Ministry of Higher Education & Scientific Research
University of Technology
Communication Eng. Department
2nd Semester - Final Examination (2016/2017)

Subject: **Fund.Elect.Eng.II**   Date: /   /2017
Division: **(Wireless) & (Optical) Comm. Eng.**   Time: **3Hrs**
Year: **First**   Examiner: **Hussain A. Hammas**
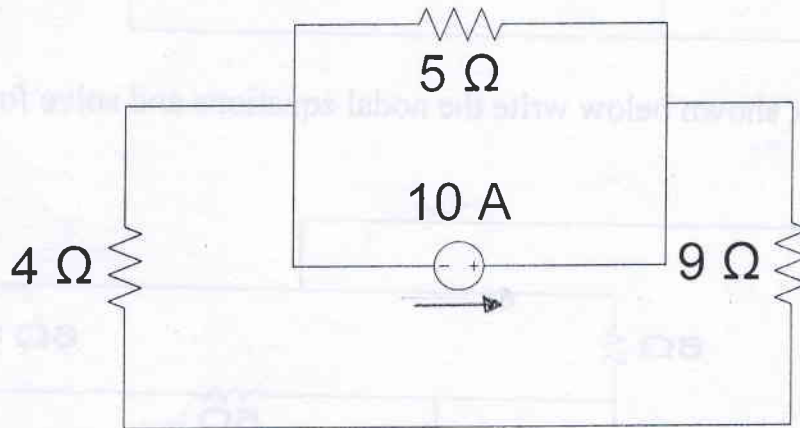Number of pages: **2**
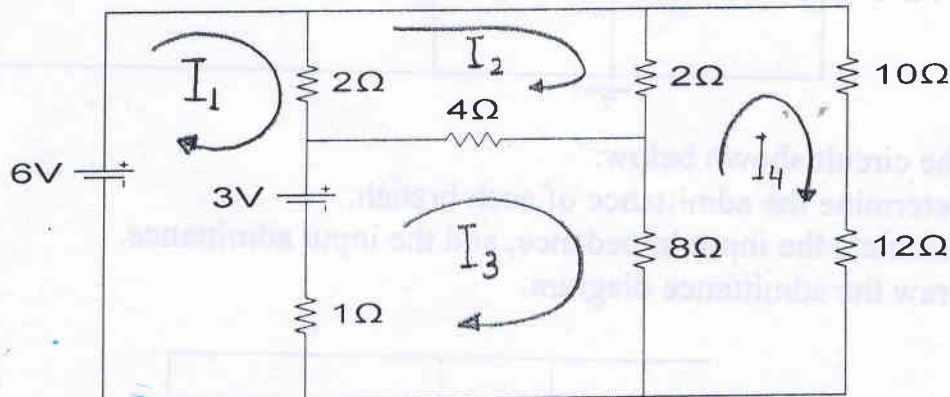
29 MAY 2017

Attempt   Five Questions Only
ALL Questions Carry Equal Marks

Q1: Using Norton theorem to find the current through the 9Ω resistor in the circuit shown.

**Q2:** Use the loop current analysis to determine the currents I_1, I_2, I_3 and I_4 in the circuit Shown.

**Q3: a)** Draw the non- interlinked 3-phace six wire system.

b) An RLC circuit consists of a series resistance of 1KΩ, an inductance of 100mH,and a capacitor of 10 Pf .If a voltage of 100V is applied across the combination, find the half power points and the HPBW of the resonance frequency response.

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Q4: For the circuit shown, determine the voltage V is the reciprocity theorem satisfied?
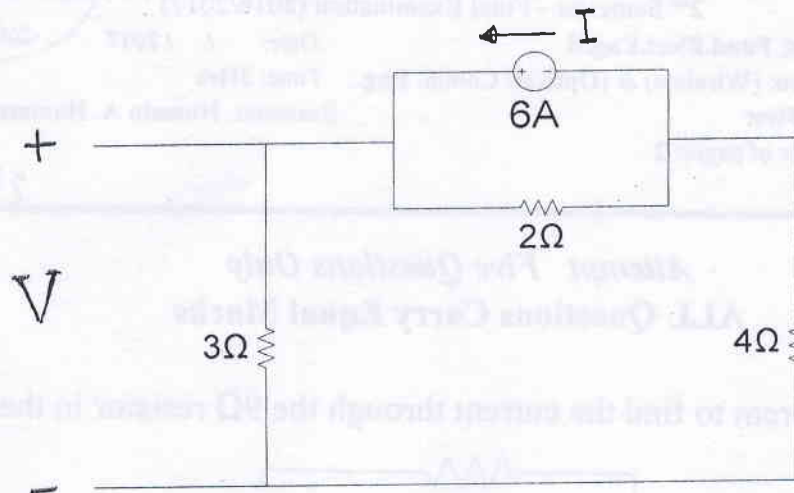
Q5: For the network shown below write the nodal equations and solve for the nodal Voltages.
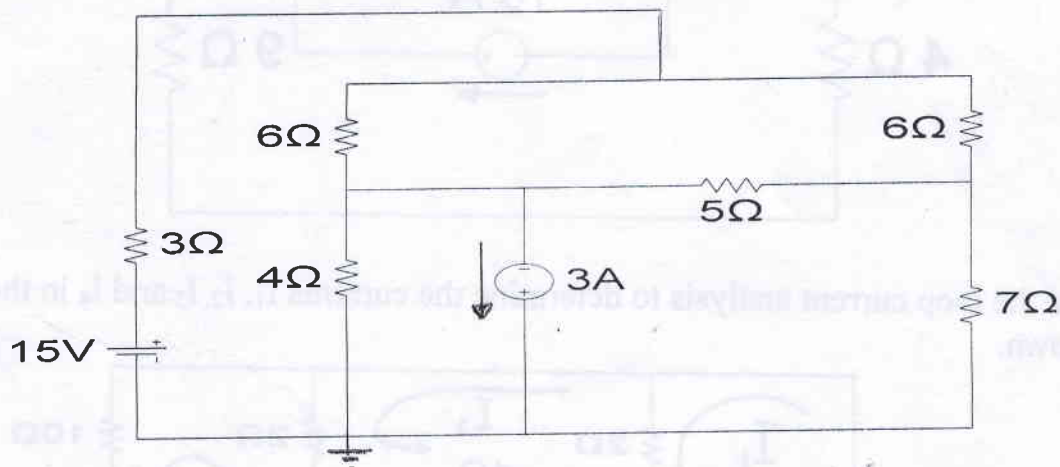
Q6: For the circuit shown below:
   i)   Determine the admittance of each branch.
   ii) Calculate the input impedance, and the input admittance.
   iii) Draw the admittance diagram.

$R = 5\Omega$ $XL = 8\Omega$ $Xc = 20\Omega$