

## V55/T14034/EE/2016

Time : 3 Hours

Marks : 80

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### Instructions :

1. All Questions are Compulsory.
  2. Each Sub-question carry 5 marks.
  3. Each Sub-question should be answered between 75 to 100 words. Write every questions answer on separate page.
  4. Question paper of 80 Marks, it will be converted in to your programme structure marks.
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1. Solve any **four** sub-questions.
  - a) State various Electricity effects in measuring instruments. 5
  - b) Describe extension of Ammeter why extension is necessary in measurement. 5
  - c) Compare PMMC and MI instrument. 5
  - d) Define following term: 5
    - i) Controlling Torque
    - ii) Deflecting Torque
  - e) Explain PMMC instrument with neat diagram. 5
2. Solve any **four** sub-questions.
  - a) Explain burden of C.T what precaution to be taken while using C.T. 5
  - b) State advantages and limitations of Digital Wattmeter. 5
  - c) Define calibration. Explain calibration of Ammeter. 5
  - d) List different types of error occurred in wattmeter. How these errors can be compensated. 5
  - e) A 250V-10A wattmeter has resistance of current and potential coil of 0.5 and 12500 $\Omega$  respectively find % error when unity of loads at 250V is of 4A. 5

3. Solve any **four** sub-questions.
- a) An energy meter whose constant is 1500 revolution per KWH, it takes 20 revolutions in 30sec. Calculate load in KW. 5
  - b) List error in an induction energy meter. Describe any one. 5
  - c) Explain Reactive power measurement using one wattmeter method. 5
  - d) Compare single phase and three phase wattmeter. 5
  - e) What do you mean by calibration of energy meter. 5
4. Solve any **four** sub-questions.
- a) Draw a neat diagram of Kelvin's Double bridge. Write expression for unknown resistance. 5
  - b) Explain the procedure for measuring earth resistance. 5
  - c) List advantages and disadvantages of 5
    - i) CRO
    - ii) DSO
  - d) Explain working of LCR meter. 5
  - e) Draw block diagram of CRO. 5

