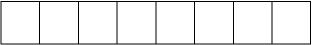
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## G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.



## UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.

(For those admitted in June 2021 and later)

## PROGRAMME AND BRANCH: B.C.A.

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
v	PART - III	CORE	U21CA507	STATISTICAL COMPUTING USING R PROGRAMMING

Date & Session: 08.11.2024 / FN Time: 3 hours Maximum 75 Marks

Date	w 5055.	.011. 00	.11.2024 / FR Inne. 5 hours maximum 75 marks			
Course Outcome	Bloom's K-level	Q. No.	<u>SECTION – A (10 X 1 = 10 Marks)</u> Answer <u>ALL Questions.</u>			
CO1	K1	1.	What is R primarily used for?  a) Web Development b) Statistical Computing and Graphics c) Database Management d) Game Development			
CO1	K2	2.	Which function would you use to find the number of characters in a string in R?  a) nchar() b) length() c) charcount() d) countchar()			
CO2	K1	3.	function is used to create a vector in R. a) vector() b) c() c) list() d) matrix()			
CO2	K2	4.	Which function returns the dimensions of an array in R?  a) dim() b) length() c) ncol() d) nrow()			
CO3	K1	5.	Which function is used to create a list in R.  a) list() b) vector() c) c() d) array()			
CO3	K2	6.	function can be used to add a new column to an existing data frame in R.  a) cbind() b) rbind() c) append() d) merge()			
CO4	K1	7.	function is commonly used to read data from a text file in R. a) read.csv() b) read.table() c) scan() d) import()			
CO4	K2	8.	What type of data is best visualized using a histogram?  a) Categorical data b) Continuous data c) Ordinal data d) Nominal data			
CO5	K1	9.	What is the measure of central tendency that represents the middle value in a sorted data set?  a) Mean b) Median c) Mode d) Range			
CO5	K2	10.	Which statistical test is used to determine the independence of two categorical variables?  a) Chi-Square Test b) T-Test c) ANOVA d) Z-Test			
Course Outcome	Bloom's K-level	Q. No.	$\frac{\text{SECTION} - B \text{ (5 X 5 = 25 Marks)}}{\text{Answer } \frac{\text{ALL}}{\text{Questions choosing either (a) or (b)}}$			
CO1	КЗ	11a.	Write the key differences between the R console and the R script editor in RStudio.  (OR)			
CO1	КЗ	11b.	Demonstrate how you would use the cat() function to print a combination of text and variable values in R.			

CO2	K3	12a.	Find the various function of vectors with an example.
			(OR)
CO2	КЗ	12b.	Write a R program to create a two-dimensional 5x3 array of sequence of even
CO2	KS	140.	ı e
			integers greater than 50.
CO3	K4	13a.	Determine how to access the List elements? Give an example.
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			(OR)
CO3	K4	13b.	Illustrate R program to create a data frame from four given vectors.
CO4	K4	14a.	Analyze the impact of data formatting when exporting a data frame from R to
			a text file.
			(OR)
CO4	K4	14b.	Compare Kernel Density Plots to Histograms for data distribution
CO4	N4	140.	
			visualization. What are the benefits and drawbacks of using Kernel Density
			Plots?
CO5	K5	15a.	Assess to create a contingency table in R, and what are its applications in
			data analysis?
			(OR)
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CO5	K5	15b.	Criticize Pearson correlation coefficient, and how does it differ from the
			Spearman rank correlation coefficient in terms of data assumptions?
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Course Outcome	Bloom's K-level	Q. No.	SECTION - C (5 X 8 = 40 Marks)  Answer ALL Questions choosing either (a) or (b)
CO1	К3	16a.	Construct a R program to take input from the user (name and age) and display the values. Also print the version of R installation.  (OR)
CO1	КЗ	16b.	Determine the mathematical functions and string function used in R with an example.
CO2	K4	17a.	Write a R program to create three vectors a,b,c with 3 integers. Combine the three vectors to become a 3×3 matrix where each column represents a vector. Print the content of the matrix.  (OR)
CO2	K4	17b.	Examine how to create an array, access the element of an array and its function in R program with an example?
CO3	K4	18a.	Analyze how to create a factors and accessing the components in factors using R program?  (OR)
CO3	K4	18b.	Illustrate the various data frame in R program. Give an example.
CO4	K5	19a.	Write a R program to create a simple bar plot of five subjects marks.  (OR)
CO4	K5	19b.	Justify main R packages used to read data from Excel files, and how do they handle multi-sheet Excel files?
CO5	K5	20a.	Interpret the key components of Descriptive Statistics, and how do they provide insights into a dataset?  (OR)
CO5	K5	20b.	Interpret the significance of analyzing correlation and covariance at successive lags, particularly in time series analysis?