

1. Say True or False for the below statements:

- a. Base R packages installed automatically?
- b. The number of values in each Elements of a list, should be equal.
- c. Data frames and matrices are two dimensional however the array is multidimensional.

2. What is Recycling of elements in a vector? Give an example of recycling of elements.

OR

Explain different data types in R with examples.

3. What should be the output of the following Script?

```
v <- c( 2,5.5,6)
t <- c(8, 3, 4)
print(v%%t)
```

4. Write following user defined functions using R (any 3):

- a. increment() with 2 arguments “number” and “by”. Which increments a no. by 1
- b. printnumbers() which can print nos. from 1 to 20
- c. printletters() which prints alphabets from “A” TO “H”
- d. mysort() which can sort the values of a vector in ascending order
- e. mydivision() which returns quotient and remainder

5. Write a R code for the following :

- a. Create a dataframe named “mydf “ with 4 columns “name”, “age”, “salary” and “hobby” and 6 observations.
- b. Change the column names to “empname”, “empage”, “empsalary” and “emphobby”
- c. Save/Export the dataframe in .csv and .xlsx format

6. Import the dataset named “grades.csv” and perform any 5 basic statistics operations using R.