PHYS 201     Study Guide for Test #1     Chapters 1, 2, & 3.

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

1. Unit: SI base unit standards, derived units, and unit conversions.

2. Math: Using algebra, trigonometric functions, and Pythagorean theorem to solve problems.

3. Identifying physical quantities as vectors or scalars and expressing their units: Time, Density, Pressure, Distance, Displacement, Speed, Velocity, and Acceleration.

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. | 2. | 3. | 4. | 5. |
| $$x=\overbar{v} t$$ | $$x=\frac{1}{2}\left(v\_{0}+v\right)t$$ | $$v=v\_{0}+at$$ | $$x=v\_{0}t+\frac{1}{2}at^{2}$$ | $$v^{2}=v\_{0}^{2}+2ax$$ |

a. Understanding and derivation of the above kinematics equations.

b. Solving motion problems using kinematics equations.

5. DEFINE and/or EXPLAIN all the new terms learned in chapters 1, 2, and 3.

6. Analyze motions graphically:

 a. Position (x) vs. Time (t) graph.

   b. Velocity (v) vs. Time (t) graph.

7. Finding the components of a vector.

8. Finding the sum/resultant of two or more vectors, study Lab 3.

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

10. Solve relative-velocity problems.

12. Solve the assigned end-of-the-chapter homework problems/questions.

13. Practice problems/questions similar to the Blackboard and in-class activities.

14. Read the chapters thoroughly and critically and understand concepts presented.

15. Study the power-point lectures.