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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 unbounded 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