R22 Regulation *Subject code: 4E3HA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Semester Regular/Supplementary Examinations, December 2024

INTRODUCTION TO DATA SCIENCE

(CSE(DS))

Maximum Marks: 60 Date:09.12.2024 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	CO	Bloom Tx
All the following questions carry equal marks	(10X1M=10 Marks)		
1.a)	What is Quant shop?	1	L1
b)	Discuss on the importance of normalization.	1	L2
c)	What is Marey's Train Schedule?	2	L1
d)	What is precision and recall?	2	L1
e)	Define linear regression.	3	L1
f)	What are distance metrics?	3	L2
g)	Explain filtering concept in R programming.	4	L2
h)	Distinguish between NA and NULL Values.	4	L2
i)	Discuss on dataframe with an example.	5	L1
j)	Explain how to name matrix rows and columns.	5	L2
	Part-B		
Answer All the following questions.	(5X10M=50Marks)	CO	Bloom Tx
2	a) Distinguish between Computer Science, Data Science, and Real Science. [5M] b) Explain about the internet movie DB, google N-gram? [5M]	1	L4
	OR		
3	a) Analyze the concept of Body Mass Index (BMI) with suitable examples. [5M] b) Explain about Z-score and normalization. [5M]	1	L4
4	a) Evaluate the importance of Exploratory Data Analysis in data science. [5M] b) Illustrate and explain any five chart types to visualize the data. [5M]	2	L3
	OR		
5	a) Write about Baseline Models. [5M] b) Explain about how to evaluate Classifiers. [5M]	2	L3
6	a) Determine the importance of linear regression and duality. Explain in detail [5M]	3	L3

	b) Write the importance of regression as Parameter Fitting. [5M]		
	OR		
7	a) Explain about page ranking. [5M] b) Explain k-Nearest Neighbors classifier with an example. [5M]	3	L3
8	a) Explain how to apply following functions with examples. [5M] i) help () ii) example() iii) rep() iv) all() v) any() b) Explain the features of R programming. [5M]	4	L3
	OR		
9	Write the differences between vector, list, matrix, data frame, and scalar with examples. [10M]	4	L3
10	a) Explain different operations and how to apply indexing on matrices. [5M] b) Explain adding and deleting rows and columns in matrices with examples. [5M]	5	L3
	OR		
11	a) Illustrate with suitable examples how to create and access. i) list ii) dataframe [5M] b) Define a Factor and explain procedure to convert a vector into Factor. [5M]	5	L3