Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree Regular and Supplementary Examination December 2021 (2015 Scheme)

Course Code: IC403

Course Name: PROCESS AUTOMATION

Max. Marks: 100   Duration: 3 Hours

PART A
Answer any two full questions, each carries 15 marks.   Marks

1	a)	Outline automation hierarchy with necessary diagrams.	(7)
	b)	Summarize the advantages of automatic process.	(8)
2	a)	Give complete scan cycle of PLC.	(7)
	b)	Draw a ladder diagram for a packing system. Ten boxes from a conveyor belt are stacked at a time. Bound that ten boxes together with a wrapper.	(8)
3	a)	Compare PLC and PC.	(7)
	b)	What is the action executed while running the following instructions in connection with PLC?	(8)

      i.   EQU

      ii.   MOV

      iii. OR

      iv. DIV

PART B
Answer any two full questions, each carries 15 marks.

4	a)	What are the supervisory computer tasks performed in DCS?	(7)
	b)	Explain about different displays available in DCS.	(8)
5	a)	What are the advantages of PLC integrated with DCS?	(7)
	b)	Draw a FBD of an agitator, it starts when the tank attains sufficient fluid level and outlet valve is closed.	(8)
6	a)	How DCS is evolved?	(7)
	b)	What are the different peripheral devices used with DCS?	(8)

PART C
Answer any two full questions, each carries 20 marks.

7   How real time monitoring, controlling and data logging can be done effectively   (20)
     under SCADA? Explain.

8   Draw the architecture of fieldbus and explain.

     (20)

9   a)   What are the functions of MTU and RTU?

     (10)

    b)   Compare profibus-DP and profibus-FMS

     (10)

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