MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

I B.Tech I Sem Supply End Examination, November 2020
BASIC ELECTRICAL ENGINEERING
(EEE, CSE, IT)

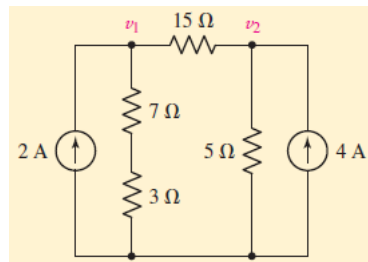**Time: 2 Hours.**   **Max. Marks: 70**
Note: 1. Answer any FIVE questions.
        2. Each question carries 14 marks and may have a, b as sub questions.

1 a) Define Superposition Theorem and verify it on a suitable example.   7M

   b) Determine the current flowing left to right through the 15 Ω resistor in the figure shown below.   7M

2   Find an expression for $v_c(t)$ valid for $t > 0$ in the circuit shown in below figure.   14M
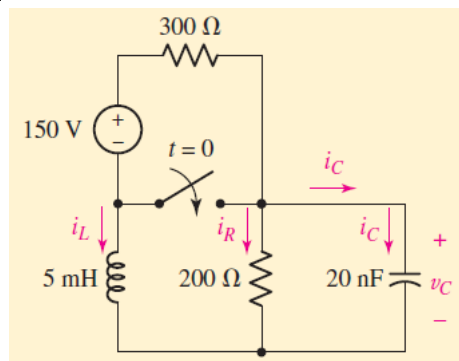
3 a) Define the terms Real Power, Reactive Power, Apparent Power and Power Factor of a A.C circuit.   7M

   b) Determine the equivalent impedance of the network shown in Below figure, given an operating frequency of 5 rad/s.   7M
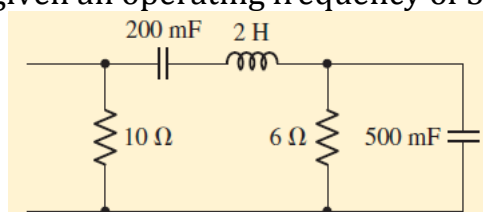
4		Define efficiency and regulation of a single-phase Transformer. Give the expressions for each and discuss about the effects of load power-factor on them.	14M
5	a)	Explain the series RLC resonance. Define the terms related to resonance.	7M
	b)	Mention various types of losses in a Transformer. Explain the factors influencing these losses.	7M
6		List out different speed control methods employed for Induction motor. Explain rotor resistance control method with suitable Torque-Slip characteristics.	14M
7	a)	Explain the constructional details and principle of operation of a 3-phase Induction motor.	7M
	b)	Explain the constructional details and electrical properties of various types of Cables.	7M
8		Write short notes on i) ELCB and ii) MCCB	14M

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