STATISTICS WITH R PROGRAMMING

(Question Bank)

UNIT – I					
1	A	What are data types used in R? Explain.	L1	CO 1	6M
	B	Why use R for your statistical work?	L1	CO 1	6M
2		Explain the concept of data frames with examples. Create any dataframe with some synthetic data and write code for different operations that can be applied on data frames.	L3	CO 1	12M
3		Create the following vectors in R. a = (5, 10, 15, 20, ..., 160) b = (87, 86, 85, ..., 56) Use vector arithmetic to multiply these vectors and call the result 'd'. Select subsets of d to identify the following. i. What are the 19th, 20th, and 21st elements of d? ii. What are all of the elements of d which are less than 2000? iii. How many elements of d are greater than 6000?	L6	CO 1	12M
4		Explain in detail about vectors in R. Mention its characteristics with proper examples.	L3	CO 1	12M
5		Discuss about matrices in R. Demonstrate various operations on matrices in R.	L3	CO 1	12M
6		What is a list? Explain the concept of lists in R with examples.	L2	CO 1	12M
7	A	Explain R sessions in detail.	L2	CO 1	6M
	B	Why R? Give features of R.	L2	CO 1	6M

UNIT – II					
1	A	What are basic operations in R? Explain with examples.	L1	CO 2	6M
	B	Describe loops in R programming.	L2	CO2	6M
2		What is recursion in R? Why use recursive functions? Write and explain any R recursive program.	L2	CO2	12M
3	A	Explain if-else statements with examples.	L2	CO 2	6M
	B	Discuss about return values in R.	L2	CO 2	6M
4		Describe quicksort implementation using recursion.	L4	CO 2	12M
5	A	Justify the following: "R functions are first-class objects".	L2	CO 2	6M
	B	How to pass default values for arguments in R.			
6		Write R code to return a complex object.	L5	CO2	12M
7		Explain looping over non vector sets with examples.	L2	CO2	12M
8		Implement binary search tree with R	L6	CO2	12M
9		Explain the functioning of lapply() and tapply() in a R program with proper examples	L2	CO2	12M
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UNIT – III					
1		Describe linear algebra operations on vectors and matrices.	L2	CO3	6
2		What is cumulative sum,product,min,max? Explain with an example? Write R functions used for this purpose?	L2	CO3	6
3		Explain about sort(), order() and rank() functions with examples.	L2	CO3	6
4		Develop a function to find the cross product.	L6	CO3	6
5		Explain any six math functions in R with proper example code.	L2	CO3	6
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