UNIVERSITY OF NORTH BENGAL

B.Sc. Programme 3rd Semester Examination, 2020

SEC1(P1)-STATISTICS

STATISTICAL DATA ANALYSIS USING R

Full Marks: 60

ASSIGNMENT

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

GROUP-A

Answer any *four* questions from the following   3×4 = 12

1. Explain how you can start the R commander GUI ?

2. In R how can you import the data?

3. Write the difference between library () and require () functions in R.

4. What is the use of With () and By () function in R?

5. What is the function used for adding datasets in R?

6. What is the difference between matrix and data frames in R?

GROUP-B

Answer any *four* questions from the following   6×4 = 24

7. Write the advantages and disadvantages of R.   6

8. Write the differences between two well-known languages R and Python.   6

9. What makes a valid variable name in R? What are the different objects in R? Which data object in R is used to store and process categorical data? 2+2+2

10. What are different ways to call a function in R? Vector v is $c(1, 2, 3, 4)$ and list x is list (5:8). What is the output of $v^*x[1]$? What is the output of runif (4)? 3+2+1

11. What is reshaping of data in R? Write about type conversions in R? 3+3

12. The student taught by 3 different methods gave the following performance (marks): 6

    A 19, 9, 12, 16, 7, 14, 11

    B 8, 13, 3, 17, 15

    C 14, 11, 10, 9, 15, 16

    Construct the analysis of variance table by using R-Code.

GROUP-C

Answer any *two* questions from the following $12 \times 2 = 24$

13.(a) Explain different data structures in R. 6

   (b) Implement binary search tree in R. 6

14.(a) Explain different types of operators in R. 5

   (b) Write about control statements in R. 7

15.(a) Write about all summary commands in R. 4

   (b) What is cumulative sum, product, min, max? Explain with example. Write R functions used for this purpose. 4+2+2

16.(a) Write about scatter plot and histograms with examples. Explain its importance. 4+2

   (b) How to plot multiple curves in same graph? Explain with example. 3+3

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