S. B. Roll. No……

ELECTRICAL INSTRUMENTS AND MEASUREMENTS
3rd Exam/ECE/4361/Dec'22
(For 2018 Batch Onwards)

Duration: 3Hrs. **M.Marks:75**

SECTION-A

Q1. Do as directed. **15x1=15**

a. The meter section consists of _____and a _____.
b. The RMS value of waveform is defined as the _____ root of average of square of the quantities being measured.
c. Probe impedance changes with_____.
d. A square wave generator has a _____ duty cycle.
e. A wheat stone bridge works on the principle of _____.
f. The full form of ADC is _____.
g. The dual slope integrator type DVM is a _____measuring device.
h. In digital frequency meter, the Schmitt trigger is used to convert the sinusoidal waveform into a_____.
i. PMMC stands for_____.
j. Maxwell's induction bridge can measure _____.
k. Systematic errors may arise due to instrument or environment error. (T/F)
l. An ammeter is always connected in_____ with a circuit under test.
m. A dc voltmeter measures the _____ between two points in a dc circuit.
n. VTVM stands for _____.
o. The number of cycles per second is called_____.

SECTION-B

Q2. Attempt any six questions. **6x5=30**

i. Explain the working principle of ramp type digital voltmeter?
ii. What is LVDT? Write its various applications?
iii. Differentiate between direct & indirect methods of measurements?
iv. Write down the various applications of CRO?
v. Define the following: a) Sensitivity b) resolution
vi. Draw & Explain block diagram of function generator?
vii. What are the basic requirements of a transducer?
viii. Explain the types of errors in measurements?

SECTION-C

Q3. Attempt any three questions. **3x10=30**

a. Explain the working principle of LVDT transducer?
b. Explain the principle of operation of attraction type of type moving iron instruments & explain how the controlling and damping forces are obtained?
c. Explain the following. i) logic Analyzer ii) Logic Probe
d. Draw &Explain the block diagram of digital multimeter & write its applications?
e. Explain maxwell's induction bridge in detail?