SE Electrical Ⅲ - CBSGs   Q.P. Code : 542201
30·5·17   (41)

(3 Hours)   [Total Marks 80]

N.B.:- (1) Question No.1 is compulsory.
       (2) Attempt any three questions out of remaining five questions.
       (3) Assume suitable data if necessary and justify the same.

Q 1.   Answer the following questions.   20
        a) Differentiate between indicating and integrating instrument
        b) Explain resolution and sensitivity of digital meter.
        c) Explain piezo electric transducer.
        d) Explain resistance temperature detector(RTD)

Q 2 a) Explain construction , working principle of moving iron instrument and hence   10
        derive the torque equation
Q 2 b) Describe construction and working principle of dynamometer type wattmeter.   10

Q 3 a) Explain with block diagram Ramp type digital voltmeter.   10
Q 3 b) Explain Kelvins double bridge to measure low resistance and hence derive the   10
        equation for unknown resistance.

Q 4 a) Explain Maxwell's Inductance bridge to measure self-inductance, derive the   10
        expression for self-inductance and draw phasor diagram.
Q 4 b) Explain the construction and working of D.C. Crompton type potentiometer.   10

Q 5 a) A moving coil instrument gives a full scale deflection of 24mA when the potential 10
        difference across its terminals is 72 mV. Calculate
        (i)The shunt resistance for a full scale deflection corresponding to 120A
        (ii) The series resistance for full scale reading with 600V
        Calculate the power dissipation in each case.
Q 5 b) Explain the construction and working principle of LVDT.   10

Q 6 a) Explain the construction and working of Megger.   10
Q 6 b) Explain the working of digital frequency meter and show it is useful for time interval 10
        measurement.

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