



7. Which force is responsible for acceleration of a body in free fall?
8. What will be the acceleration of free fall?
9. A cricket ball thrown vertically upwards, reaches a maximum height of 5 metres. Find the initial speed of the ball. ($g = 9.8 \text{ m/s}^2$)
10. What will be the mass of a body at the centre of the earth as compared to other places on the earth?
11. If the weight of a body on the earth is 6 N, what will it be on the moon? (Given that acceleration due to gravity on moon is one  sixth of that on the earth.)
12. State universal law of gravitation. How the force between the two bodies is affected if the distance between them is tripled?

Very Short Answer type Questions

- 1.State the significance of universal law of gravitation.
- 2.The value of gravitational constant G on earth is $6.67 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$. What is its value on the surface of moon?
3. Two objects of masses m_1 and m_2 are dropped in vacuum from a height above the surface of earth (m_1 is greater than m_2). Which one will reach the ground first and why?
- 4.Suppose gravity of earth suddenly becomes zero, then which direction will the moon begin to move if no other celestial body affects it?
- 5.State the name and type of force which is responsible for holding the solar system together.
- 6.The factors associated with the motion of an object are: Force, Velocity, Acceleration and Momentum. Out of these four factors which one remains constant for all bodies  large or small undergoing a free fall?