



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.															
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Mid - Term Examinations - March 2026

Date: 13- 03-2026

Time: 11.45am to 01.15pm

School: SOE	Program: B. Tech (ECE)	
Course Code: ECE3027	Course Name: Industrial Automation & Control	
Semester: VI	Max Marks: 50	Weightage: 25%

CO - Levels	C01	C02	C03	C04	C05
Marks	24	26	—	—	—

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

5Q x 2M=10M

1	Explain the term setpoint	2 Marks	L2	C01
2	Explain the working principle of PLC system	2 Marks	L2	C02
3	Apply the PLC scan cycle to explain how input changes affect the output status	2 Marks	L3	C02
4	Analyze the importance of SCADA in large scale industries	2 Marks	L4	C01
5	Explain how a seal in circuit works in ladder logic	2 Marks	L2	C02

Part B

Answer the Questions.

Total Marks 40M

6.	a.	Explain the batch process control system with an example and with a neat diagram	10 Marks	L2	CO1
Or					
7.	a.	Explain the continuous process control system with an example and with a neat diagram	10 Marks	L2	CO1

8.	a.	Analyze the conversion of P/I and explain the principle behind the converter with neat diagram	10 Marks	L4	CO1
Or					
9.	a.	Analyze the conversion of I/P and explain the principle behind the converter with neat diagram	10 Marks	L4	CO1

10.	a.	Explain the functions of PLC input and output modules and describe their role in industrial automation systems	10 Marks	L2	CO2
Or					
11.	a.	Describe any two smart input and output modules and list them as per the device types and its module functions	10 Marks	L2	CO2

12.	a.	Describe the ladder diagram and apply the ladder diagram for electrical wiring diagram and ladder logic diagram	10 Marks	L3	CO2
Or					
13.	a.	Apply ladder diagram for basic chocolate dispenser and also, explain the operations	10 Marks	L3	CO2