



**MALLA REDDY UNIVERSITY**  
**SoE - B.Tech Computer Science & Engineering**  
**III Year - II Semester Minor-I Examination**

**R-22/23**

**Subject:** DATA ANALYTICS

**Subject Code:** MR22-1CS0110

**Date:** 21/02/2025

**Duration:** 1 Hour 15 Min.

**Max. Marks:** 15 M

<b>Hall Ticket No.</b>											
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**Note:** Answer any Three Questions. All Questions Carry Equal Marks

3\*5 = 15 M

**Unit-I**

1)	Explain the importance of data analytics in decision-making across industries.	5 M
2)	Design a data analytics workflow for a company aiming to improve customer satisfaction. Highlight the steps and tools involved.	5 M
3)	Illustrate Python Libraries for Data Visualization with suitable examples a) Matplotlib b) Seaborn	5 M
4)	Implement Python's built-in data structures with examples program.	5 M
5)	Assume a dataset to calculate Central tendency. What are the limitations of each measure in representing the data?	5 M

**Unit-II**

6)	Explain the Bayesian Rule and Bayes' Theorem applications in various fields.	5 M
7)	Describe and interpret the following terms: a) Conditional Probability b) Relative frequency method	5 M
8)	Describe and explain the Chi-Square Test and demonstrate how it works.	5 M
9)	Describe and explain the types of Student t-Tests, and illustrate with an example	5 M
10)	Why is sampling important in research? Discuss how the choice between Simple Random and Cluster Sampling can impact the results.	5 M

**Unit-III**

11)	Define the following terms related to hypothesis testing: a) Null hypothesis ( $H_0$ ) b) Alternative hypothesis ( $H_1$ )	5 M
12)	What is a Type I Error, and what are the impacts of a False Positive in statistical hypothesis testing?	5 M

**Signature of the Faculty**

**Dean-CSE**