

**PRAGATI ENGINEERING COLLEGE: SURAMPALEM  
(AUTONOMOUS)**

**II B.Tech II Semester Regular/Supplementary Examinations, May-2024**

**STATISTICS WITH R PROGRAMMING  
(IT)**

Time: 3 hours

Max. Marks: 70

**Answer ONE Question from each Unit  
All Questions Carry Equal Marks**

Q. No.	Questions		BTL	CO	Marks												
UNIT – I																	
1.	a)	Explain in detail about vectors in R.	K2	CO1	7M												
	b)	Create three vectors x, y ,z with integers and each vector has 3 elements. Combine the three vectors to become a 3×3 matrix A where each column represents a vector. Change the row names to a, b, c.	K3	CO1	7M												
OR																	
2.	a)	Write a R programming to create inner, outer, left, right join(merge) from given two data frames.	K3	CO1	7M												
	b)	What are the advantages and disadvantages of R.	K3	CO1	7M												
UNIT – II																	
3.	a)	Explain binary search tree implementation using R.	K3	CO2	14M												
OR																	
4.	a)	Discuss about loops in R programming with examples.	K3	CO2	7M												
	b)	Explain if-else statement with examples.	K3	CO2	7M												
UNIT – III																	
5.	a)	Explain in detail about math functions in R with an example each.	K2	CO3	7M												
	b)	Write a R code of What is the probability that a card drawn from a pack of playing cards may be either queen or king.	K3	CO3	7M												
OR																	
6.	a)	Explain about finding stationary distributions of Markov chains.	K3	CO3	14M												
UNIT – IV																	
7.	a)	Fit a Poisson distribution for the following data and calculate the expected frequencies <table><tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>f(x)</td><td>109</td><td>65</td><td>22</td><td>3</td><td>1</td></tr></table>	x	0	1	2	3	4	f(x)	109	65	22	3	1	K3	CO4	14M
			x	0	1	2	3	4									
			f(x)	109	65	22	3	1									

OR											
8.	a)	Calculate Coefficient of Correlation from the following data							K3	CO4	7M
	X	12	9	8	10	11	13	7			
	y	14	8	6	9	11	12	3			
	b)	Explain t-distribution and its properties.							K3	CO4	7M
UNIT – V											
9.	a)	Calculate the Regression equations of Y on X and X on Y from the following data							K3	CO5	14M
	Price (Rs.)	10	12	13	12	16	15				
	Amount Demanded	40	38	43	45	37	43				
OR											
10.	a)	Explain logistic regression.							K3	CO5	7M
	b)	Explain Splines.							K3	CO5	7M