



(3 Hours)

[Total Marks : 80

- N.B. :** (1) Attempt **four** questions, question no **1** is **compulsory**.
(2) Assume suitable data where ever required.
(3) Answers to the questions should be grouped together.
(4) Figure to the **right** of question indicates **full** marks.

1. Attempt any **four** : 20
- (a) Significance of three and half digit display
 - (b) Define accuracy, precision and sensitivity with suitable example
 - (c) Explain working of strain gauge and its application in load measurement
 - (d) List various sensors for pressure and temperature along with their ranges
 - (e) A galvanometer, with a 1 mA full scale deflection and an internal resistance of 500Ω , is to be used as voltmeter, find series resistance for 1V and 10V ranges.
2. (a) Draw and explain working of capacitive transducer for level measurement. 10
(b) Draw neat block diagram of CRO and explain its functioning, comment on role of sweep in CRO. 10
3. (a) Draw and explain R-2R ladder network DAC for 3 bits input taking suitable example. 10
(b) Explain Kelvin's double bridge and its application in very low resistance measurement. 10
4. (a) Explain SAR OR Flash type ADC with the help of block diagram and comment on its speed. 10
(b) Explain LVDT and define its application in displacement measurement. 10
5. (a) Explain Hetrodyne type waves analyser and its applications. 10
(b) Discuss DSO with the help of block diagram along with various modes of operation also explain its applications. 10
6. (a) Draw and discuss Hey Bridge and its application for measurement of inductance. 10
(b) Define power and energy and explain working of an energy meter. 10