R22 Regulation *Subject code:4O5FA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech V Semester Supplementary Examinations, May 2025

FUNDAMENTALS OF DATA SCIENCE

(IT)

Maximum Marks: 60 Date: 27.06.2025 Duration: 3 hours

Note:
1. **This question paper contains two parts A and B.**
2. **Part A is compulsory which carries 10 marks. Answer all questions in Part A.**
3. **Part B consists of 5 Units. Answer any one full question from each unit.**
4. **Each question carries 10 marks and may have a, b, c, d as sub questions.**

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	What is Big data?	1M	1	L1
b)	What is the major difference between big data and data science?	1M	1	L1
c)	Define Ordinal Attribute.	1M	2	L1
d)	State Interquartile.	1M	2	L2
e)	Differentiate Factors and Data Frames.	1M	3	L2
f)	How to convert a List into a Vector?	1M	3	L1
g)	Mention Key Features of R Recursion.	1M	4	L1
h)	List various loops in R programming.	1M	4	L1
i)	Summarize Line Graph.	1M	5	L2
j)	What is Linear Regression Analysis?	1M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a) Discuss Populations and samples in data science. b) Illustrate probability distributions in data science.	5M 5M	1	L2 L2
	OR			
3	a) Explain R-Environment Setup in detail. b) Explain fitting a model in detail.	5M 5M	1	L2 L2
4	a) Describe the Asymmetric Attributes with suitable examples. b) Discuss Measuring the Central Tendency with respect to Mean and median with the help of an example.	5M 5M	2	L5 L6
	OR			
5	a) How is Standard Deviation used in Measuring the Dispersion of Data Explain. b) Explain the Dispersion of Data in the context of Quartiles.	5M 5M	2	L2 L2
6	a) Explain matrices in R. b) Summarize a Factor and Ordered Factors.	5M 5M	3	L2 L2
	OR			

7	a) Define data frame? How to create data frame in R Programming with suitable examples.	10M	3	L1 L2
8	a) List and explain Logical Operators with suitable examples. b) Distinguish Relational Operators and Vectors with an example.	5M 5M	4	L2 L2
	OR			
9	a) Explain Looping over List with example. b) Describe the Mathematical Functions in R programming with examples.	5M 5M	4	L2 L5
10	a) Describe Pie Chart in detail. b) Describe about Scatter Plot in detail.	5M 5M	5	L5 L5
	OR			
11	Explain Multiple Linear Regression Analysis with advantages and dis-advantages.	10M	5	L2