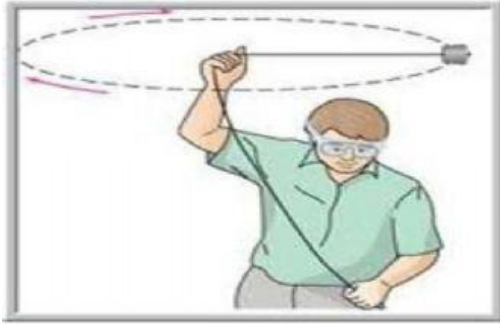


8. A boy is whirling a stone tied with a string in a horizontal circular path as shown in the following figure:



If the string breaks the stone:

- (a) Will move along a straight line towards the centre of the circular path
- (b) Will move along a straight line the tangential to the circular path
- (c) Will move along a straight line perpendicular to the circular path away from the boy
- (d) Will continue to move in the circular path

9. Following table represents the mass and volume data of the three liquids named A, B, C and D. Can you find which two liquids are identical?

| Liquid | Mass (in g) | Volume (in cm ³) |
|--------|-------------|------------------------------|
| A | 80 | 100 |
| B | 100 | 100 |
| C | 80 | 80 |
| D | 100 | 80 |

- (a) A and C
- (b) B and C
- (c) A and D
- (d) B and D

10. A ball weighing 4 kg of density 4000 kgm^{-3} is completely immersed in water of density 10^3 kgm^{-3} . What will be the buoyant force acting on it?

- (a) 100 N
- (b) 10 N
- (c) 1600N
- (d) 16 N

11. Choose the correct unit for the relative density among the following:

- (a) kg/cm
- (b) unitless
- (c) kg/cm
- (d) kg/m^3

12. An object having mass equal to 350 g occupies 200 cm^3 of the space. When this object is thrown into a river what will be the condition of this object there? (Density of water = 1 g/cm^3)

- (a) It will float on the surface of water
- (b) It will float fully submerged in the liquid
- (c) It will sink in the liquid
- (d) It will float partially submerged in the liquid

13. An object is put in three liquids having different densities, one by one. The object floats with $1/9$, $2/11$ and $3/7$ parts of its volume outside the surface of liquids of densities d_1 , d_2 and d_3 respectively. Which of the following is the correct order of the densities of three liquids?

- (a) $d_1 > d_2 > d_3$
- (b) $d_2 > d_3 > d_1$
- (c) $d_1 < d_2 < d_3$
- (d) $d_3 > d_2 > d_1$

14. The school bags are generally provided with the broad strips because:

- (a) It will spread the force of the bag over the large area of the shoulder of the child producing large pressure
- (b) It will spread the force of the bag over the large area of the shoulder of the child producing less pressure
- (c) It has become a trend among the students to carry the bags with wide strips
- (d) It will spread the force of the bag over the small area of the shoulder of the child producing less pressure

15. Two objects of different masses falling freely near the surface of moon would:

- (a) Have different accelerations
- (b) Undergo a change in their inertia
- (c) Have same velocities at any instant
- (d) Experience forces of same magnitude