Ira A. Fulton Schools of Engineering
Arizona State University

Term: Fall 2023 Subject: Physics (PHY)
Course Number: 150

Weekly Quiz 1 (10 points)

red**Due on Friday, September 1st at 11:59 pm**

1. The unit of electrical resistance is:
   (a) Ampere
   (b) Ohm
   (c) Coulomb
   (d) Volt
2. What is the SI unit of power?
   (a) Watt
   (b) Joule
   (c) Newton
   (d) Pascal
3. What phenomenon in a prism causes the splitting of white light into its constituent colors?
   (a) Dispersion
   (b) Refraction
   (c) Diffraction
   (d) Polarization
4. What is Newton's second law of Motion?
   (a) The acceleration of an object is directly proportional to the net force acting on it and inversely proportional to its mass.

(b) If two systems are in thermal equilibrium with a third system, then they are also in thermal equilibrium with each other.

(c) For every action, there is an equal and opposite reaction. When one object exerts a force on a second object, the second object exerts an equal and opposite force on the first.

(d) An object at rest will stay at rest, and an object in motion will stay in motion with the same velocity (speed and direction) unless acted upon by an unbalanced external force.

5. Which variable must remain constant for Boyle's law to hold?

   (a) Pressure

   (b) Temperature

   (c) Volume

   (d) Amount of gas

6. In a Hooke's-law spring experiment, which graph is linear for small extensions?

   (a) Force vs extension

   (b) Energy vs extension

   (c) Force vs time

   (d) Displacement vs time

7. Components connected so that the same current flows through each are in:

   (a) Series

   (b) Parallel

   (c) Resonant

   (d) Open

8. At constant pressure, the heat added to a system equals the change in:

   (a) Enthalpy

   (b) Internal Energy

   (c) Gibbs free energy

   (d) Helmholtz free energy

9. Which law describes the magnitude of the gravitational force between two point masses?

   (a) Newton's law of gravitation

   (b) Coulomb's law

   (c) Ampere's law

(d) Faraday's law

10. The energy possessed by a body due to its motion is called:

(a) Potential Energy

(b) Kinetic Energy

(c) Mechanical Energy

(d) Chemical Energy