

4th sem (Electrical)
Electrical measurement and
measuring instrument

classmate

Date

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1. Short answer type (2x10=20)

- Application of wattmeter.
- Write Bridge balance equation?
- write any two limitation of Maxwell bridge.
- Define damping.
- what is transducer?
- what are the types of tachometer?
- Define LVDT?
- what is transducer?
- write any two application of LVDT.
- Define precision.

2. Answer any six. (6x5=30)

- Discuss wire resistance strain gauges.
- Explain construction, working principle of single phase induction type Energy meter.
- Discuss Detecting, controlling and damping arrangement in indicating type of instrument.
- Construction and principle of Analog multimeter.
- Measurement of capacitance by Schering bridge method.
- What is linear and angular motion potentiometer.
- Explain operation of Cathode Ray Tube.

3. Answer any two (10x2=20)

- Measurement of high resistance by loss of charge method using diagram.
- Discuss operation, construction and types of moving iron type instrument.
- Describe electrical resonance type frequency meter.

Answer all the questions. (2x10=20)

- 1 a. what is multimeter?
 - b. Define controlling?
 - c. what types of tachometer? what are their uses?
 - d. what do you understand by low, medium and high resistance?
 - e. Define Burden?
 - f. what is transformer ratio?
 - g. Define nominal ratio.
 - h. what is the use of instrument transformer?
 - i. what is Thermistor?
 - j. Define detector element?
- Answer any six (6x5=30)

- 2 a. what is Tachometer, write its usages and types?
 - b. Explain wheat stone bridge.
 - c. Discuss linear and angular motion potentiometer.
 - d. Discuss induction type wattmeter.
 - e. Explain Schering Bridge with diagram.
 - f. principle and operation of CRO.
 - g. usages of LVDT?
3. Answer any two (2x10=20)

- a. principle and operation and working of three phase power factor meter.
- b. Describe construction, operation, error, merit and demerits of Rectifier type instrument.
- c. Explain mechanical & electrical resonance type frequency meter.

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Answer all the question $2 \times 10 = 20$

1. a) what is magger?
- b) why swamping resistance is used to compensate error.
- c. what is Transducer?
- d. any Electronics Voltmeter is used,
- e. In measuring Instrument, why spiral spring is provide.
- f. Electrodynamic instrument can be used as?
- g. which device is used only with D.C?
- h. what is absolute error?
- i. what is transducer, gives of various class of transducer
- j. what is the used of LVDT?

Answer any six ($6 \times 5 = 30$)

2. a) Discuss wire Resistance strain gauge
 - b) Explain schering Bridge method.
 - c) Measurement of AC voltage and current.
 - d) write 5 used of LVDT,
 - e) Discuss construction, operation of DMMC type instrument.
 - f) Explain Tachometer and its type and working.
 - g) Discuss Induction type watt meter.
3. Answer any two ($2 \times 10 = 20$)

- a. Describe principle, operation and working of Dynamometer type single phase power factor meter.
- b. Discuss piezo electric transducer and Hall effect transducer with their application.
- c. Principle and operation of oscilloscope with the help of block diagram.