

### SECTION-C

**Note:** Long answer type questions. Attempt any three questions. 3x10=30

Q.3 How LVDT is used in displacement measurement? Explain.

Q.4 Explain various methods of force measurement.

Q.5 What is thermocouple? How it is used in temperature measurement. Explain.

Q.6 a) Explain different types of strain gauges.  
b) Explain working of bimetallic thermometer.

Q.7 Write Short Note (any two)

- i) Bourden pressure gauge.
- ii) Magnetic flow meter.
- iii) Resistance thermometer.
- iv) Data Acquisition system.

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**5th Sem. / Power Eltx.**

**Subject : Instrumentation**

Time : 3 Hrs.

M.M. : 100

### SECTION-A

**Note:** Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) Define Measurement.  
b) Define Transducer.  
c) What is LVDT?  
d) What is gauge factor.  
e) Define Torque.  
f) What is strain gauge bridge.  
g) What is load cell?  
h) What are proving rings?

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- i) What is electric straw gauge?
- j) What is pressure cell?
- k) What is flow meter?
- l) What is pyrometer?
- m) What is thermoelectric thermometer?
- n) What is humidity?
- o) What is DAS?
- p) Write two display devices.
- q) Define passive transducers.
- r) Define pH level.
- iii) Explain any one inductive transducer.
- iv) Explain working of capacitive transducer.
- v) How displacement is measured?
- vi) Explain inductive strains gauge.
- vii) Explain strain gauge bridge and amplifier.
- viii) Explain load measurement using electrical strain gauge.
- ix) How torque is measured using brake method.
- x) How speed is measured?
- xi) Explain pressure measurement using electrical pressure pickups.
- xii) Explain various elements of telemetry system.

### SECTION-B

**Note:** Short answer type questions. Attempt any ten parts 10x4=40

- Q.2 i) What is the importance of measurement?
- ii) What is signal conditioning?

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