NARSIMHA REDDY ENGINEERING COLLEGE

MODEL QUESTION PAPER

(UGC AUTONOMOUS)

III B.Tech I Semester (NR20) Regular Examination, January 2023

R-PROGRAMMING

(CSE / Common to Branch Names – DS/AI&ML)

Time :3 hours	Maximum marks: 75

Note:
- This question paper contains two parts A and B
- Part A is compulsory which carries 25 marks (1st 5 sub questions are one from each unit carry 2 Marks each & Next 5 sub questions are one from each unit carry 3 Marks). Answer all questions in Part A
- Part B Consists of 5 Units. Answer any one full question from each unit. Each question carries 10 Marks and may have a, b sub questions

Part-A   (25 Marks)
Answer all questions

Q.No		Question	M	BL	CO	PO
1)	a.	Why R-programming language?	2	L2	CO1	PO1
	b.	Write reading and writing data in R-programming?	2	L2	CO1	PO1
	c.	How do you assign a variable in R-programming?	2	L2	CO1	PO1
	d.	Write a while control structure in a R programming with an example?	2	L2	CO2	PO2,PO4,PO5
	e.	How to deleting elements of a matrices and arrays.	2	L3	CO2	PO2,PO4,PO5
	f.	Write about character strings in R programming?	3	L2	CO2	PO2,PO4,PO5
	g.	Define the list. give an examples	3	L1	CO3	PO10,PO8,PO9
	h.	How to find the length of the data frame in R programming.	3	L4	CO3	PO10,PO8,PO9
	i.	Define the factors. give an example	3	L1	CO4	PO4,PO5P10,P12
	j.	Write an inheritance of OOP concept in R?	3	L1	CO5	PO2,PO6,PO7,PO4,PO9

Part-B   (50 Marks)
Answer any five questions All Questions
carry equal Marks

Q.No		Question	M	BL	CO	PO
		UNIT–I				
2)	a.	Explain about data types in R programming. With an examples	5	L2	CO1	PO1

			M	BL	CO	PO
	b.	Write R program to demonstrate working with operators(arithmetic,logical,relational,assignment operators).	5	L4	CO1	PO1
OR
3)	a.	Explain about sub setting methods in R programming	5	L3	CO1	PO1
	b.	Explain about array object in R programming with an example	5	L2	CO1	PO1
UNIT–II
4)	a.	Explain about control structures with an example in R programming.	5	L2	CO2	PO2,PO4,PO5
	b.	Write a program to create a matrix using cbind() and rbind() functions.	5	L4	CO2	PO2,PO4,PO5
OR
5)	a.	Explain about arithmetic and logical operations on vectors.	5	L3	CO2	PO2,PO4,PO5
	b.	Explain about functions in R programming	5	L3	CO2	PO2,PO4,PO5
UNIT–III
6)	a.	Explain about list operations with an examples.	5	L2	CO3	PO10,PO8,PO9
	b.	Write a R program create a data frame.	5	L4	CO3	PO10,PO8,PO9
OR
7)	a.	How to create the student details by using data frame. with an example	5	L2	CO3	PO10,PO8,PO9
	b.	How to convert list to matrix in R programming.	5	L3	CO3	PO10,PO8,PO9
UNIT–IV
8)	a.	Explain about factor object operations in R.	5	L3	CO4	PO4,PO5 P10,P12
	b.	Write a R program to access and modify components of a object	5	L4	CO4	PO4,PO5 P10,P12
OR
9)	a.	Explain about operations of a table in R.	5	L3	CO4	PO4,PO5 P10,P12
	b.	Write a R program to find the factors of a number.	5	L4	CO4	PO4,PO5 P10,P12
UNIT–V
10)	a.	Briefly explain about object-oriented programming concepts in R.	5	L2	CO5	PO2,PO6,PO7,PO4,PO9
	b.	Write an R program to create an S3 class and S3 object?	5	L4	CO5	PO2,PO6,PO7,PO4,PO9
OR
11)	a.	Explain about inheritance of S4 class.	5	L2	CO5	PO2,PO6,PO7,PO4,PO9
	b.	How to get classes of columns in data frame in R.	5	L2	CO5	PO2,PO6,PO7,PO4,PO9

