prompt the user to enter the first number and store it in a variable.
   * Prompt the user to enter the second number and store it in a variable.
   * Prompt the user to enter the operation they want to perform (+, -, \*, /).
   * Use if, else if, and else statements to perform the specified operation and display the result. If the user enters an invalid operation, display an error message.

(C.O.No.3) [Apply]