

Physics 180A Quiz 4 **Reduced Study Guide for Monday April 6th**

Chapter 7: Work and Energy

Concepts: Energy, Forms of Mechanical Energy, Dissipative forces, Work, Kinetic Energy, Work done by a varying force, Grav. Potential Energy, Elastic Potential Energy, Conservation of Energy, Power

Figures: 11, **17**, **22**, 25, **27**, 28 - Understand the basic concepts.

MC Questions: **3**, **5**, 6, **8**, **9**, **10**, **11**, **12**, 13, 14

Basic Problems: (examples 3, 4, 5, 6, **8**), 2, 3, 4, **5**, 6, **7**, 25

Medium Problems: 9, **11**, 19, **21**, **23**, 26, 43, **48**, 50, **80**, 81, **88**, **97**, **98**, 99, **101**, **102**, **111**

*Most of these problems are very similar. The **bold problems** were done in class.*

Follow the recipe. Draw a clear and complete diagram, Draw a Freebody diagram, if necessary. Indicate the energy before and after on the diagram. Use the Cons. of Energy Principle and solve for the unknown variable. All these problems involve the transfer of energy. You should have done many of these in Mastering Physics.

Chapter 8: Momentum and Impulse

Concepts: Momentum, Conservation of Energy, Elastic and Inelastic Collisions, The Ballistic Pendulum, Impulse. *Skip sections 6, 7, 8*

Figures: **8**, **11**, **21**, 22, **23** - Understand the basic concepts.

MC Questions: 2, 3, 4, 6, 8, **10**, **11**, **12**

Basic Problems: (examples 2, 3, 6, **7**, 8), 1, **5**, **8**, 9, 10, **12**, 21, **22**, 37, **38**, 40

Medium Problems: **17**, 19, **20**, **25**, 39, 68, **69**, **77**(the ballistic pendulum)

*Most of these problems are very similar. The **bold problems** were done in class.*

Follow the recipe. Draw a clear and complete diagram, Draw a Freebody diagram, if necessary. Indicate the energy before and after on the diagram. Use the Cons. of Energy Principle and solve for the unknown variable. All these problems involve the transfer of energy. You should have done many of these in Mastering Physics.