

22325

22223

3 Hours / 70 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: 10
- a) Define the terms:
 - i) Accuracy
 - ii) Precision
 - b) State the function of deflecting torque.
 - c) List classification of resistances along with their measuring devices used for measurement of resistance valve.
 - d) List the applications of multimeter.
 - e) State the working principle of dymeter type wattmeter.
 - f) State the effects of unity power factor and zero pf on wattmeter reading.
 - g) State the methods of range extension of ammeter.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Compare analog ammeter and voltmeter on any four points.
 - b) A moving coil has a deflection of full scale at 28 mA, when a potential of about 60 volt is applied calculate-
 - i) Series resistance for full scale deflection of 600 volts.
 - c) Compare absolute and secondary instrument.
 - d) Draw a neat sketch and label the parts of P.M.M.C. type ammeters.
- 3. Attempt any THREE of the following:** **12**
- a) Describe why CT's of secondary should not be opened while function on range extension.
 - b) State the principle and application of clamp on meter.
 - c) Describe with neat sketch working of moving iron instruments.
 - d) Explain with neat block diagram working of single phase electronic energy meter.
- 4. Attempt any THREE of the following:** **12**
- a) Draw a neat sketch of dynamometer type wattmeter and label its parts.
 - b) Compare current coil and potential coil of wattmeter. (any four)
 - c) State errors in measurement of electric energy and also mention its cause for errors. (any four)
 - d) Describe construction of Weston type frequency meter with neat sketch.
 - e) Draw neat diagram for power measurement by two wattmeter method.

5. Attempt any TWO of the following:**12**

- a) Describe working of function generator with neat sketch.
- b) State necessity of calibration of measuring different devices and list its procedures.
- c) Describe construction with neat sketch of megger.

6. Attempt any TWO of the following:**12**

- a) Describe working principle and use of rotating phase sequence indicators.
 - b) Describe with sketches single phase energy meter for electrical energy measurement.
 - c) i) Draw neat diagram of Kelvin double bridge.
ii) Draw neat diagram of CRT and describe its construction.
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