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**3rd Sem / Electrical**  
**Subject : Electrical Measurement & Instrumentation**

Time : 3 Hrs. M.M. : 60

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Which instruments scale is uniform

- a) Moving coil      b) Dynamometer
- c) Both (a) and (b)    d) None of the above

Q.2 Creep error may occur in indication type energy meter due to

- a) Incorrect position of brake magnet
- b) Incorrect adjustment of the position of shading band
- c) Overvoltage across voltage coil
- d) Increase in temperature

Q.3 The primary winding of a CT has \_\_\_\_\_.

- a) A larger number of turns
- b) No turns at all
- c) Intermediate number of turns
- d) A few turns

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Q.4 Which is the example of active transducer.

- a) Thermocouple      b) Photocell
- c) LDR                  d) All of the above

Q.5 Platinum is preferred for RTD because

- a) It is chemically stable at high temperatures
- b) It can withstand severe environmental conditionals.
- c) Platinum resists oxidation.
- d) All of the above

Q.6 Bourdon tube is used for measurement of gauge pressure of

- a) Gas                  b) Liquid fluid
- c) Solid                d) Both (a) and (b)

**SECTION-B**

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Voltmeter has \_\_\_\_\_ resistance.

Q.8 In wattmeter \_\_\_\_\_ coil is fixed.

Q.9 Deflecting torque in dynamometer type wattmeter is directly proportional to power. (True/False)

Q.10 Current transformer is used to measure high current in dc circuit. (True/False)

Q.11 RVDT stand for \_\_\_\_\_.

Q.12 LVDT has two primary and one secondary winding.

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### **SECTION-C**

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 Write the essentials torque of indicating instruments.
- Q.14 Write the merit and demerit of single phase energy meter.
- Q.15 Explain the procedure for calibration of energy meter using direct loading.
- Q.16 Draw and explain the construction of earth tester
- Q.17 Write the working Principle of Frequency meter.
- Q.18 Draw the block diagram of CRO.
- Q.19 Explain the working principle of LVDT.
- Q.20 Explain the principle of pyrometer and write its types.
- Q.21 Explain the working principle of unbonded strain gauge.
- Q.22 Enlist the uses of piezoelectric transducer.

### **SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Explain the construction and working of Attraction type moving iron instrument.
- Q.24 Explain how power can be measurement in three phase circuit by three wattmeter method.
- Q.25 Write a short note on
  - a) Phase sequence Indicator
  - b) pH meter
  - c) Bellow type pressure Gauge