

CBCS SCHEME

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BMT654A

Sixth Semester B.E./B.Tech. Degree Examination, June/July 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 Production System. With a neat sketch explain the categories of manufacturing system.	10	L2	CO1
	b.	List and explain the strategies of automation.	10	L2	CO1
OR					
Q.2	a.	Explain the functions of manufacturing support system.	10	L2	CO1
	b.	Explain the basic categories of manufacturing costs.	10	L2	CO1
Module – 2					
Q.3	a.	Illustrate the basic elements of an automated system with a neat sketch.	10	L3	CO2
	b.	Explain the functions of advanced automation.	10	L2	CO2
OR					
Q.4	a.	Illustrate following Statistical Quality Control (SQC) tools: i) Pareto Analysis ii) Fishbone Diagram	10	L3	CO2
	b.	Briefly explain traditional and modern quality control methods.	10	L2	CO2
Module – 3					
Q.5	a.	Explain the components of manufacturing system.	10	L2	CO3
	b.	Illustrate i) Single station manned workstation ii) Single station automated cells.	10	L3	CO3

OR

Q.6	a.	Explain retrieval types of computer aided process planning with a block diagram.	10	L2	CO3
	b.	Illustrate lean and Agile Manufacturing.	10	L3	CO3

Module – 4

Q.7	a.	Illustrate the role of Coordinate Measuring Machine (CMM) in industrial quality control with suitable example.	10	L3	CO4
	b.	Define Inspection. Explain Automated Inspection Process.	10	L2	CO4

OR

Q.8	a.	List and illustrate the Optical Inspection Techniques.	10	L3	CO4
	b.	Define Machine Vision system and explain its elements.	10	L2	CO4

Module – 5

Q.9	a.	Define Group Technology. Explain the benefits of Group Technology.	10	L2	CO5
	b.	Illustrate the need and cell design process of cellular manufacturing.	10	L3	CO5

OR

Q.10	a.	Explain the lay components of Flexible Manufacturing System (FMS).	10	L2	CO5
	b.	Illustrate the various types of layouts.	10	L3	CO5
