Q.P. Code: 25118

Time: 3 Hours **Total marks: 80**

Note: 1) Question No.1 is compulsory.
2) Attempt any three questions out of remaining five question.
3) Assume suitable data if required.

Q.1 (a) Define types of possible errors in an instrument. How these errors can be minimized. (4)

(b)Explain resolution and sensitivity of digital meter. (4)

(c)Explain piezo electric transducer. (4)

(d)Explain a De Sauty's bridge to measure the capacitance of capacitor. (4)

(E)Explain resistance temperature detector (RTD). (4)

Q.2 (a) Explain working principle, construction of moving iron instrument and hence derive the torque equation. (10)

(b) Describe construction, working principle and theory of dynamometer type wattmeter. (10)

Q.3 (a) Explain with block diagram Ramp type digital voltmeter. (10)

(b)Explain Kelvins double bridge to measure low resistance and hence derive the equation for unknown resistance. (10)

Q.4 (a) Explain Maxwell's Inductance capacitance bridge to measure self-inductance and hence derive the equation for self-inductance using above bridge, draw phasor diagram. (10)

(b)Explain the construction and working of D.C. Crompton type potentiometer. (10)

Q.5 (a)Explain Thermistor .Write down advantages and disadvantages of Thermistor . (10)

(b) Explain the construction and working of LVDT with advantages and disadvantages. (10)

Q.6 Write a short note on (any three) (20)
a) PMMC instrument b) Megger
c) Digital frequency meter d) Ballistic galvanometer