

S.E. EXT Sum (3) (CBUS)  
ETM

1/6/15

**Q.P. Code : 4896**

**(3 Hours)**

**[Total Marks : 80**

- Note:**
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.

Q1) Attempt five: (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) Define types of error and methods of minimization

Q2 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)

Q3 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)

Q4 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)

Q5 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)

Q6 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)