



SNS COLLEGE OF TECHNOLOGY
(An Autonomous Institution)



23MCT303 – DATA ANALYTICS IN AUTOMATION SYSTEM
QUESTION BANK

UNIT V: CASE STUDIES, INDUSTRIAL APPLICATIONS & EMERGING TRENDS
(CO5)

Short Answer Questions (2 Marks)

Q.No	Question	Bloom's Level	CO
1	What is predictive maintenance?	Remember	CO5
2	Define digital twin in the context of automation.	Remember	CO5
3	State any two industrial applications of data analytics in automation.	Remember	CO5
4	What is process optimization using data analytics?	Understand	CO5
5	Mention any two emerging trends in Industry 5.0.	Remember	CO5
6	Name any two areas where case studies of data analytics are applied in industry.	Remember	CO5
7	What is condition monitoring?	Understand	CO5
8	State the difference between Industry 4.0 and Industry 5.0.	Understand	CO5
9	List any two benefits of using digital twins in data analytics.	Remember	CO5
10	Mention any one future innovation in data analytics for automation.	Remember	CO5

Long Answer Questions (13/14 Marks)

Q.No	Question	Bloom's Level	CO
1	Discuss predictive maintenance and condition monitoring using data analytics with suitable examples.	Apply/Analyze	CO5
2	Explain the role of digital twins in data analytics for automation systems. Provide examples of their application.	Apply/Analyze	CO5
3	Describe process optimization using data analytics in industrial automation with real-world significance.	Apply/Analyze	CO5
4	Discuss emerging trends and advances in data analytics technologies for automation systems.	Analyze	CO5
5	Explain key innovations and future trends in Industry 5.0 related to data analytics and automation.	Analyze/Evaluate	CO5
6	Describe real-world case studies of data analytics applications in manufacturing and smart systems.	Apply	CO5
7	Discuss the integration of digital twins with data analytics for improving automation performance.	Analyze	CO5

Q.No	Question	Bloom's Level	CO
8	Explain how data analytics enables predictive maintenance and reduces downtime in industrial applications.	Apply/Analyze	CO5
9	Compare the role of data analytics in Industry 4.0 and emerging Industry 5.0 paradigms.	Evaluate	CO5
10	Discuss various industrial applications of data analytics such as in logistics, healthcare automation, and smart grids.		