

Th. 4-ELECTRONICS MEASUREMENT & INSTRUMENTATION

Full Marks: 80

Time : 3 Hours

Answer any **Five** Questions including Q No. 1& 2

Figures in the right hand margin indicates marks

1.	<p>Answer ALL the questions:</p> <p>(a) Define the terms: Precision and Resolution.</p> <p>(b) List the types of static errors in a measuring instrument.</p> <p>(c) List the types of moving iron instruments.</p> <p>(d) What is an LVDT?</p> <p>(e) Define load cell.</p> <p>(f) Define Strain Gauge.</p> <p>(g) What are the advantages of PMMC instrument?</p> <p>(h) Define a 'Transducer'.</p> <p>(i) What is a function generator?</p> <p>(j) Define lissajous pattern.</p>	2x10
2.	<p>Answer any SIX questions:</p> <p>(a) Explain the operation of a frequency meter with basic circuit diagram.</p> <p>(b) Explain the block diagram of a oscilloscope.</p> <p>(c) Using Wheatstone's bridge, explain the measurement of unknown resistance.</p> <p>(d) Explain working Principle of strain gauge.</p> <p>(e) Explain working principle of thermocouple.</p> <p>(f) Discuss Basic wave analyzer.</p> <p>(g) Discuss the basic Principle of operation of a DC ammeter.</p>	5 x6
3.	Explain the principle of operation of Q meter.	10
4.	Discuss the static characteristics of a measuring instrument.	10
5.	Discuss Shunt type Ohm Meter.	10
6.	Discuss the working principle of optical pyrometer.	10
7.	Discuss the basic principle of permanent magnet moving coil movement with its advantages and disadvantages.	10