Reg. No. :

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Compare Ballistic and D'Arsonval galvanometer.

2. How to extend the high range of PMMC ammeter.

3. What is Phantom loading?

4. List various types of error in electro dynamo meter wattmeter.

5. Compare AC and DC potentiometer.

6. Define turn's ratio error in CT.

7. Draw the circuit diagram of megger.

8. Write the limitations of Wheatstone's bridge.

9. Define Q factor of coil.

10. What is meant by sliding balance in AC Bridge?

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain the working principle of attraction type and repulsion type moving iron instruments with necessary diagrams. (10)

    (ii) Compare MI and MC instruments. (6)

(b) (i) With diagram, explain construction and operation of D'Arsonval galvanometer. (8)

(ii) Draw the circuit diagram of rectifier type of voltmeter and explain its working. (8)

12. (a) (i) Explain in detail about construction and working of single phase electrodynamometer type wattmeter. (8)

(ii) With a neat circuit diagram explain in detail about phantom loading method of measurement of power. (8)

Or

(b) Describe basic principle, construction and working of induction type energy meter and also derive the torque equation for the same. (16)

13. (a) Examine the basic circuit, principle, operation and applications of DC and AC potentiometer. (16)

Or

(b) Explain in detail about characteristics of CT and PT with phasor diagram. (16)

14. (a) Explain how low resistance can be measured using Kelvin double bridge method. Write the expression for the determination of unknown resistance. (16)

Or

(b) (i) Explain any two types of earth resistance measurement with neat diagram. (8)

(ii) Describe in detail about price's guard wire method. (8)

15. (a) With a neat diagram explain principle of working of vibration galvanometer and write the expression for the same. (16)

Or

(b) (i) Derive an expression for balance condition in Anderson's bridge. (10)

(ii) Derive the bridge balance condition for the Wein's bridge. (6)

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