COEP Technological University

(COEP Tech)

A Unitary Public University of Government of Maharashtra

[MA-23005] Probability and Statistics

Program : F.Y.B.Tech | Academic Year : 2023-24

Examination : Med-Sem exam on R software | Maximum Marks : 35

Branch: **Student MIS Number :** | | | | | | | | | |

Instructions :

1. Write an appropriate R command giving titles to the graph.
2. Save the output file using your MIS ID.
3. Displaying legend box is compulsory for some graphs.

Attempt All the questions.

Q.1) For the following frequency distribution [5M]

x	1	2	3	4	5
f	7	11	9	8	3

Write a R code to find

a) Mean

b) Median

c) Mode

d) Seventh decile

e) 29th percentile.

Q.2) Create a dataframe of the following two vectors: [2M]

Price	10	15	30	42	50	60
Qty	4	20	15	10	16	8

Also write a R code to add vector/variable named value=price*qty in the created dataframe.

Q.3) Suppose the age is a vector containing ages of 10 persons as 22,27,31,41,30,25,19,20,23,35 [5M]

a) Access the age of persons except 5th and 7th.

b) Create a vector 'age30'with age of persons>30

c) Access the age of 4th,5th and 6th persons

d) Create a vector 'age 2' with age of persons between 20 and 25

e) Access the age of last 3 persons.

Q.4) Create a heatmap using inbuilt iris datasets. [3M]
Also write a R code for the following

a) Write a code to remove row dendrogram

b) Write a code to remove column dendrograms:

Q.5) Write a R code to Present the following data into subdivided bar diagram and multiple bar diagram.The data relating to the students population of a college in the different departments for 3 years are given below.Also display legend box. [5M]

	1965	1975	1985
Arts	300	400	500
Science	180	300	380
Commerce	300	500	600
Law	200	250	300

Q.6) Solve the following questions [5M]

a) Write a R program to create a Dataframes which contain details of 5 employees and display summary of the data.

b) Write a R program to create a two-dimensional 5×3 array of sequence of even integers greater than 50.

c) Write a R program to find the levels of factor of a given vector 1, 2, 3, 3, 4, NA, 3, 2, 4, 5, NA, 5.

d) Write a R program to create a list containing strings, numbers, vectors and a logical values.

e) Write a R program to create a vector which contains 10 random integer values between -50 and +50.

Q7) Read the file moviesData.csv and solve the following questions. [5M]

a) Use the moviesData. Create a histogram of the object named imdb_num_votes in this file.

b) Create a pie chart of the object mpaa_rating.

c) Create a bar chart of critics_score for the first 10 movies.

d) Create a scatter plot of imdb_rating and imdb_num_votes to see their relation.

e) Create a boxplot for dvd_rel_day variable and also display labels.

Q8) For the following in built dataset CO2 in R.Write a R program taking the uptake variable and calculate the following terms [5M]

a) Standard deviation.

b) Quartile deviation.

c) Range.

d) Mode.

e) Coefficient of range.