

ANURAG Engineering College

(An Autonomous Institution)

IV B. Tech I Semester Regular/Supplementary Examinations, Dec-2024

AUTOMATION IN MANUFACTURING SYSTEM**(MECHANICAL ENGINEERING)****Time: 3 Hours****Max. Marks: 75****Section – A (Short Answer type questions)****(25 Marks)****Answer All Questions**

	Course Outcome	B.T Level	Marks
1. Write the differences between fixed automation and flexible automation.	CO1	L2	2M
2. Explain any one Mechanical feeding device with a neat sketch.	CO1	L2	3M
3. What is buffer storage? List the advantages.	CO2	L1	2M
4. Explain in brief anyone line balancing method.	CO2	L2	3M
5. Sketch and explain in brief the in-line configuration flow line.	CO3	L2	2M
6. Discuss the applications of AS/RS System.	CO3	L2	3M
7. What are the functions of sensors?	CO4	L1	2M
8. Write about logic controls.	CO4	L1	3M
9. List few EPR software's and their advantages.	CO5	L1	2M
10. What is concurrent engineering?	CO5	L2	3M

Section B (Essay Questions)**Answer all questions, each question carries equal marks.****(5 X 10M = 50M)**

11. A) Discuss in detail the Ten strategies for Automation and Process improvement.	CO1	L3	10M
OR			
B) Explain the reasons for using buffer storage in a flow line. Also draw the flow line showing buffer storage.	CO1	L2	10M
12. A) Draw and explain the below mentioned types of flow lines. i) In line configuration ii) Segmented in-line types iii) Rotary type	CO2	L3	10M
OR			
B) What do you mean by Assemble line balance? Explain the various methods of improving the line balance.	CO2	L3	10M
13. A) Describe the various types of material handling equipment used in Automation.	CO3	L3	10M
OR			
B) Discuss the methods of controlling the AGVs to follow the pathways.	CO3	L3	10M
14. A) Elaborate the data communication techniques used in manufacturing.	CO4	L3	10M
OR			
B) Explain the importance and applications of LAN in manufacturing.	CO4	L2	10M
15. A) Explain how the products are manufactured using Rapid Prototyping.	CO5	L2	10M
OR			
B) Write short notes on i) ERP ii) BPE Logistics	CO5	L3	10M