CBCS SCHEME

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BMT654A

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Automation in Manufacturing

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.	Define Automation and explain different types of automation in manufacturing.	10	L2	CO1
	b.	Describe ten strategies of Automation.	10	L2	CO1
		OR			
Q.2	a.	Classify and explain different manufacturing operations.	10	L2	CO1
	b.	Explain the advantages and limitations of Industrial Automation.	10	L2	CO1
		Module – 2			
Q.3	a.	With a neat block diagram explain basic elements of an automated system.	10	L2	CO2
	b.	Illustrate different levels of automation in manufacturing.	10	L2	CO2
		OR			
Q.4	a.	Differentiate continuous and discrete control in automation.	10	L2	CO2
	b.	Write a short note on traditional quality control methods used in manufacturing.	10	L2	CO2
		Module – 3			
Q.5	a.	Briefly explain different components of manufacturing system.	10	L2	CO3
	b.	With a block diagram explain manufacturing support system.	10	L2	CO3
		OR			
Q.6	a.	Define process planning and explain the purpose and steps involved in process planning.	10	L2	CO3
	b.	Explain with a Block Diagram Retrieval (variant) type of CAPP.	10	L2	CO3
		Module – 4			
Q.7	a.	What are CMM? Describe different types of CMM's used for inspection.	10	L2	CO4
	b.	With a neat diagram describe the working of scanning laser systems used for inspection.	10	L2	CO4
		OR			
Q.8	a.	Explain the steps involved in machine vision system.	10	L2	CO4
	b.	Write a short note on non-optical and non contact inspection technologies.	10	L2	CO4
		Module – 5			
Q.9	a.	With neat diagram explain different layouts in group technology.	10	L2	CO5
	b.	Define cellular manufacturing and give objectives of cellular manufacturing.	10	L2	CO5
		OR			
Q.10	a.	What are FMS? Explain components of FMS.	10	L2	CO5
	b.	Describe the applications and benefits of FMS.	10	L2	CO5

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