Roll No…….. **Total No. of Printed Pages: 1**
Total No. of Questions: [10]

MBA (Semester – 4th)
DATA SCIENCE USING R
Subject Code: MBADD6421
Paper ID: [20260183]

Time: 03 Hours **Maximum Marks: 60**

Instruction for candidates:

1. Section A consists of 10 compulsory short notes of two marks each.
2. Section B consists of Four Units (Unit – I, II, III & IV). Each unit contains two questions of 8 marks each. Student has to attempt one question from each unit.
3. Section C (8 Marks): A short Case Study related to the syllabus.

Section – A **(2 marks each)**

Q1. Attempt the following:
a) Define S-plus
b) SAS versus R
c) Define Cluster analysis
d) How missing data can be handled in R?
e) Define PCA in R.
f) Explain the primary purpose of the lattice library in R.
g) Write about linear regression.
h) Define Bioconductor in R.
i) What are the main challenges one might encounter when migrating from SAS to R for data analysis and statistical modeling?"
j) Define functions in R

Section – B **(8 marks each)**

UNIT-I

Q2. What are the different types of objects in R? Give examples of each type and write their characteristics.
Q3. Explain the arithmetic and matrix operations in R. Discuss the different operators used for arithmetic calculations and matrix manipulations.

UNIT-II

Q4. Explain different types of loops available in R. When would you use each type, and what are the key differences between them?
Q5. How you can read data from external sources in R? Explain R libraries in detail.

UNIT-III

Q6. Discuss the process of creating a model formula for logistic regression in R. Enumerate and elaborate on three important options that can be utilized in logistic regression models.
Q7. What are some commonly used model options for enhancing the performance and interpretability of statistical models in R?

UNIT-IV

Q8. Write about Plotting and Graphics in R. Explain with example.
Q9. Describe the process of importing and subsetting data in R, and how various techniques like merging datasets and creating new variables can be applied for advanced data manipulation.

Section – C **(8 marks)**

Q10. Case Study:
Imagine a company similar to "Acme Analytics" deciding to migrate from SAS to R for their data analytics needs. Discuss the unique benefits and difficulties they may experience during the migration process. Give recommendations on how the company can use R's capabilities, as defined in the four divisions, to improve its data analytics skills, which will in turn lead to better decision-making and service offerings.