

Branch - ELECTRONICS

CIRCUIT ANALYSIS

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10x2 = 20)

- 1 State Ohm's law.
- 2 Define capacitance.
- 3 State Maximum Power Transfer theorem.
- 4 State Thevenin's theorem.
- 5 What is the time constant for RL circuit?
- 6 Draw the frequency response of RLC series circuit.
- 7 Define quality factor in the resonant circuit.
- 8 What is resonance?
- 9 What is transient response?
- 10 Define Wattmeter.

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5x5 = 25)

- 11 a Illustrate the resistors color coding and give its value.
OR
b With neat sketches explain resistors Network in parallel.
- 12 a State and explain superposition theorem.
OR
b State and prove Norton's theorem.
- 13 a Explain about series RC circuit.
OR
b Explain pure inductive circuits.
- 14 a State the concept of band width of a series RLC circuit.
OR
b Distinguish between Series Resonance and Parallel Resonance.
- 15 a Explain about generation of three phase voltage.
OR
b What are the advantages of three phase system?

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3x10 = 30)

- 16 Draw and explain the classification of capacitors in the form of a tree.
- 17 State and explain Kirchhoffs laws.
- 18 With neat sketches explain R-L-C series circuit.
- 19 Explain that how to derive Q factor of parallel resonance.
- 20 Explain the two Wattmeter method measuring power in 3-phase circuits with neat sketch.