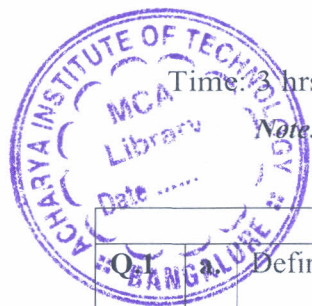


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## Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025

## 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. Explain the types of automation.	10	L2	CO1
	b.	With a block diagram, explain manufacturing support system.	10	L2	CO1
OR					
Q.2	a.	List and explain ten strategies of Automation.	10	L2	CO1
	b.	Define and give the mathematical models for : i) Ideal Cycle Time ii) Actual Average Production Time iii) Mass Production Rate iv) Production Capacity v) Utilization	10	L2	CO1
Module – 2					
Q.3	a.	Explain the basic elements of an Automated system.	10	L2	CO2
	b.	With a neat block diagram, explain the levels of automation.	10	L2	CO2
OR					
Q.4	a.	Illustrate Traditional Quality Control and Modern Quality Control.	10	L2	CO2
	b.	Discuss Statistical Quality Control tools.	10	L2	CO2
Module – 3					
Q.5	a.	List and explain the components of manufacturing system.	10	L2	CO3
	b.	Discuss the overview of classification scheme for manufacturing systems.	10	L2	CO3
OR					
Q.6	a.	Explain the steps involved in process planning.	10	L2	CO3
	b.	Explain Retrieval type of computer aided process planning system.	10	L2	CO3
Module – 4					
Q.7	a.	Define Automate Inspection. Explain the basic types of inspection techniques.	10	L2	CO4
	b.	List and explain the application of coordinate measuring machines.	10	L2	CO4

OR					
Q.8	a.	With a neat sketch, explain the basic function of machine vision system.	10	L2	CO4
	b.	List and explain Non-contact, Non optical Inspection Techniques.	10	L2	CO4
Module – 5					
Q.9	a.	List and explain the benefits of group technology.	10	L2	CO5
	b.	Explain cellular manufacturing and part families.	10	L2	CO5
OR					
Q.10	a.	Define Flexible Manufacturing System (FMS) and explain the features of FMS.	10	L2	CO5
	b.	Explain the advantages and disadvantages of Flexible Manufacturing System.	10	L2	CO5

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