



B.E DEGREE EXAMINATIONS: MAY 2015

(Regulation 2013)

Third Semester

TEXTILE TECHNOLOGY

U13EIT306: Industrial Instruments and Process Control

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. A set of readings has a wide range and therefore it has
 - a) Low precision
 - b) Low accuracy
 - c) High precision
 - d) High accuracy
2. Obtaining different output effects while loading and unloading of an instrument is called _____.
3. An active transducer
 - a) resistive
 - b) piezoelectric
 - c) capacitive
 - d) inductive
4. Operation of a Thermocouple is based on _____ effect.
5. Voltage comparison technique is used in
 - a) Ramp type DVM
 - b) Integrating type DVM
 - c) Potentiometric type DVM
 - d) Continuous balance type DVM
6. Recording one or more dependent variables with respect to an independent variable is done using _____ recorder.
7. In PLC ladder logic, flow must be from _____.
 - a) Top to Bottom
 - b) Bottom to Top
 - c) Left to Right
 - d) Right to Left
8. A contact must always be inserted in the _____ of the rung in PLC.
9. _____ is a combination of EEPROM and RAM
 - a) ROM
 - b) NOVRAM
 - c) EPROM
 - d) PROM
10. A group of elements combined together to do a particular task is known as _____.

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

11. Define a variable manipulation element.
12. What is an intelligent instrument?
13. Give the significance of gauge factor.
14. Compare a thermocouple and thermistor.
15. State two advantages of a magnetic tape recorder.
16. Define resolution in an A/D converter.
17. What is the difference between hydraulic actuation and electric actuation?
18. Give any two applications of a two position control.
19. Mention any four output devices used in PLC.
20. Compare PLC and Computer

PART C (5 x 14 = 70 Marks)

(Not more than 400 words)

Q.No. 21 is Compulsory

21. With suitable diagrams explain the various functional elements of a measuring instrument.
22. a) Explain with suitable diagrams the working of a Linear Variable Differential Transformer.

(OR)

- b) Compare the methods of pressure measurement using inductive and capacitive transducers.
23. a) Explain in detail about Digital multimeters and counters.

(OR)

- b) With required sketches explain the working of a single yarn strength tester.
24. a) Explain about servo and regulatory control.

(OR)

b) Explain in detail with required sketches and graphs the working of a PID controller.

25. a) Explain the architecture of Distributed Control System.(DCS)

(OR)

b) Discuss the different Programming methods of PLC.
