Physics (New Book) - 9th Class Physics English Medium Chapter 4 Preparation

Q1. Define and explain couple.

Ans 1: Couple: When two equal an dopposite parallel forces act at two different points of the same body, they form a couple.
Explain: The two forces are equa in magnitude but opposite in direction, Beacus they are applied at diffferent points, they produce a turning effect on the object.
Example from Daily life:
Opning or closing a water tap
Turning a key in a lock
Opening the lid of a jar
Turning the steering wheel of a motor car.

Q2. Think of a body which is at rest but not in equilibrium.

Ans 1: There is not a single body in the universe which is at rest but not in equilibrium.

Q3. Define like parallel forces.

Ans 1: Lime Parallel Forces.:- If the parallel forces are acting in the same direciton then they are called like parallel foces. The resultant of like parallel forces is equal to the sum of the magnitudes of all the forces and acts in the same direction as the individiual forces.
Example:- Two people pushing a car in the same direction.

Q4. Write a common application of torque.

Ans 1: Moment of fore is applicable in the working of bottle opener.
A small force applied at longer moment arm produes more torque while opening a bottle.

Q5. Define Unlike Parall;el Forces

Ans 1: Unlike Parallel Forces:
I the parallel forces are acting in the oppsoite direction, then they are called like parallel forces. The resultant of unlike parllel force is the differecne between the magnitudes of the forces and act it the dirction of the larger force.
Example:- Two people pushing a table from opposite sides with unequal forces.

Q6. What is the line of action of a forces.

Ans 1: The line along which the force acts is called the line of action of the force. It represents the direction and path of the force and passes through the point of applicaion the force.

Q7. Define rigd body.

Ans 1: If the distance between two points of the body remains the same under the action of a force. It is called a rigid body.

Q8. How can the stability of ship and bots be improved.

Ans 1: The stability of ships and boats can be improved by lowienr their centre of gravity/ A lower centre of gravity helps the boats or ships resist tipping over, especally in rough watr conditions.

Q9. What is stable equilibrium.

Ans 1: A body is said to be in a state of stable equilibrium. if after a slight tilt, it comes back to its orignal position.

Q10. Define axis of rotation.

Ans 1: Axis of rotation: during rotation, all the particle of the rigit body rotate along fixed circles. The striaght line joining the centers of these circles is called the axis of rotation in this case , It is OZ.
