Code No.: AI623PE | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–II–Semester End Examinations (Supply) - January- 2024
R-PROGRAMMING
(CSM)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1. a)	List out any five features of R.	[2M]
b)	Write any 4 packages in R.	[2M]
c)	Write any 2 input and output functions in R programming.	[2M]
d)	Write about vectors in R.	[2M]
e)	Define the structure of a data frame using str () function.	[2M]
f)	Define R lists?	[2M]
g)	List any two common functions used in factors.	[2M]
h)	Write any Four Math functions in R.	[2M]
i)	What are the OOP concepts in R?	[2M]
j)	What are the S3 method functions?	[2M]

PART-B **(50 Marks)**

2.a)	What are the different data types in R?	[5 M]
b)	What are the different values that can be assigned to a numeric data type in R?	[5 M]
	OR	
3.a)	Write an R program to get the first 10 Fibonacci numbers.	[5 M]
b)	Explain any 2 packages in R programming.	[5 M]
4.	Write about control statements in R.	[10M]
	OR	
5.	Define an array. How to create an array? Explain with one example program.	[10M]
6.	How to create a list and demonstrate all the ways of accessing a list component.	[10M]
	OR	
7.a)	List out the characteristics of a data frame.	[5 M]
b)	Show how to extract data from data frame. Explain with an example.	[5 M]
8.	Explain attributes of a factor in R.	[10M]
	OR	
9.	Write an R program to create a matrix taking a given vector of numbers as input and define the column and row names. Display the matrix.	[10M]
10.	What are the S genetic functions? Explain with examples.	[10M]
	OR	
11.	Illustrate code profiling in R.	[10M]

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