BLITZ: Ch 21, 22, 24, AC Electronics, Magnetism, Inducton

Form D-H

Name _____ Period ____

EXPLAIN IN COMPLETE SENTENCES AND GIVE EXAMPLES:
You MUST HAND WRITE THIS EXAM!! NO TYPED PAPERS WILL BE ACCEPTED!

1. Diagram a power supply, full wave rectifier, and filter circuit and tell how it smoothes out AC ripple.
2. Discuss why power is transmitted at high voltage in terms of the equations of resistance, heat loss, and power.
3. Diagram and explain the Edison Hookup for home power.
4. Tell about inductive and capacitive reactances, impedance, and power factor.
5. Diagram and explain the solid state diode rectifier.
6. Diagram and explain the three phase generator and motor and explain how they are synchonized.
7. What is the Domain Theory of Magnitism? Give 10 evidances supporting it.
8. Diagram and explain how the Microwave Oven works.
9. A step-up transformer is used on a 120v line to give 2400v. If the primary has 100 turns, find the number of turns on the secondary.
10. Rounding off to one significant digit, **a.** diagram a series circuit with a 3 henry coil, a 0.00005 farad capacitor, and a 800 ohm resistor powered by a 120 volt 60 Hz generator. **b**. Find the inductive reactance, X_L , **c**. the capacitive reactance, X_C , **d**. sketch the vector diagram and label it with X_L , X_C , and R, **e**. solve for the impedance, Z, **f**. find the amperage, I, **g**. find the resonant frequency, **h**. find the phase angle, **i**. find the power.
11. Diagram a Cathode Ray Tube, label the parts, and tell how it draws a picture on the screen.
12. Diagram a TV Receiving tube, label the parts.
13. Diagram a TV Color Camera, label the parts.
14. Diagram a Transistor Amplifier and compare it to a Vacuum Tube Amplifier.
15. Diagram an Electron Microscope and label its parts.

FORMULAS:

$$X_L = 2\pi fL \quad X_C = \frac{1}{2\pi fC} \quad X = X_L - X_C \quad Z = \sqrt{R^2 + X^2} \quad V = IZ \quad P = VI\cos\theta \quad I = \frac{V}{Z}$$

$$\text{at resonance } X_L = X_C \quad f = \frac{1}{2\pi\sqrt{LC}} \quad \text{phase angle} = \text{invtan}\frac{X}{R} \quad \frac{N_S}{N_P} = \frac{V_S}{V_P}$$

When finished, please STAPLE this exam onto your papers and turn in on due date.