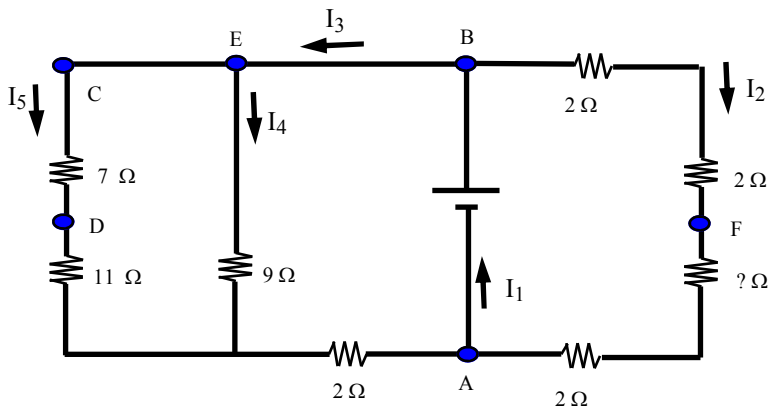


Review for Final – Second Installment



$I_5 = 3 \text{ A}$

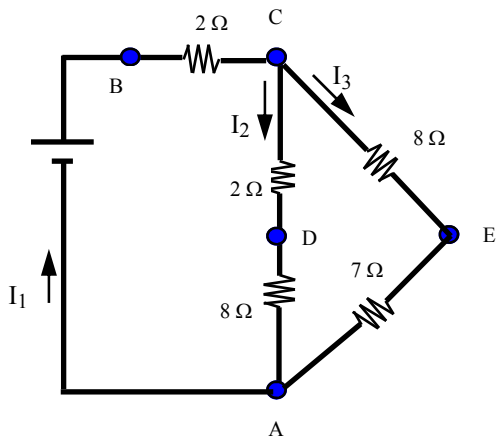
$V_{AF} = \underline{\hspace{2cm}}$ $I_1 = \underline{\hspace{2cm}}$

$V_{AE} = \underline{\hspace{2cm}}$ $I_2 = \underline{\hspace{2cm}}$

$V_{DF} = \underline{\hspace{2cm}}$ $I_3 = \underline{\hspace{2cm}}$

$V_{DC} = \underline{\hspace{2cm}}$ $I_4 = \underline{\hspace{2cm}}$

$V_{FB} = 32 \text{ V}$



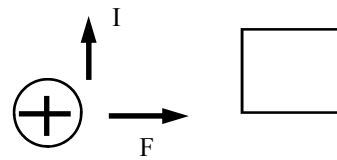
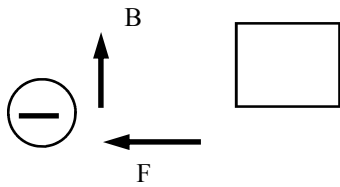
$I_1 = 7.5 \text{ A}$ $V_{AB} = \underline{\hspace{2cm}}$

$I_2 = \underline{\hspace{2cm}}$ $V_{CB} = \underline{\hspace{2cm}}$

$I_3 = \underline{\hspace{2cm}}$ $V_{AD} = \underline{\hspace{2cm}}$

$R_T = \underline{\hspace{2cm}}$

PHYSICS SIGNS:



What is the current through a 100 W light bulb connected to a 120 V source?

A Walkman draws 900 mA at 3 V. What power does it dissipate?

A proton moves perpendicular to a magnetic field that has a magnitude of 4.20×10^{-2} T. What is the speed of the proton if the magnitude of the magnetic force on it is 2.40×10^{-14} N? (The charge on a proton is 1.6×10^{-19} C.)

A 2 meter wire segment carrying a current of 0.6 A oriented perpendicular to a uniform magnetic field of 0.5 T experiences how large of a force?

Find the direction of the force

on a proton moving up the page in a magnetic field that points into the page.

on a proton moving up the page where the B-field points to the right.

on a proton moving to the left and the B-field points down the page.

on a proton moving out of the page and the B-field points down the page.

A power transformer has 10000 coils in the primary and 1000 coils in the secondary. Is this a step up or step down transformer? By how many times does it step up or down? If 120 V and 1 Amp of current are run into the primary how much voltage is induced in the secondary? How much current will there be? How much power is put into the transformer? How much power will be produced?

For a certain transverse wave, it is observed that the distance between two successive crests is 1.2 meters. It is also noted that eight crests pass a given point along the direction of travel every 12 seconds. What is the speed of the wave?

Waves move along a string with a velocity of 5 m/s. The end of the string vibrates up and down 3 times in 1.5 seconds. What is the frequency of the wave on the string?

What is the wavelength of radio wave that has a frequency of 88 MHz?

When a particular wave is vibrating with a frequency of 4 Hz, a transverse wave of length 60 cm is produced. Determine the speed of the wave pulses along the wire.

What beat frequency is produced if two tuning forks with frequencies of 412 Hz and 416 Hz are side by side and struck simultaneously?

The following list is meant to help focus your studies from your NOTES.

Ampere	Ohm	Current	Ohm's Law
Series / Parallel Circuits	AC	DC	Voltmeter
Magnetic Domains	EM induction	Physics' signs	Motors
Generators	Faraday's Law	Lenz's Law	Transformers
Solenoids	Waves	Transverse	Compressional
Longitudinal	Amplitude	Wavelength	Frequency
Period	Hertz	Wave Equation	Interference
Doppler Effect	Sound	Forced Vibration	Resonance
Beats			

Some formulas and constants you MAY want to review:

Circuits:

$$V = IR$$

$$P = VI = I^2R = V^2 / R = E / t$$

$$\text{(Series)} R_t = R_1 + R_2 + R_3 \dots$$

$$\text{(Parallel)} R_t^{-1} = (R_1^{-1} + R_2^{-1} + R_3^{-1} \dots)^{-1}$$

Loop Rule: The sum of the Voltages around a closed loop = 0
 OR. . .the voltage between any two points is the same independent of path

Junction Rule: The sum of the current entering a junction = sum of the current leaving the junction

Magnetism:

$$F = q v B$$

$$F = B I L$$

Waves and Sound

$$v = f\lambda$$

$$v = \Delta X / t$$