Thursday, January 10/13
Physics 122/121

Bus Supervision - PM

Exam Review

1. Conventional Current vs Electron Flow
2. Open and Closed Circuits
3. Ammeters and Voltmeters
4. Ohm's Law
5. Textbook: Page 714, #21-24

P1 / 86

6. Series Circuit
7. Textbook: Page 719, #27-31
8. Parallel Circuit
9. Textbook: Page 724, #32-35
10. Combination/Complex Circuits
11. Textbook: Page 728, #36-37
    Textbook: Page 749, #33-34

Physics 122/121 Exam

Tentative

Part 1 – MC 40 ⇒ List the #'s.

Part 2 - Prob. 12

* Formula Sheet

Circular Motion

Handout: Problems - Circular Motion

LEVEL 1 -> Packet (Banked and Unbanked Curves, Vertical Circular Motion)

Universal Gravitation

Experiment 8.1 - Kepler's Laws - Page 49

Chapter 12 - Page 580, PP#1-7

Investigation 12-A, Page 581

Handouts (3) - Kepler's Laws, Value of "g", Speed and Period of a Satellite

Simple Harmonic Motion

Text: Page 608, #1-4
Page 623, #23-27, 30 } Mass on Spring

Text: Page 614, #5-8
Page 623, #28, 29 } Pendulum

Answer to #5 is listed as #7's. Scan answers for others.

SHM - Pendulum Lab

Handout: SHM Problems

Projectiles

Text: Page 536, PP #1-8

Text: Page 549, PP #13
Page 570, Prob. #17, 19, 20 (omit graph)

Coulomb's Law

Textbook: Page 638, #4-5
Handout: Charge and Coulomb's Law

Electric Field Strength

Textbook: Page 646, #11-14
Textbook: Page 655, #20-24

directions of E and F

Electric Potential Difference (Voltage)/Electric Current

Textbook: Page 696, #4-10 ✓

Ohm's Law

Textbook: Page 714, #21-24 ✓

Ohm's Law (Page 712)

In 1826, German physicist Georg Simon Ohm conducted the original experiments in resistance in electric circuits, using many lengths and thicknesses of wire. He studied the current passing through the wire when a known potential difference was applied across it. From his data he developed the mathematical relationship that is known as Ohm's Law.

$$R = \frac{V}{I}$$

R -> resistance (Ω)
V -> potential difference (V)
I -> current (A)

NOTE: The ohm is defined in accordance with Ohm's Law.

$$1\ \Omega = \frac{1\ V}{1\ A}$$

The formula is often written in the form

$$V = IR$$

The usefulness of the formula is limited to metal conductors at stable temperatures. When a load does not obey Ohm's Law, the graph of potential difference versus current is not a straight line. Devices and materials that do not obey Ohm's Law are said to be **non-linear** or **non-ohmic**.

Textbook: Page 714, #21-24

$V = IR$ $\quad V = \frac{W}{q}$ $\quad I = \frac{q}{t}$