UNIVERSITY OF NORTH BENGAL

B.Sc. Programme 6th Semester Examination, 2021

SEC4 (P2)-STATISTICS

Full Marks: 60

ASSIGNMENT

The figures in the margin indicate full marks.
All symbols are of usual significance.

The question paper contains paper SEC-T1 and SEC-T2.
The candidates are required to answer any *one* from *two* papers.
Candidates should mention it clearly on the Answer Book.

SEC-T1

STATISTICAL DATA ANALYSIS USING R

GROUP-A

Answer any *four* questions   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   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 the 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   12×2 = 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

SEC-T2

RESEARCH METHODOLOGY
GROUP-A

Answer any *four* questions   3×4 = 12

1. What do you mean by ethnographic research?

2. What is the objective of research?

3. What is scientific research?

4. What is longitudinal research?

5. What do you mean by correlation coefficient?

6. What is case study?

GROUP-B

Answer any *four* questions   6×4 = 24

7. What is research? Discuss the role of research in important areas.   2+4

8. Briefly discuss the qualitative and quantitative research with examples.   6

9. Explain the fundamental research and applied research.   6

10. Discuss about the survey methods of research.   6

11. What are the characteristics of survey and experimental research?   6

12. What are techniques of data interpretation?   6

GROUP-C

Answer any *two* questions   12×2 = 24

13. What is action research? Discuss its characteristics. How the action research is conducted?   2+3+7

14. Explain the concept of research design and needs and components of research design.   12

15. What is research proposal? Discuss the steps followed in research proposal.   2+10

16. What do you mean by sampling? What are objectives of sampling? Briefly discuss about the various types of sampling.   3+3+6

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