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Total No. of Questions – [8]   *Paper Code:*   Total No. of Printed Pages -2

G.R. No.	

U359-115(ESE) Civil   U359-125(ESE) Comp
U359-145(ESE) IT   U359-155(ESE) Mech
U359-135(ESE) E&TC

DECEMBER 2019/ENDSEM

T. Y. B. TECH. (E&TC) (SEMESTER - I)

COURSE NAME: Elective –I: Industrial Automation

COURSE CODE: (IE31175ET)

(PATTERN 2017)

Time: [2 Hours]   [Max. Marks: 50]

(*) Instructions to candidates:
1)   Answer Q.1, Q.2, Q.3, Q.4, Q.5 OR Q.6, Q.7 OR Q.8
2)   Figures to the right indicate full marks.
3)   Use of scientific calculator is allowed
4)   Use suitable data where ever required

Q.1a) Explain performance parameters of measurement system.   [6 marks]

OR

b) Explain working of displacement transducer with construction and electrical
equivalent circuit. Write advantages and disadvantages.   [6 marks]

Q.2) a) What is need of signal conditioning circuit? What are different bridge circuits used
for signal conditioning?   [6 marks]

OR

b) Draw the circuit and explain working of V to I and V to I converter.   [6 marks]

Q.3) a) Draw and explain basic block diagram of multichannel data acquisition system. [6 marks]

OR

b) Write short note on   [6 marks]
i) IEEE488 bus, ii) RS232.

Q.4) a) Explain with neat diagram constructional details & working of different pneumatic
actuators.   [4 marks]

OR

b) Draw and explain with neat block diagram of hydraulic system.   [4 marks]

Q. 5) a) Draw and explain with neat block diagram of PLC Architecture.   [6 marks]
b) How to interface input and output devices with PLC.   [4marks]
c) Explain selection criteria of PLC.   [4marks]

OR

Q.6) a) what is PLC? What is Role of PLC in Automation?   [6 marks]

b) Difference Between Fixed and Modular PLC.   [4 marks]

c) What are components of redundant PLC system ?   [4 marks]

Q.7) a) Draw and explain Architecture of DCS controller.   [6 marks]
b) What is Difference between PLC & DCS?   [4 marks]
c) Explain features and advantages of DCS.   [4 marks]

OR

Q.8) a) Draw and explain with neat block diagram of SCADA.   [6 marks]
b) List the elements of SCADA .   [4 marks]
c) Explain features and advantages of SCADA.   [4 marks]

(*) Course coordinator can change instructions as per course requirement