APRIL 2026 **53705/320C6A/ 341C6A/327C5B**

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer any TEN questions.

1. Define logical operations in R.
2. How do you install R and RStudio?
3. What are numeric data types in R?
4. Define subscripting in vectors.
5. Write syntax for an if-else statement in R.
6. What is vector arithmetic?
7. Write the function for calculating probability.
8. Mention a function used for maxima and minima.
9. Define cumprod() in R.
10. What is skewness?
11. Define kurtosis.
12. Define logistic regression.

PART B — ($5 \times 5 = 25$ marks)

Answer any FIVE questions.

13. Describe the different data types in R with examples.

14. How do you create and use variables in R?

15. Explain vector generation and subscripting techniques.

16. Differentiate between scalar and vector with examples.

17. Describe how to create and interpret a box plot.

18. How is descriptive statistics performed group-wise in R?

19. Write short notes on ARCH and GARCH models.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

20. Discuss variables and data types in R with suitable code examples.

21. Write an R program that performs multiple vector operations.

22. Discuss cumulative functions with appropriate examples.

23. Illustrate the use of describe() and summary() on numerical datasets.

24. Demonstrate a regression analysis workflow including visualization and interpretation.

———————