

Q.P. Code : 545500

(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 10 v 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**
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