

Physics (New Book) - 9th Class Physics English Medium Short Question Preparations

Q1. Define like parallel forces.

Ans 1: Like Parallel Forces:- If the parallel forces are acting in the same direction then they are called like parallel forces. 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 individual forces.

Example:- Two people pushing a car in the same direction.

Q2. What does the gradient of a distance-time graph represent.

Ans 1: The gradient of a distance-time graph represents the speed of the object. A steeper gradient indicates a higher speed, while a flatter gradient indicates a lower speed.

Q3. Distinguish between force and pressure.

Ans 1: Force:- An agent which produces or tends to produce motion, stops or tends to stop the motion or deforms or tends to deform an object.

Pressure:- The normal force per unit area is called pressure.

Mathematically: $P = F/A$

Q4. Which SI base unit is the only one that uses a prefix in its standard form.

Ans 1: The kilogram is the only base unit that has a prefix.

Q5. An astronaut walking in space wants to return to his spaceship by firing a hand rocket. In what direction does he fire the rocket.

Ans 1: The astronaut should fire the hand rocket in the opposite direction to the spaceship. This expels gases in one direction, and by Newton's Third Law, the equal and opposite reaction pushes the astronaut back toward the spaceship.

Q6. Which base unit has a prefix.

Ans 1: The kilogram is the only base unit that has a prefix.

Q7. How does a cricketer reduce the impact of the ball when catching it.

Ans 1: A cricketer draws his hands back to reduce the impact of the ball by increasing the time over which the force is applied. This decreases the force experienced by the hands.

Q8. Define deforming force

Ans 1: A force that changes the size or shape of an object is called a deforming force.

Q9. Comment on the statement Density is property of a material not the property of an object made of that material.

Ans 1: $\rho = m/v$
It depends upon type of material and is constant for a given material regardless of size or shape of object.

Q10. Define Solar Energy

Ans 1: Sun is the biggest source of energy. The energy obtained from sunlight is referred to as solar energy.

Q11. Define Internal Energy

Ans 1: The sum of kinetic and potential energies of the molecules of an object is called its internal energy

Q12. How is the stability of a racing car enhanced.

Ans 1: The stability of a racing car is enhanced by keeping its center of mass as low as possible and increasing its base area by positioning the wheels outside of its main body.

Q13. Why do tightrope walkers carry a long, narrow rod.

Ans 1: As we know lower the centre of gravity greater will be stability in order to lower the center of gravity acrobats hold a long rod in their hands so that the acrobats may remain in stable equilibrium.

Q14. What kind of world do we live in.

Ans 1: We live in physical world

Q15. Why is the doubtful digit included in significant figures.

Ans 1: The doubtful digit is included in significant figures as it reflects the precision limit of the measurement.

Q16. What is meant by rigid 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. A rigid body is the one that has no deformation by applying force.

Q17. Define thrust force.

Ans 1: It is an upward force exerted by a liquid on an object immersed in it.

Q18. How a vector is represented graphically? Explain.

Ans 1: A vector can be represented graphically by drawing a straight line with an arrow head at one end. The length of line represents the magnitude of the vector quantity according to a suitable scale while the direction of arrow indicates the direction of the vector.

Q19. What happens if a material is deformed beyond its elastic limit.

Ans 1: The material undergoes a permanent change in shape or size and does not return to its original shape even after the deforming force is removed.

Q20. What happens to a spring when the applied force exceeds its elastic limit.

Ans 1: When the applied force exceeds the elastic limit, the spring is permanently deformed and does not return to its original shape.
