INTEGRATED MSC DEGREE EXAMINATION, FEBRUARY 2024

First Semester

INTEGRATED MSC BASIC SCIENCE-STATISTICS

CORE - IST1CR03 - AN INTRODUCTION TO STATISTICAL COMPUTING USING EXCEL AND R

2020 Admission Onwards

0D7E81CE

Time: 3 Hours   Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. What is meant by data labels and how can you add data labels?

2. Name any two conditional average functions.

3. What happens if you use MODE.MULT on a set of numbers with single mode?

4. Explain missing values in R.

5. Evaluate mean and variance for following data using R: 4, 5, 2, 13.

6. Write the R command for legend function with arguments.

7. In R, which fuction is using to draw Stem-and-leaf diagram.

8. Establish the relatioship between raw moment and cental moments.

9. What is meant by variables in octave?

10. List out the two aspects of operating on arrays.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Differentiate the tools Correlation and Covariance.

12. Describe the steps to use Descriptive Statistics tool.

13. Give a breif note on technical features of R.

14. Explain arithmetic operators in R with example.

15. What are the three steps involved in making inferences about the population under study?

16. Write an R commands to access the data cats from library MASS ,to plot sexwise box-plots for the variable Hwt(heart weight) and to identify the outlying observations.

17. Write the octave command for computing:

    1. $\sqrt{\sin(10)^2 + \cos(10)^2}$

    2. $\dfrac{\sin(10)}{\sqrt{\cos(10)}}$

18. Explain the flipping of a matrix with suitable examples in octave.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Write down the steps to use FREQUENCY and SUM functions in Excel.

20. Explain the steps to compute population variance and sample variance using Excel functions?

21. Explain methods of data input in R with example.

22. i) Write a short note on physical problems. ii) Make a note on solver iii) Mention the advantages of performing numerical computations using octave.

(2×5=10 weightage)