



COLLEGE OF ENGINEERING & TECHNOLOGY

Department : Electrical & Control Engineering

Lecturer : Department Staff

Course : Electrical Circuits I

Course Code: EE 231

Date : 1 / 6 / 2015

Marks: 40

Time: 2 hours

Starting time: 14:00

Final Exam Paper

Answer the following questions:

1) Find v_o and i_o in the circuit shown in figure (1).

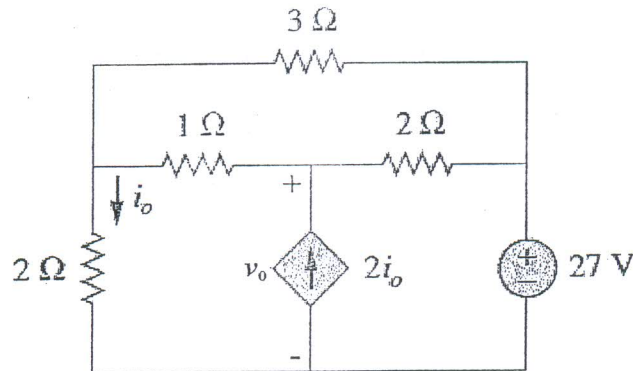


Figure (1)

[A.5-A.25] (8 Marks)

2) Determine the power dissipated in the 8 Ω resistor in the circuit shown in figure (2).

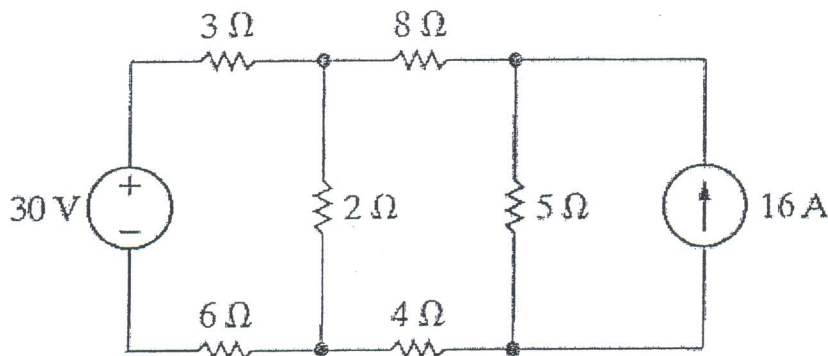


Figure (2)

[A.5-A.25-B.2] (8 Marks)

Members of course Examination Committee:	Signature:	Date:
Lecturers: Dept. Staff	<i>[Signature]</i>	10/5/2015
Course Coordinator : Prof. Samah Elsafty	<i>[Signature]</i>	10/5/2015
Head of Department: Prof. Hamdy Ashour	<i>[Signature]</i>	10/5/2015

3) For the circuit shown in figure (3) find the load resistance (between A & B) for maximum power transfer, also find that power.

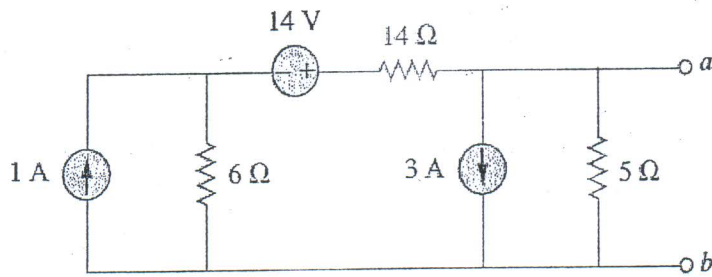


Figure (3)

[A.5-A.25-B.2] (8 Marks)

4-a) Find the average value and the effective (RMS) value for the waveform shown in figure (4).

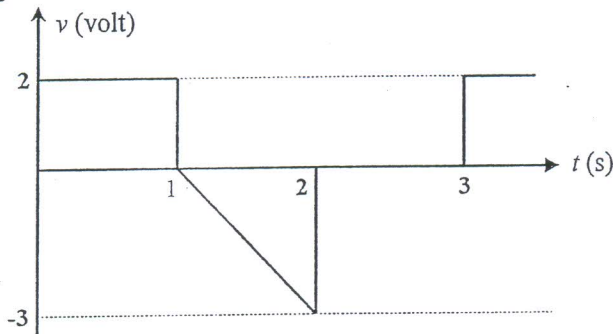


Figure (4)

[A.5-A.25] (6 Marks)

4-b)

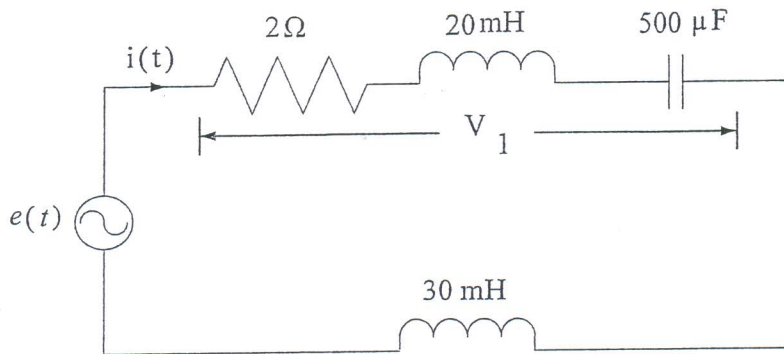


Figure (5)

For the circuit shown in figure (5), given $e(t) = 311.13 \sin(314t + 45^\circ)$ Volt, find:-

- (i) The total circuit impedance.
- (ii) The instantaneous expression of the current $i(t)$.
- (iii) The voltage V_1 in phasor form.
- (iv) The active or average power.
- (v) The resonance frequency.

[A.5-A.25] (10 Marks)

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