PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(Fourth Semester)

Branch - COMPUTER SCIENCE WITH DATA ANALYTICS

R PROGRAMMING FOR DATA ANALYSIS

Time: Three Hours   Maximum: 75 Marks

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

Question No.	Question	K Level	CO
1	Tell the key reason for the early adoption of R by S-PLUS users. a) R had superior graphics capabilities compared to S b) R's syntax was very similar to S, making it easy to switch c) R provided better statistical models than S d) R was already available on mobile devices	K1	CO1
2	Show which of the following is NOT one of the five basic (atomic) classes of R objects? a) character b) Boolean c) complex d) logical	K2	CO1
3	Identify function that is used to read tabular data into R a) read.csv b) readLines c) serialize d) save	K1	CO1
4	Relate the function used to output a textual representation of an R object? a) dput b) write.table c) load d) serialize	K2	CO2
5	Which class is used to represent dates? a) POSIXct b) POSIXlt c) Date d) Time	K1	CO1
6	Identify the first argument of most dplyr functions. a) A vector b) A matrix c) A data frame d) A list	K2	CO3
7	Which of the following is NOT commonly used for optimization? a) optim() b) nlm() c) optimize() d) summary()	K1	CO1
8	Identify recommended alternative if too many nested loops are needed. a) Using functions to break up the loops b) Writing the loops in a single line c) Ignoring nested loops altogether d) Converting loops into data frames	K2	CO1
9	Which function in R is used to generate a generic notification or diagnostic message? a) stop() b) warning() c) message() d) print()	K1	CO1
10	Show which of the following R functions is used to generate random numbers from a Normal distribution. a) pnorm() b) dnorm() c) rnorm() d) qnorm()	K2	CO2

SECTION - B (35 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Analyze about creating Vectors and factor	K4	CO5
	(OR)		
11.b.	List at least four common attributes and describe their significance in R objects.		

12.a.	Distinguish between read.table() and read.csv() functions in R.	K4	CO5
	(OR)		
12.b.	Describe the process and importance of estimating memory requirements before loading large datasets into R.		
13.a.	Assess the way of Subsetting Lists.	K5	CO5
	(OR)		
13.b.	Explain about Vectorized Operations.		
14.a.	Evaluate the need of FOR LOOP with an example.	K5	CO5
	(OR)		
14.b.	Explain about scoping rules for R.		
15.a.	Discuss about debugging Using traceback() and debug() .	K6	CO5
	(OR)		
15.b.	Elaborate on Simulating a Linear Model.		

SECTION -C (30 Marks)
Answer ANY THREE questions
ALL questions carry EQUAL Marks   (3 × 10 = 30)

Question No.	Question	K Level	CO
16	Survey on the basic features of R.	K4	CO5
17	Examine about Using Textual and Binary Formats forStoring Data.	K4	CO5
18	Explain the functions provided by the dplyr package.	K5	CO5
19	Evaluate argument matching and Lazy evaluation in functions.	K5	CO5
20	Discuss about functions which implement loopingin a compact form.	K6	CO5

Z-Z-Z   END