968 Register No.:

April 2024

Time – Three hours
(Maximum Marks: 100)

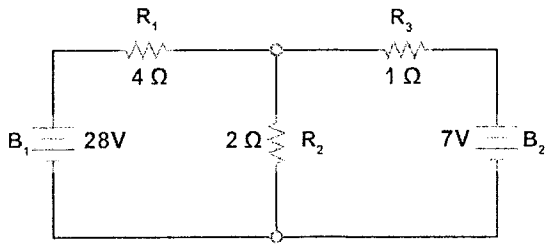
[N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART – A

1. State Kirchhoff's current and voltage laws.
2. State maximum power transfer theorem.
3. Define impedance.
4. Define Q-factor and bandwidth.
5. Compare single phase supply and three phase supply.
6. What is the function of single phase induction motor?
7. Define load cell and give its characteristics.
8. Compare CRO and DSO.
9. Define resolution.
10. List the errors in measurements.

PART – B

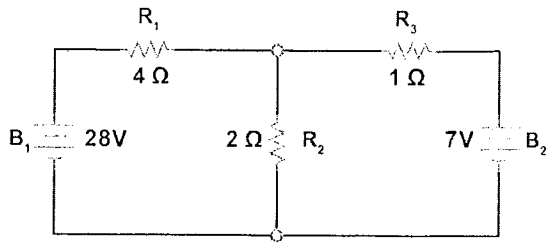
11. (a) Using superposition theorem, find the current through the 2 Ohm resistor in the circuit given below.



(Or)

[Turn over.....

(b) Calculate the Thevenin's resistance and obtain the Thevenin's equivalent circuit of the given below circuit with 2 Ohm as load resistance.



12. (a) Analyse RL parallel circuit and RC parallel circuit.

(Or)

(b) State the condition for resonance and derive the resonance frequency of a series RLC circuit.

13. (a) (i) Explain the construction and working principle of a transformer.(10)
(ii) List the applications of transformer.(4)

(Or)

(b) Explain the working of DC generator and derive its emf equation.

14. (a) (i) Write the classification of transducer. (4)
(ii) Explain the operation of strain gauge, its construction and applications. (10)

(Or)

(b) Explain the operation of function generator with block diagram.

15. (a) Explain the construction and working of PMMC instruments.

(Or)

(b) Explain how inductance is measured using Maxwell's bridge.
