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B.Tech. (ECE) (2012 to 2017) (Sem.-4)

ELECTRONIC MEASUREMENT & INSTRUMENTATION

Subject Code : BTEC-404

M.Code : 57596

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A

Q1. Answer briefly :

- List out the dynamic characteristics of any measurement system.
- What are the types of error measurement system?
- What is calibration?
- Explain why it is necessary to make the potential coil circuit purely resistive in wattmeters.
- What is creeping and how it is prevented?
- Why the PMMC instrument is not used for a.c measurements?
- Compare Hay's bridge with Maxwell bridge.
- Write the application of d.c. Potentiometer.
- What are the different types of amplifiers used for CRO's?
- Define Gauge Factor.

SECTION-B

- Q2) Discuss R-2R ladder type DAC.
- Q3) Explain in detail about ADC and DAC converters.
- Q4) Describe the principle of working and circuit diagram of a digital oscilloscope.
- Q5) Derive the bridge balance condition for the Maxwell Bridge and Schering Bridge.
- Q6) Derive the torque equation of electrodynamicometer type instrument.

SECTION-C

- Q7) What is telemetry system and explain its types in detail.
- Q8) Explain the construction and principle of working of a LVDT.
- Q9) Two watt meters are connected to measure the input to a balanced 3phase circuit indicate 2000 W and 500 W respectively. Find the power factor of the Circuit (1) when both the readings are positive (2) when the latter reading is obtained after reversing the connection to the current coil of first instrument.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.