(Please write your Exam Roll No.) *Exam Roll No. .....*

END TERM EXAMINATION

FOURTH SEMESTER [BCA] MAY-JUNE, 2025

Paper Code: BCAT-212 ***Subject: Introduction to Data Science***

Time: 3 Hours ***Maximum Marks: 60***

Note: Attempt any five questions including Q.No.1 which is compulsory. Select one question from each unit.

Q 1 Write short notes of the following:

a) What is Data Science? **(2)**

b) Differentiate between Data Analytics and Data Science? **(3)**

c) How is Data Science different from traditional application programming? **(3)**

d) Why is Python favored over other languages for Data Science? **(2)**

e) How can we handle missing data? **(2)**

f) How are Data Science and Machine Learning related to each other? **(2)**

g) Why we need Data Frames? Give an example? **(2)**

h) How we perform indexing and slicing? Give an example? **(2)**

i) Does Data Science have power to predict the future? Justify? **(2)**

UNIT-I

Q2 (a) What are the factors involve in increases the evolution of Data Science? **(5)**

(b) Discuss the applications of Data Science in various fields? **(5)**

Q3 (a) What are Data collection strategies? **(4)**

(b) Elaborate all stages of Data Pre-processing in data Science? **(6)**

UNIT-II

Q4 (a) Define the following terms:- **(Any Three)** **(6)**

i) Skewness and Kurtosis, ii) Box plots,

iii) pivot table, iv) Linear regression

(b) How central tendencies and Dispersion provides benefits to Data Science? **(4)**

Q5 (a) Explain two types of statistics with an example? **(4)**

(b) How does matplotlib and seaborn describes the functionality of stats in Data Science. **(6)**

UNIT-III

Q6 (a) Explain the following libraries: **(Any Three)** **(6)**

i) Pandas, ii) Numpy, iii) Scipy, iv) Tensor flow

(b) Write a code to upload a CSV file by using pandas and Data Frames? **(4)**

UNIT-IV

Q8 a) How forecasting demand can be analyzed in data Science? **(5)**

b) What are different patterns in data? Elaborate with an example? **(5)**

P.T.O.

P-1/2
BCAT-212

Q9 (a) Differentiate between categorical features and numerical feature with help of example? **(4)**

(b) Perform case study on investigating clinical data by the following tasks- (Assume values) **(6)**

i) Load the data
ii) Feature selection the dataset
iii) Censoring.

****