



Term Evaluation (Odd) Semester Examination September 2025

Roll no.....

Name of the Course: Bachelor of Computer Applications (AIDS)

Semester: 3rd

Name of the Paper: Introduction to Data Science

Paper Code: TBD 303

Time: 1.5-hour

Maximum Marks: 50

Note:

- (i) Answer all the questions by choosing any one of the sub-questions
- (ii) Each question carries 10 marks.

Q1. (10 Marks) CO1
a. Describe three major milestones in the development of data science as a distinct discipline.

OR

b. Differentiate between the roles of Data Scientist, Data Engineer, and Data Analyst.

Q2. (10 Marks) CO2
a. Discuss three best practices organizations should adopt to minimize data security issues.

OR

b. A retail dataset includes attributes like Age, Income, Spending Score, and Gender. Discuss how clustering can be applied for customer segmentation.

Q3. (10 Marks) CO2
a. Define data transformation and explain its significance in preparing data for machine learning models. A dataset contains attributes like Date of Birth and Transaction Date. Explain how data transformation can help in deriving new features from such data.

OR

b. Describe how evaluation metrics (Accuracy, Precision, Recall, F1-score) are used after building a model.

Q4. (10 Marks) CO1
a. Discuss the architecture of Hadoop with its main components

OR

b. Define Exploratory Data Analysis (EDA) and explain its importance in the data science workflow.

Q5. (10 Marks) CO1 & CO2
a. Describe how duplicate records and outliers are identified and handled during the cleaning stage.

OR

b. Explain the different facets of data science and how they interrelate in solving real-world problems.