

CBCS SCHEME

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BMT703

Seventh Semester B.E./B.Tech. Degree Examination, June/July 2026

Industrial Automation

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M: Marks, L: Bloom's level, C: Course outcomes.*

Module – 1

			M	L	C
Q.1	a.	List and briefly explain the role of Automation in Industry.	10	L1	CO1
	b.	Illustrate the levels of Automation.	10	L2	CO1

OR

Q.2	a.	Explain the advantages and disadvantages of Automation.	10	L2	CO1
	b.	Explain briefly the methods of evaluating investment alternatives in Automation.	10	L2	CO1

Module – 2

Q.3	a.	Briefly explain the categories of material transport equipment commonly used to move parts and materials inside a facility.	10	L2	CO2
	b.	List and explain the design considerations in material handling.	10	L1	CO2

OR

Q.4	a.	Explain the principal components in Automatic Identification Technologies/Automatic Data Capture.	10	L2	CO2
	b.	Define AGV's. Explain the types of AGV's.	10	L4	CO2

Module – 3

Q.5	a.	Explain the classification of production machines.	10	L2	CO3
	b.	Illustrate the functions of Computer Control System.	10	L2	CO3

OR

Q.6	a.	Describe the recommendations and principles that can be applied in product design to facilitate automated assembly.	10	L2	CO3
	b.	List and explain any 2 layouts of flexible manufacturing systems.	10	L1	CO3

Module – 4

Q.7	a.	Discuss the objectives of distributed control system.	10	L2	CO4
	b.	With a neat block diagram explain Direct Digital Control (DDC).	10	L2	CO4

OR

Q.8	a.	Explain how SCADA is utilized in pumping stations.	10	L2	CO4
	b.	Explain the application SCADA in flow meters and mass flow meters.	10	L2	CO4

Module – 5

Q.9	a.	Describe the basic elements of a Local Control Unit (LCU).	10	L2	CO5
	b.	Explain the Local Control Unit Architecture.	10	L2	CO5

OR

Q.10	a.	Briefly explain Profibus and its types.	10	L2	CO5
	b.	Briefly explain HART protocol and its applications.	10	L2	CO5
