

Roll No. ....

**24358**

**B. Tech. (ME) 6th Sem.**

**Examination – May, 2015**

**MEASUREMENT AND INSTRUMENTATION**

**Paper : ME-310-F**

***Time : Three Hours ]***

***[ Maximum Marks : 100***

*Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Question No. 1 is **compulsory** and attempt any **one** question from each of the **four** Sections. All questions carry equal marks.

1. (a) State the law of intermediate metals in the context of thermo couples.
- (b) Explain the types of control system.
- (c) What is sensor ?
- (d) What do you mean by standards in Mechanical Instrument ?
- (e) What is ramp input signal ?

**5 × 4 = 20**

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**P. T. O.**

**2. Write the short note on the following :**

- (a) Zero order, First order and Second order. 10
- (b) Accuracy, Precision, Resolution and Threshold. 10

**3. Explain the functional element of a Measurement System and how are you classify the Instrument ? 20**

### **SECTION - B**

**4. Explain the Construction, Working principle of linear variable Differential Transducer and Piezo electric transducer in detail. 20**

**5. Write the short note on the following :  $2 \times 10 = 20$**

- (a) Opto Electrical Transducer.
- (b) Photo conductive Transducer.

### **SECTION - C**

**6. (a) Explain the various relative Measuring Device. 10**

**(b) Explain the elastic force device and Separation of force components. 10**

**7. Explain the Electro Mechanical Methods with suitable diagram. 20**

24358-7,700-(P-3)(Q-9)(15) ( 2 )

8. Write short note on the following :  $7 + 7 + 6 = 20$

- (a) Electronic flow meter,
- (b) Electromagnetic flow meter,
- (c) Hot wire Anemometer.

9. Explain the Non-Electrical Methods for temperature measurement in detail. 20

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