COLLEGE OF ENGINEERING & TECHNOLOGY

Department	: Electrical & Control Engineering
Lecturer	: Staff
Course	: Electric Circuits I
Course Code : EE 231	Marks : 40
Date : 14/1/2015	Time : 2 hour

Final Exam

Answer all the following questions

1. For the circuit shown in figure 1, find the power dissipated in the 2 Ω resistor.
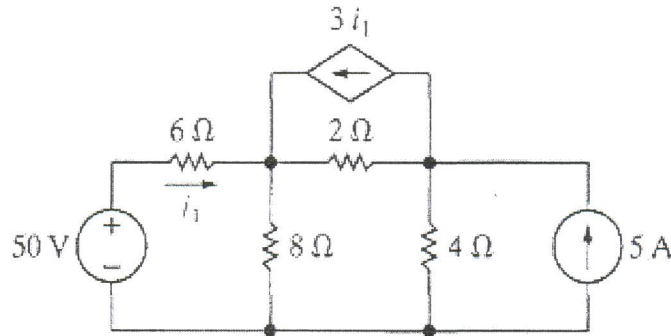

Figure 1   (8 marks)(B.2)

2. Find the Thevenin equivalent circuit between terminals a & b for the circuit shown in Figure 2.
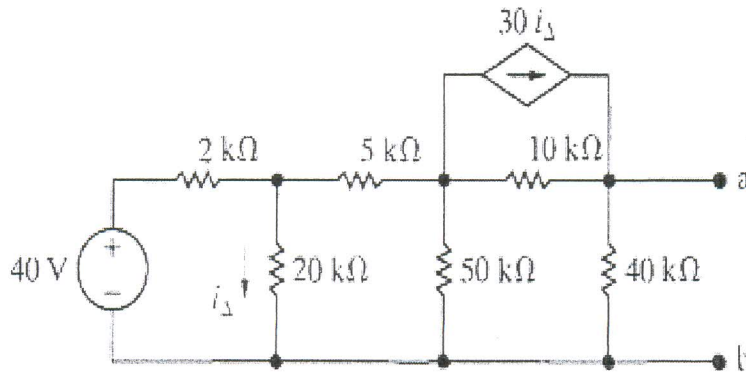

Figure 2   (8 marks)(A.13)

Members of course Examination Committee:	Signature:	Date:
Lecturers: Dept. Staff		
Course Coordinator : Prof. Samah Elsafty	S.fy	6/1/2015
Head of Department : Prof. Hamdy Ashour	Hamdy	6/1/2015

3. For the circuit shown in Figure 3, find v_0 using the principle of superposition.
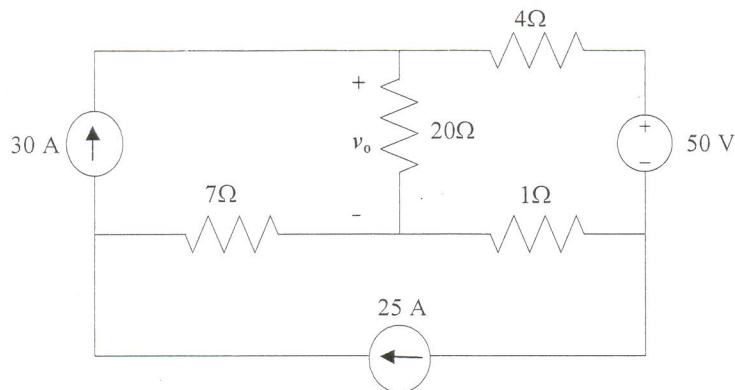

Figure 3   (8 marks)(A.25)

4. A sinusoidal voltage is given by the expression $v = 300 \cos(100\pi t + 30^0)$
a) What is the period of the voltage in second?
b) What is the frequency in Hertz?
c) What is the magnitude of v at $t = 2.778\ ms$?
d) What is the RMS of v ?   (4 marks)(A.25)

5. For the circuit shown in Figure 4, find the average value and the effective value.
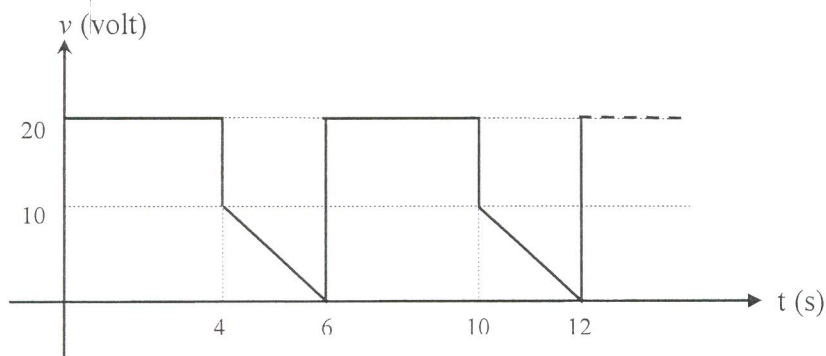

Figure 4   (4 marks)(A.25)

6. For the circuit shown in Figure 5,
   $v(t) = 100 \sin 377t$
a) Find I , V_R, V_1.
b) Find the average (real) power.
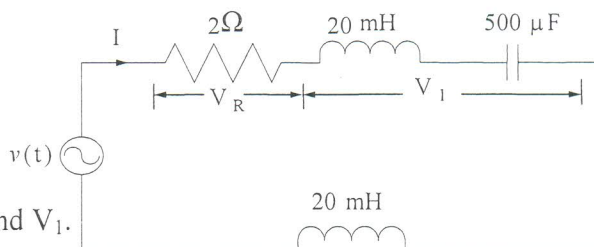c) Draw the phasor diagram for V, I, V_R, and V_1.

Figure 5   (8 marks)(B.2)

GOOD LUCK