M – Marks   **CO –** Course Outcomes   **PO –** Program Outcomes

BL – Bloom's Taxonomy Levels (**L1**–Remembering, **L2**–Understanding, **L3**–Applying,**L4**–Analyzing, **L5**–Evaluating, **L6**–Creating)

NARSIMHAREDDYENGINEERINGCOLLEGE

(UGCAUTONOMOUS)

HallTicketNo.:

IIIB.TechISemester(R20)IMidtermExaminations,Oct/Nov2022

R PROGRAMMING(AM3101PC/DS3101PC)–Set-1

(CSE/CommontoBranchNames–AI&ML,DS)

Date:31-10-2022　　　　Time:10.00AMto11:00AM　　　　Max.Marks:10

CO1	Understanding and being abletousebasicprogrammingconcepts
CO2	Automate data analysis
CO3	Working collaboratively and openly on code
CO4	Knowing how to generate dynamic documents
CO5	Being able to use a continuous test-driven development approach

AnsweranyTwofromthefollowing　　　　　　(5x2=10Marks)

Q.No	Question	Marks	CO	BT	PO
1A)	Explain about LIST object in R programming.	3M	CO1	L1	PO1
B)	State the features of the R language.	2M	CO1	L2	PO1
2A)	List out the R data types and give each datatype give example.	3M	CO1	L1	PO1
B)	Write an R program using arithmetic operators.	2M	CO2	L4	PO2, PO5, PO4
3A)	Explain vectors in R- programming.	3M	CO2	L2	PO2,PO5 ,PO4
B)	How to the variable declaration in R programming	2M	CO2	L2	PO2,PO5 ,PO4
4A)	Write about list operations and give an example program	3M	CO3	L2	PO10,PO 8,PO9
B)	How to access elements from the LIST.	2M	CO3	L2	PO10,PO 8,PO9
BT:**L1**-Remembering,**L2**-Understanding,**L3**-Applying,**L4**-Analyzing,**L5**-Evaluate,**L6**-Create.					

Note: Eachquestioncarries5Marksandmayhavea,bsubquestions

HallTicketNo.:

IIIB.TechISemester(R20)IMidtermExaminations,Oct/Nov2022

R PROGRAMMING(AM3101PC/DS3101PC)–Set-2

(CSE/CommontoBranchNames–AI&ML,DS)

Date:31-10-2022   Time:10.00AMto11:00AM   Max.Marks:10

CO1	Understanding and being able to use basic programming concepts	
CO2	Automate data analysis	
CO3	Working collaboratively and openly on code	
CO4	Knowing how to generate dynamic documents	
CO5	Being able to use a continuous test-driven development approach	

AnsweranyTwofromthefollowing   **(5x2=10Marks)**

Q.No	Question	Marks	CO	BT	PO
1A)	Explain R as a calculator using basic operations and inbuilt functions with suitable examples.	3M	CO1	L2	PO1
B)	Write an R program for a given number is ODD or EVEN.	2M	CO1	L4	PO1
2A)	How do you install the packages in R?	2M	CO1	L2	PO1
B)	Explain data frames in R programming.	3M	CO2	L1	PO2,PO5,PO4
3A)	Write about the control structures.	3M	CO2	L2	PO2,PO5,PO4
B)	Write short notes on arrays in R programming.	2M	CO2	L2	PO2,PO5,PO4
4A)	Explain LIST operations R programming.	3M	CO3	L1	PO10,PO8,PO9
B)	How to delete the elements from the LIST.	2M	CO3	L2	PO10,PO8,PO9

BT:**L1**-Remembering,**L2**-Understanding,**L3**-Applying,**L4**-Analyzing,**L5**-Evaluate,**L6**-Create.

