23CBA416N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION DECEMBER 2025
(Fourth Semester)

Branch - **COMMERCE (BUSINESS ANALYTICS)**

R PROGRAMMING

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Q. no	Question	K Level	CO
1	R is primarily used for ---------- A) Web development B) Statistical computing and graphics C) Mobile application development D) Network configuration	K1	CO1
2	The function that combines vectors by columns is ---------- A) rbind() B) cbind() C) colbind() D) merge()	K2	CO1
3	The mode of an object in R represents ---------- A) The most frequent value B) The storage mode or data type C) The size of the object D) The class type of an object	K1	CO1
4	The function that gives the dimension of an array is --------- A) dim() B) size() C) shape() D) array.dim()	K2	CO1
5	Function is used to create a list in R is ---------- A) list() B) c() C) vector() D) data.frame()	K1	CO1
6	command to add a new column to a data frame is ---------- A) add() B) cbind() C) merge() D) append()	K2	CO1
7	In R, a block of grouped expressions returns ---------- A) Only the first value B) Only the last evaluated expression's value C) The average of all values D) Nothing	K1	CO1
8	The statement used for multiple condition checking in R is ---------- A) switch() B) elif() C) elseif D) ifelse()	K2	CO1
9	The plot() function in R can be used to create---------- A) Only scatterplots B) Scatterplots, lines, and type-specific graphs C) Only histograms D) Only barplots	K1	CO1
10	Mathematical expressions in plots can be added using---------- A) math() B) expression() C) text() D) mtext()	K1	CO1

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Q. No		Question	K Level	CO
11	a)	Explain the features and components of the R Environment	K2	CO2
		[OR]		
	b)	Illustrate character vectors in R		
12	a)	What is a ragged array? How can we handle uneven-length data using lists and tapply() in R?	K3	CO3
		[OR]		
	b)	Write an R script to demonstrate mixed vector and array arithmetic.		
13	a)	Discuss the advantages and limitations of data frames compared to matrices and lists.	K3	CO3
		[OR]		
	b)	Summarize the steps involved in importing and exploring datasets in R		
14	a)	List and describe different types of control statements available in R with examples	K4	CO4
		[OR]		
	b)	Justify the use of ifelse() over multiple if...else statements in handling vectorized conditions.		
15	a)	Define high-level and low-level plotting functions in R. Give one example of each.	K4	CO4
		[OR]		
	b)	Describe the role of mathematical annotation in R plots		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Q. no	Question	K Level	CO
16	Explain how to execute R commands and divert output to files.	K3	CO3
17	What are factors in R? Explain how ordered and unordered factors are created and used in statistical modeling.	K4	CO4
18	Write a detailed note on list indexing in R.	K4	CO4
19	Describe the difference between for, while, and repeat loops in R. Explain with an example where each type of loop is preferable.	K5	CO5
20	How can you display multivariate data effectively in R? Name one function and explain briefly.	K5	CO5

Z-Z-Z END