Paper code :- U359-115 (T1) Civil U359-125 (T1) Comp
U359-135 (T1) Mech
U359-145 (T1) IT
U359-139 (T1) E&TC

Total No. of Questions – [ ]
G.R. No.

Total No. of Printed Pages-1

OCTOBER 2019/ INSEM (T1)
T. Y. B. TECH. (E&TC) (SEMESTER - I)
COURSE NAME: Elective –I: Industrial Automation
COURSE CODE: (IE31175ET)
(PATTERN 2017)

Time: [**1 Hour**]

[Max. Marks: **30**]

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

Q.1) a) Explain performance parameters of measurement system. **[6 marks]**
b) Explain working of displacement transducer with construction and electrical equivalent circuit. Write advantages and disadvantages. **[6 marks]**
c) Explain different types temperature sensors . **[4 marks]**

OR

Q.2) a) Draw and explain basic block diagram of instrumentation system **[6 marks]**
b) Describe types of transducers with at least two examples of each type. **[6 marks]**
c) Explain different types pressure sensors . **[4 marks]**

Q.3) a) What is need of signal conditioning circuit? What are different bridge circuitsused for signal conditioning? **[6 marks]**
b) Draw the circuit and explain working of V to I and Vto I converter. **[4 marks]**
c) Draw the circuit and explain working Two wire transmitter's. write advantages and disadvantages . **[4 marks]**

OR

Q.4) a) State design steps for designing a 3 op-amp based instrumentation amplifier design. **[6 marks]**
b) Draw the circuit and explain working V to F and F to V converter circuits.**[4 marks]**
c) Write short note on Smart and intelligent transmitters. **[4 marks]**