

INDIRA UNIVERSITY, PUNE

SET-1

SCHOOL OF INFORMATION TECHNOLOGY- BSC (DS)

Term End Examination (2025 Pattern) December – 2025 - Semester – I

Subject Name: Foundations of Data Science
Subject Code: 25BDS112T

Max. Marks: 25
Time: 1 ½ Hours

Instructions

- All questions are compulsory.

| CO # | Cognitive Ability | Course Outcome |
|------|-------------------|--|
| CO1 | Remember | Recall and explain fundamental concepts of data science, including the data science lifecycle, statistical measures, and data types. |
| CO2 | Understand | Interpret and describe various statistical and mathematical foundations, data collection methods, and visualization techniques. |
| CO3 | Apply | Implement data preprocessing, statistical analysis, and data visualization methods to solve real-world data science problems |
| CO4 | Analyze | Analyze different data types, data distributions, and outliers using statistical tools and explore relationships through visualizations |
| CO5 | Evaluate | Evaluate the effectiveness of data preprocessing, statistical models, and visualization techniques for meaningful data interpretation. |
| CO6 | Create | Design and develop data science solutions by integrating data collection, preprocessing, statistical analysis, and visualization techniques. |

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| Q1. | Attempt any 5 out of 7 (1 Mark Each) a) What is meant by Verity in data? b) Define Veracity . c) Define correlation . d) What is semi-structured data ? e) Define streaming data . f) What is an ordinal attribute ? g) What is social media data ? | (5 Marks) | CO1 |
| Q2. | Attempt any 2 out of 5 (5 Marks Each) a) What is meant by Volume in data? b) Explain the measures of dispersion in data. c) Compare quantitative and categorical data with examples. d) Explain different types of data quality issues (missing, noisy, inconsistent data). e) Illustrate the evolution of Data Science . | (10 Marks) | CO2 |

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| Q. 3.A) | <p>Attempt any 1 out of 2 (10 Marks)</p> <p>a) Prepare the complete Data Science workflow from problem definition to model deployment. (5 Marks)</p> <p>b) Illustrate data munging? Explain its importance in data preprocessing. (5 Marks)</p> <p style="text-align: center;">OR</p> <p>B) Considering any sample dataset, Construct steps to perform EDA (data cleaning, summarization, visualization) and describe your findings. (10 Marks)</p> | CO3 |
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