(3 Hours) [Total Marks : 60

Note: 1) Attempt all questions.
2) Figrue to the right indicates Full mark.
3) Use of Non-programmable calculator is allowed.

1. Attempt **any two-**
   a) What are temperature transducers? Describe any one of them. 6
   b) Give a brief account of a common anode seven segment display. 6
   c) What is a LVDT? Describe the construction and the working principal. 6

2. Attempt **any two-**
   a) Draw the block diagram of a single trace CRO. Explain the function of the time base generator. 6
   b) Describe the digital to analog conversion using weighted resistor. 6
   c) Write a note on transistorised voltmeter. 6

3. Attempt **any two-**
   a) With the help of block diagram explain working of instrumentation amplifier as light intensity meter. 6
   b) Draw neat circuit diagram of negative clipper with help of waveforms explain its working. 6
   c) What is band pass filter? Draw frequency responce of a band pass filter, define Q factor calculate centre freqency if f_H=2500Hz. and f_L=1800Hz. 6

4. Attempt **any two-**
   a) With help of neat diagram explain working of boost regulator using Max 631. 6
   b) Draw block diagram of fixed output voltage regulator with short circuit protection. Explain how the circuit works. 6
   c) Design a negative voltage regulator using LM 337 for input voltage is equal to -20 volts and Vref = -1.24 volts. Draw circuit diagram for design values. 6

5. Attempt **any four -**
   a) What is a load cell? 3
   b) Draw the circuit diagram for a seven segment display. 3
   c) What is a sweep generator. 3
   d) Draw the circuit diagram and frequency response of wide band pass filter. 3
   e) What are characteristics of linear IC voltage regulator. 3
   f) What is role of diodes in positive adjustable voltage regulator using LM 317. 3

Con. 1076-17.