Note: Eachquestioncarries5Marksandmayhavea,bsubquestions

HallTicketNo.:

IIIB.TechISemester(R20)IMidtermExaminations,Oct/Nov2022

R PROGRAMMING(AM3101PC/ DS3101PC)–Set-1

(CSE/CommontoBranchNames–AI&ML,DS)

Date:31-10-2022   Time:11.00AMto11:20AM   Max.Marks:10

Answer allquestions.Eachquestioncarries0.5Mark
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I.Choosethecorrectalternativeanswerforthefollowingquestion

		[ ]
1.	R data types are	[ ]
	(a)logical (b)numeric (c)integer (d)all the above	
2.	How to declare the value of an integer?	[ ]
	(a)20.0 (b)3L (c)4b (d)4	
3.	A<-"apple" Print(class(A))	[ ]
	(a)A (b)apple (c)A, apple (d)character	
4.	R objects are	[ ]
	(a)factors (b)matrices (c)logical (d)both a and b	
5.	Create a vector	[ ]
	(a)x<-c(1,2,3) (b)x<-c(1,a,b) (c)x-<-c(1,F,T) (d)x<-c(1,a,T)	
6.	List is collection of____	[ ]
	(a)similar data elements (b)dissimilar data elements (c)both similar and dissimilar (d)all the above	
7.	Data frames are used to create_____	[ ]
	(a)tabular form (b)index form (c)rows (d)columns	
8.	Data frames are created by the_____	[ ]
	(a)data.frame() (b)dataframe() (c)list() (d)vector()	
9.	Global variable declaration in R programming	[ ]
	(a)inside the function (b)outside the function (c)both a and b (d)all the above	
10.	What is the use C() function	[ ]
	(a)concatenation of elements (b)deviation of elements (c)both a and b (d)none of the above	

II.FILL IN THE BLANKS

11.What is a correct syntax to output "Hello World" in R?_____

12. How do you insert COMMENTS in R code? _____

13. How do you create a variable named x with the numeric value?_____

14._____ function is often used to concatenate elements.

15. _____statement is used to stop a loop.

16._____ function is used to find the amount of rows and columns in an array?

17. _____ function is used to add additional columns in a matrix?

18. How can you assign the same value to multiple variables in one line?_____

19. _____ operator is used to add together two values?

20. The following values: 10.5, 55 and 787, belongs to _____ _____data type

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R PROGRAMMING(AM3101PC/ DS3101PC)–Set-2

(CSE/CommontoBranchNames–AI&ML,DS)

Date:31-10-2022   Time:11.00AMto11:20A   Max.Marks:10

Answer allquestions.Eachquestioncarries0.5 Mark

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I. Choose the correct alternative answer for the following question

1.	R was created by?	[	]
	(a) Ross Ihaka (b) Robert Gentleman		
	(c) Both A and B (d) Ross Gentleman		
2.	Does R allow integration with the procedures written in the?	[	]
	(a)C (b) Ruby		
	(c) Java (d) Basic		
3.	R made its first appearance in?	[	]
	(a) 1992 (b) 1995		
	(c) 1993 (d) 1994		
4.	How many atomic vector types does R have?	[	]
	(a)3 (b)4		
	(c)5 (d)6		
5.	R files has an extension _____.	[	]
	(a).S (b) .RP		
	(c).R (d) .SP		
6.	In R programming, the very basic data types are the R-objects called?	[	]
	(a) Lists (b) Matrices		
	(c) Vectors (d) Arrays		
7.	Data Frames are created using the?	[	]
	(a) frame() function (b)data.frame() function		
	(c) data() function (d)frame.data() function		
8.	Which functions gives the count of levels?	[	]

	(a) level (b) levels (c)nlevel (d)nlevels	
9.	What will be output for the following code? sqrt(16)	[ ]
	(a) -4.02 (b) 4.02 (c) 3.67 (d)4	
10.	What will be the output of the following R code? >m<-matrix(nrow=2,ncol=3) >m	[ ]
	(a)2 3 (b)3 3 (c)3 2 (d)2 2	

II.FILL IN THE BLANKS

11. _____operator can be used to compare two values.

12. How do you create a function in R_____

13. _____ is the correct way to create a list of strings.

14. A _____ _____is a variable that holds one value at a time.

15. R has many functions regarding _____

16. Collection of objects currently stored in R is called as _____

17.Sys.Date() can display the_____-

18.Sys.time() can display the_____

19._____function used to find the length of list.

20.the purpose of class() function_____