Physics - ICS Part 1 Physics Chapter 7 Short Questions Test

Q1. Why the enthalpy of neutralization has the same value for any strong acid with any strong base?

Ans 1:

Q2. Why the amplitude of lead bob is greater than pith ball as the bobs having equal size and length set into vibration?

Ans 1: It is because the mass of lead bob is much greater than the very light pith ball, so lead bob can travel to greater extent in air against the resistive and retarding forces. Lead bob has greater inertia.

Q3. Differentiate between damped oscillation and undamped oscillations.

Ans 1: Damped Oscillation: The oscillations in which the amplitude decreases steadily with time are called damped oscillations. For Example, shock absorber of a car and motion of any microscopic system.
Undamped Oscillations: The oscillations in which the amplitude remains same with time are called undamped oscillations. For Example, oscillations in an ideal simple pendulum.

Q4. Write one advantage and one disadvantage of resonance.

Ans 1: Advantage: A swing is a good example of mechanical resonance. If a series of regular pushes are given to the swing , its motion can be built up enormously .
Disadvantages: The rhythmic march of column of soldiers on a bridge of long span might set up oscillations of dangerously large amplitude in the bridge structure. Bridge can be collapsed due to violent resonance oscillations. They are advised break their steps.

Q5. What are damped oscillations?Give some of its applications.

Ans 1: The oscillations in which the amplitude decreases steadily with time are called damped oscillations
For example

- The shock absorber of a car
- Motion of any microscopic system

Q6. What do you understand by forced vibration? Explain with examples.

Ans 1: If an oscillation system is subjected to an external periodic force, then force vibrations will take place.

1. The vibrations of a factory floor caused by the running of heavy machinery is a example of forced vibrations.
2. The mass of a vibrating pendulum is struck repeatedly, the forced vibrations are produced .

Q7. Define resonance.Write its one example.

Ans 1: When the frequency of the applied force is equal to the natural frequency of simple harmonic oscillator, the periodic amplitude of the motion may become extraordinary large. This phenomenon is called resonance.

1. A swing is a good example of mechanical resonance.
2. Turning a radio is the example of electrical resonance.

Q8. Describe some common phenomena in which resonance plays an important role.

Ans 1:

- A swing is a good example of mechanical resonance.
- Tuning of the radio is the best example of electrical resonance.
- Another good example of resonance is the heating and cooking of food very efficiently and evenly by microwave oven.

Q9. Explain relation between total energy, potential energy and kinetic energy for a body in simple harmonic motion.

Ans 1: When the K.E of the mass is maximum, the p.e of the spring is zero. Conversely, when the P.E of the spring is maximum, the K.E of the mass is zero. The interchange occurs continuously from one form to the other but the total energy remains conserved.

Q10. What is slinky spring ?

Ans 1: A large and loose spring coil is called slinky-spring. It can be used to demonstrate the effect of the motion of the source in generating waves in a medium.
