H   Roll No. 2292-104

TBC–401/TBI–401

B. C. A./B. SC. (IT)
(FOURTH SEMESTER)
MID SEMESTER
EXAMINATION, March, 2024
DATA ANALYTICS USING PYTHON

Time : 1½ Hours
Maximum Marks : 50

Note : (i) Answer all the questions by choosing any *one* of the sub-questions.

(ii) Each sub-question carries 10 marks.

1. (a) Explain the term data science and the role of data scientist and data analyst.   (CO1)

OR

(b) What is data analytics ? Discuss data analytics life cycle with a diagram. (CO1)

2. (a) What do you understand by data and information ? Distinguish between structured and unstructured data with an example.   (CO1)

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OR

(b) What is conventional system and what are the challenges of conventional system ? How they can be resolved ?   (CO1)

3. (a) What is sampling ? Discuss various sampling techniques. In an organization you want to find out whether employees are satisfied in work from home then what type of sampling technique you will use and why ?   (CO2)

OR

(b) Explain the data analysis process in detail.

        (CO2)

4. (a) Find linear regression equation for the following two sets of data :   (CO2)

x	y
2	3
4	7
6	5
8	10

OR

(b) What do you understand by Bayesian Modelling ? Explain Bayes theorem with an example.   (CO2)

5. (a) What are mutable and immutable data types in python ? Write a python program to create a list of marks of student and then calculate the total marks scored. (CO1)

OR

(b) Discuss the different types of prediction error. Calculate the RMSE on the basis of the following data : (CO2)

Predicted	Actual
14	12
15	15
15	15
19	16
20	25
20	20