PHYS 211 MWF 9-9:50    F08 Study Guide for Test #1     Chapters 1, 2, 3, & 4.

Test will consist of multiple choice questions, regular questions, derivations, and problems.

1. Units, Unit standards, and unit conversions. (Conversion factors will be provided)

2. Using trigonometric functions, Pythagorean Theorem, and Calculus to solve problems.

3. Defining and identifying the following physical quantities as vectors or scalars and expressing their units: Time, Position, Distance, Displacement, Speed, Velocity, and Acceleration.

4. Distinguishing instantaneous quantity from average quantity.

5. Equations of kinematics: (The following will be provided)

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| --- | --- | --- | --- |
| 1. | 2. | 3. | 4. |
|  |  |  |  |

a. Understanding and derivation of the above kinematics equations.

b. Solving motion problems using kinematics equations.

6. Analyze motions graphically:   
 a. Position (x) vs. Time (t) graph.      
 b. Velocity (v) vs. Time (t) graph.   
 c. Acceleration (a) vs. Time (t) graph.

7. Vectors:   
 a. Find the components of a vector.  
 b. Find the sum/resultant of two or more vectors, including unit vector notation.  
 c. Determining the angle between two vectors using the vector dot/scalar product.

8. Understand and solve projectile motion problems using kinematics equations.

9. Read the chapters thoroughly and critically to understand concepts presented.

10. Practice WileyPlus assignments.

11. Answer end-of-the chapter questions.

12. Solve end-of-the-chapter problems.