

# Velagapudi Ramakrishna Siddhartha Engineering College::Vijayawada

(Autonomous)

II /IV B Tech Degree Examinations(Month/Year)

Fourth Semester

**Department of Information Technology**

**20BS4101: Statistics with R**

**VR20**

Time:3Hrs

**MODEL QUESTION PAPER**

Max Marks:70

Part – A is Compulsory

Answer one (01) question from each unit of Part – B

Answers to any single question or its part shall be written at one place only

*Cognitive Levels(K): K1-Remember;K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6-Create*

Q. No	Question						Mark s	Course Outcome	Cog. Level
Part - A							10X1=10M		
1	a	Write a short note on command line interface.					1	CO1	K1
	b	What is data reshaping?					1	CO2	K1
	c	Write any two advantages of R Programming.					1	CO1	K2
	d	Compute the union of {1,2,...,10} and {4,5,...8}					1	CO2	K3
	e	How transpose work in R?					1	CO2	K2
	f	What is the difference between matrix and dataframe?					1	CO2	K2
	g	Mention any two applications of t-tests.					1	CO3	K2
	h	What is the use of ggplot2.					1	CO1	K2
	I	Define moving average.					1	CO4	K1
	j	What is the use of regression analysis?					1	CO3	K2
Part - B							4X15 =60M		
UNIT – I									
2	a	Write R function to display prime numbers up to a given range.					7	CO1	K2
	b	Write a program to check for eligibility to vote. Consider age value of person to be a vector field. If a person age is greater than 18 then he is eligible to vote otherwise he is not eligible. Show how to use a while loop to achieve the same result?					8	CO1	K3
(OR)									
3	a	Explain about basic math and variables of R					8	CO1	K1
	b	Discuss about matrices in R. How to create single and multi-dimensional matrices					7	CO1	K1
UNIT – II									
4	a	What are set operations? Give examples of each.					7	CO2	K2
	B	Discuss in detail about joins in R					8	CO2	K2
(OR)									
5	a	Write about the following with suitable example a) Cumulative Sum b) Cumulative Max c) Cumulative Min d) Cumulative product					8	CO2	K2
	b	Explain apply method in R. Write about lapply, sapply with suitable examples?					7	CO2	K2
UNIT – III									
6	a	Input a data set and explain the procedure of performing one way ANOVA test.					7	CO3	K3
	b	Explain in detail about Poisson distribution.					8	CO3	K2
(OR)									
7	a	Explain concepts of correlation and covariance with examples.					8	CO3	K2
	b	Fit a Binomial distribution to the following data					7	CO3	K3
		X	0	1	2	3	4	5	
		F	2	16	28	12	9	3	
UNIT – IV									
8	a	Discuss about GARCH family of models					8	CO4	K2

	b	Elaborate how Random Forest is implemented in R. Illustrate with an example.	7	CO4	K3
<b>(OR)</b>					
9	a	Discuss briefly about decision trees and how to implement in R?	8	CO4	K2
	b	Why to implement clustering? Write a R program to implement k-means clustering to a given dataset	7	CO4	K3

**VELAGAPUDI RAMAKRISHNA**  
**SIDDHARTHA ENGINEERING COLLEGE::VIJAYAWADA**  
(AUTONOMOUS)

Dt.12-06-2019

**GUIDELINES FOR FRAMING MODEL QUESTION PAPER**

The model papers for all subjects in a semester are gathered from the departments whenever a course is offered for the first time adopting new regulation. All the Heads of the Departments are requested to direct their faculty to strictly adhere to the following guidelines while framing the model question papers for the subjects of UG and PG courses in the new curriculum.

1. Questions must be covered unit-wise uniformly as per the syllabus without missing the competency.
2. The question paper shall reflect the ***Bloom's Cognitive Levels of Learning***.

**Cognitive Levels (K): K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6-Create**

- ❖ The composition of question paper shall have questions at different complexity levels as listed below:

- |   |        |
|---|--------|
| ▪ Questions that can be attempted by an average student (K1 & K2) | 40%    |
| ▪ Questions of intermediate complexity (K3 & K4)                  | 40-50% |
| ▪ Questions of design and application oriented nature (K5 & K6)   | 10-20% |

3. Question paper is to be set conforming to the OBE pattern clearly mentioning the Course Outcomes and Bloom's Cognitive Levels against each question.
4. The questions are to be set with minimum 2 sub-questions (a) & (b) for each main question to the extent possible covering entire syllabus in the unit.
5. Specify the marks against each question / part of a question in Part B.
6. The figures, if any, may be computer aided or neatly drawn with black pen indicating clearly the values/dimensions.
7. Prepare the one mark questions in only sentence form. Answers to these questions must be unique and having short answers limited to three/four lines.

**PRINCIPAL**