SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

23MCT303 – DATA ANALYTICS IN AUTOMATION SYSTEM

QUESTION BANK

UNIT I: INTRODUCTION TO BIG DATA AND AUTOMATION SYSTEMS (CO1)

Short Answer Questions (2 Marks)

Q.No	Question	Bloom's Level	CO
1	List the 5V characteristics of Big Data.	Remember	CO1
2	Define Big Data and state its evolution from traditional data processing.	Remember	CO1
3	State any four use cases of Big Data in automation systems.	Remember	CO1
4	Name the major components of a typical automation system.	Remember	CO1
5	What is Industry 4.0? Mention its key feature related to data.	Understand	CO1
6	Explain the term "data-driven decision-making" in the context of automation.	Understand	CO1
7	List any four applications of Big Data analytics in industrial systems.	Remember	CO1
8	Differentiate between structured and unstructured data with examples from automation.	Understand	CO1
9	Why is Big Data analytics important in modern automation systems?	Understand	CO1
10	State any two challenges in handling Big Data in Industry 4.0 environments.	Remember	CO1

Long Answer Questions (13/14 Marks)

Q.No	Question	Bloom's Level	CO
1	Explain the evolution of Big Data and its characteristics (5V) in detail. Discuss how each characteristic is relevant to automation systems.	Apply/Analyze	CO1
2	Describe the overview of automation systems and their components. Explain the role of data-driven decision-making in Industry 4.0.	Apply/Analyze	CO1
3	Discuss various Big Data use cases and applications in automation and industrial environments. Provide examples for each.	Apply/Analyze	CO1
4	Elaborate on the importance of Big Data analytics in achieving the goals of Industry 4.0 in automation systems.	Analyze/Evaluate	CO1

Q.No	Question	Bloom's Level	CO
5	Explain how Big Data enables cyber-physical systems in Industry 4.0 with suitable examples from automation components.	Apply/Analyze	CO1
6	Compare traditional automation systems with Industry 4.0 automation systems highlighting the role of Big Data.	Analyze	CO1
7	Discuss any five real-world applications of Big Data in industrial automation.	Apply	CO1
8	Describe the key challenges and benefits of implementing Big Data analytics in automation systems.	Analyze	CO1
9	Explain the relationship between Big Data characteristics and the requirements of modern automation systems.	Analyze	CO1
10	Discuss how Big Data analytics supports real-time decision-making in automation systems under Industry 4.0.	Apply/Analyze	CO1