



COLLEGE OF ENGINEERING & TECHNOLOGY

Department : Electrical & Control Engineering

Lecturer : Dr. Hussein El Desouki

Course : Electric Engineering (1)

Course Code : EE 236

Date : 20 / 1 / 2015

Marks : 40

Time : 2 hour

Final Exam

Answer the following questions:-

Question 1:

Find the power dissipated in the 15Ω shown in figure 1, using **node voltage method** or **mesh current method**.

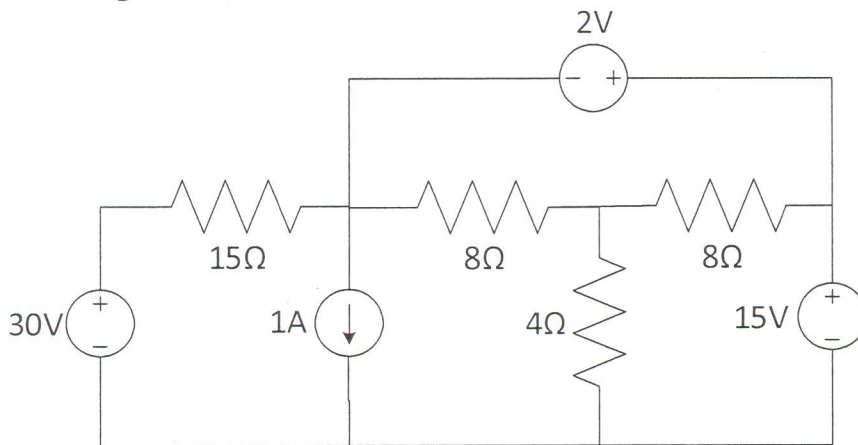


Figure 1

8 Marks
(A1, A5, B13)

Question 2:

I. Define the following terms:

- Magnetic flux (Φ).
- Magnetic flux density (B).
- Magnetic permeability (μ).

8 Marks
(A1, A5, B7)

Members of course Examination Committee:	Signature:	Date:
Lecturer: <i>H. Desouki</i>	<i>H. Desouki</i>	<i>27-12-2014</i>
Course Coordinator :	<i>Sofy</i>	<i>29/12/2014</i>
Head of Department: <i>Prof. Hany Asher</i>	<i>Haney</i>	<i>8/1/2015</i>

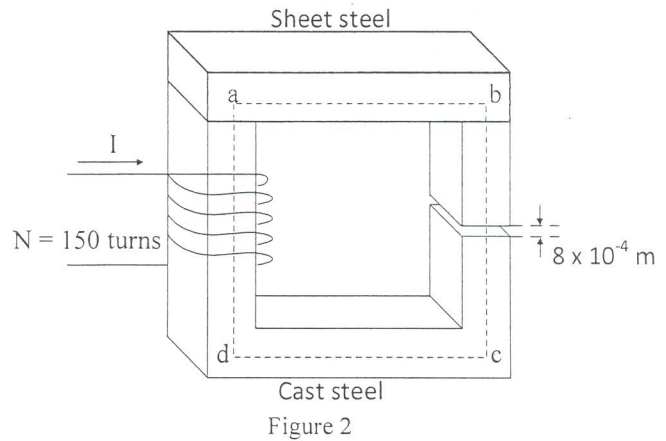
II. Find the current I required shown in figure 2 to establish a flux $\Phi = 2.4 \times 10^{-4}$ Wb in the magnetic circuit:

Area (throughout) = $2 \times 10^{-4} \text{ m}^2$.

$N = 100$ Turns.

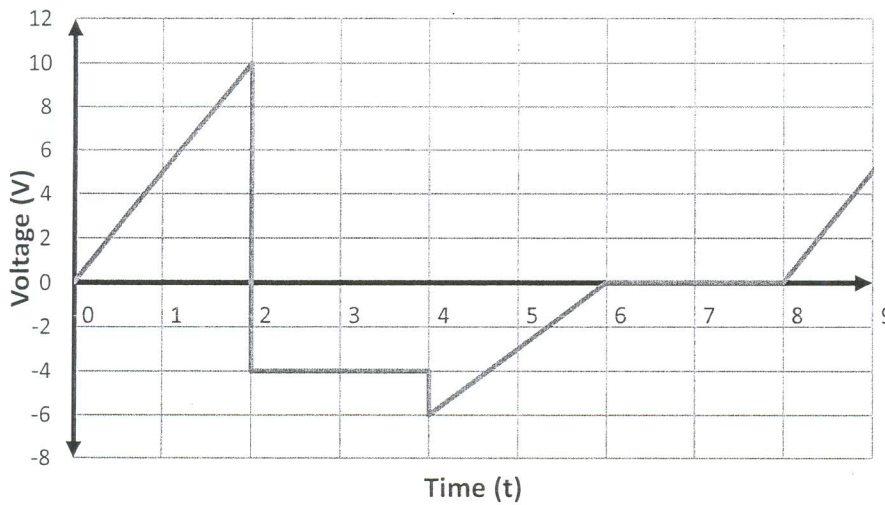
$l_{ab} = l_{cd} = 0.05 \text{ m}$.

$l_{ad} = l_{bc} = 0.02 \text{ m}$.



Question 3:

Find the average and the RMS for the waveform shown in figure 3:



8 Marks
(A1, A5, C1, C6)

Figure 3

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