



COLLEGE OF ENGINEERING & TECHNOLOGY

Department : Electrical & Control Engineering

Lecturer : Staff

Course : Electric Circuits I

Course Code : EE 231

Marks : 40

Date : 11/1/2016

Time : 2 hour

Final Exam

Answer all the following questions

1. For the circuit shown in Figure 1, find the power dissipated in 3Ω .

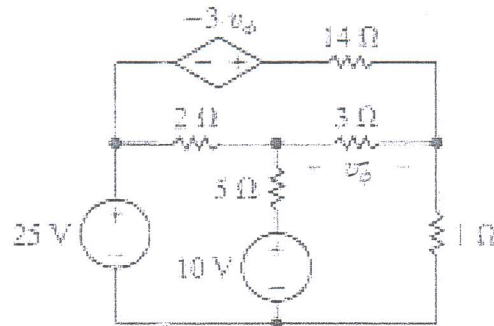


Figure 1

(6 marks) (B.2)

2. For the circuit shown in Figure 2, the variable resistance R_o is adjusted until maximum power is transferred to R_o . Find the value of maximum power transferred to R_o .

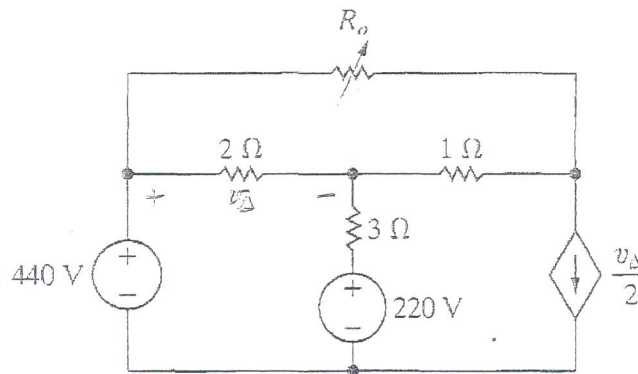


Figure 2

(8 marks) (A.13)

Members of course Examination Committee:	Signature:	Date:
Lecturer: Staff	<i>safty</i>	<i>3/1/2016</i>
Course Coordinator : Prof Samah El Safty		
Head of Department: Prof Hamdy Ashour	<i>Hamdy</i>	<i>3/1/2016</i>

3. For the circuit shown in Figure 3, using superposition theory find the current I_0 .

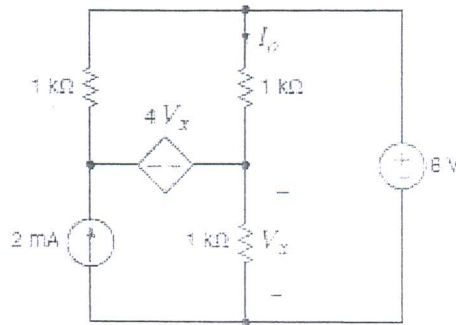


Figure 3

(8 marks) (A.25)

4. For the shown waveform in Figure 4, find:

- i- The average value
- ii- The effective value

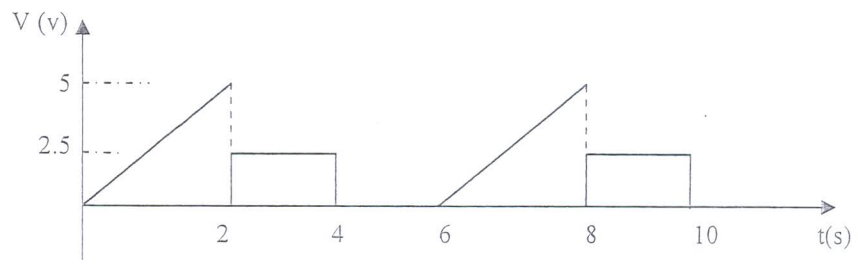


Figure 4

(6 marks) (A.25)

5. What is the frequency of a sine wave of voltage which has a 45 V peak value and which continuously increases from 0 V at $t=0$ to 24 V at $t=46.2$ ms?

(4 marks) (A.25)

6. For the circuit shown in Figure 5, find:

- i. The current in the circuit
- ii. v_x
- iii. Total power dissipated in the circuit

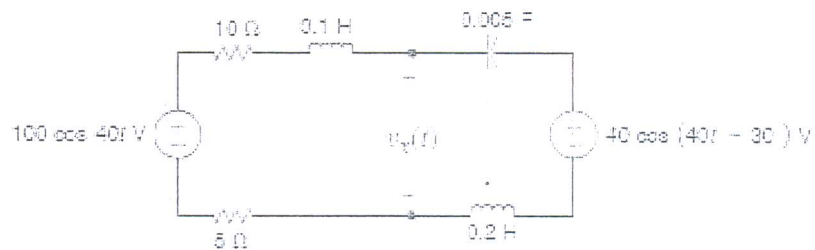


Figure 5

(8 marks) (B.2)

GOOD LUCK

Members of course Examination Committee:	Signature:	Date:
Lecturer: Staff	<i>El Safty</i>	3/1/2014
Course Coordinator : Prof Samah El Safty		
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