

(3 Hours)

[Total Marks: 80]

- Instructions** – i) Questions 1 is Compulsory  
ii) Out of remaining questions attempt any three questions  
iii) Assume suitable additional data if required. bridge  
iv) Figures in the bracket to the right hand side indicate full marks.

- Q.1 a) Compare analog instrument with digital instrument. (05)  
b) Explain selection criteria for transducers. (05)  
c) Which is fastest ADC and why? (05)  
d) Describe the various types of sweeps used in CRO. (05)
- Q.2 a) Explain working of LVDT and define its application in displacement measurement. (10)
- Q.2 b) Draw neat block diagram of Dual Beam oscilloscope. (10)  
Give the comparison between Dual Trace and Dual Beam Oscilloscope.
- Q.3 a) Draw and explain Hay bridge and its application for measurement of inductances. (10)
- Q.3 b) Explain principle of operation and working of dual slope DVM. (10)
- Q.4 a) Define power and energy and explain working of a single phase energy meter. (10)
- Q.4 b) Draw and explain capacitive transducer for level measurement (10)
- Q.5 a) Draw the block diagram of generalised measurement system and explain its component (10)
- Q.5 b) Draw and explain Wheatstone bridge and derive expression for measurement of resistance. (10)
- Q.6 a) Explain dual slope ADC with neat block diagram and comment on its speed (10)
- Q.6 b) Define Q factor and explain working of a Q meter for Q factor measurement. (10)