Shah & Anchor Kutchhi Engineering College

Department: Electronics Engineering
Subject: BEE

Class: F.E
Marks: 20

Date: 28/10/2015
Duration: 60 Min.

Q.1. Solve any five (Each 2 marks)

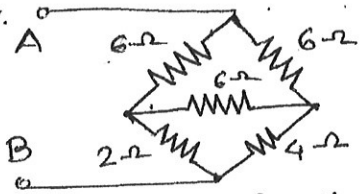
a) Write the expression for resonance frequency in a series RLC circuit and dynamic impedance in a parallel resonant circuit.

b) Write the power equation for a three-phase circuit in terms of line values and phase values.

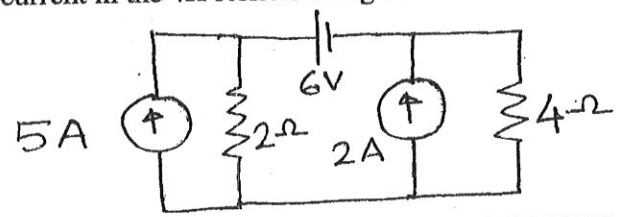
c) Draw the phasor diagram for an ideal transformer under NO LOAD condition.

d) State and explain Superposition Theorem.

e) Find R_{AB} of circuit given below.



f) Find the current in the 4Ω resistor using source transformation.

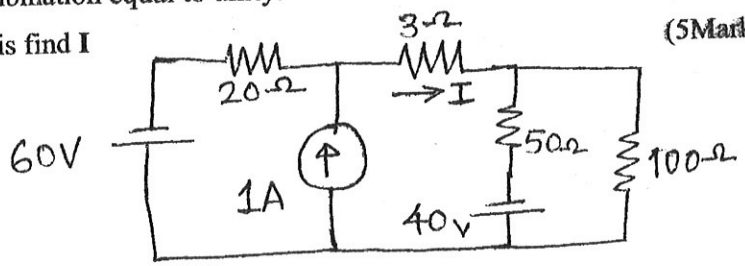


Q2 a) Find the efficiency of the transformer of 230V / 115V, 50 Hz supply. If the watt meter in the open-circuit test reads a value of 0.03Watt and the watt-meter in short-circuit test reads 25Watt. If this transformer provides 75Watt to the load. (5 Marks)

OR

Q2 b) A choke coil of negligible resistance connected across a 500V, 50Hz supply takes 1A at 0.8pf. What capacitance must be placed in parallel with it in order to make the power factor of combination equal to unity. (5 Marks)

Q3 a) Using Nodal Analysis find **I** (5Marks)



OR

Q3 b) Find value of RL for Max. Power Transfer & Calculate Max. Power. (5Marks)