

(3Hours)

Total Marks: 80

- Instructions** – i) Questions 1 is Compulsory  
ii) Out of remaining questions attempt any three questions  
iii) Figures in the bracket to the right hand side indicate full marks.

- Q.1 a) Explain alternate and chopped mode in dual trace CRO. (05)  
b) Define precision, accuracy and sensitivity with suitable example. (05)  
c) Explain selection criteria for transducers. (05)  
d) Write a note on piezoelectric transducer. (05)
- Q.2 a) Explain working of strain gauge and derive expression for gauge factor. (10)  
Q.2 b) Explain Kelvins' double bridge and its application in low resistance measurement. (10)
- Q.3 a) Write a note on applications of Q meter. (10)  
Q.3 b) Define power and energy and explain working of a single phase energy meter. (10)
- Q.4 a) Explain heterodyne type wave analyser and its application. (10)  
Q.4 b) Draw and explain Schering bridge and derive expression for measurement of capacitance. (10)
- Q.5 a) Draw and explain R<sub>2</sub>R ladder network DAC for 3 bit input taking suitable example. (10)  
Q.5 b) Discuss DSO with the help of block diagram along with various modes of operation also explain its applications. (10)
- Q.6 a) Draw and explain capacitive transducer for level measurement (10)  
Q.6 b) Explain SAR type ADC with neat block diagram and comment on its speed. (10)

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