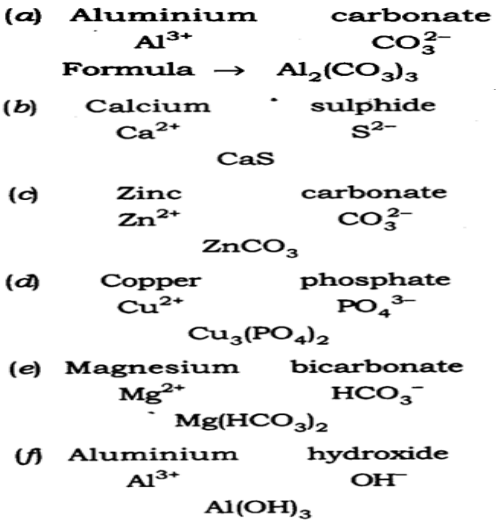
BCM SCHOOL BASANT AVENUE, DUGRI ROAD, LUDHIANA

CLASS – IX SCIENCE

CHEMISTRY – ATOMS & MOLECULES

PHYSICS – GRAVITATION AND WORK & ENERGY

(2/12/2024)

1. **b) 11**
2. **b) Mass of Earth**
3. **b) Both assertion and reason are true but reason is not the correct explanation of assertion.**
4. **a) Both assertion and reason are true and reason is the correct explanation of assertion.**
5. **Formula mass of sodium carbonate**
   = (2 × atomic mass of Na) + (1 × atomic mass of C) + (3 × atomic mass of O) + 10 [(2 × atomic mass of H) + (1 × atomic mass of O)]
   = 2 × 23 + 1 × 12 + 3 × 16 + 10 [(2 × 1) + (1 × 16)]
   = 46 + 12 + 48 + 180 = 286 u
6. 

7. **It will be determined by density of the liquid in which object is immersed. If density of objectives is more than the density of liquid then it will sink into the liquid. If density of object is less than the liquid in which it is immersed then it will float on the liquid.**
8. **(a) Zero, as the displacement in one complete revolution is zero.**
   (b) Given m = 250 g = 0.25 kg, h = 2.5 m, g = 10 ms-2, W = ?
   Now, W = FS = mg x h = 0.25 x 10 x 2.5 = 6.25 J
9. **(1) No, he could not verify the law of conservation of mass in-spite of the fact that there was no change in mass.**
   (2) No chemical reaction takes place between NaCl and Na_2SO_4. This means that no reaction actually took place in the flask.
   (3) He should have performed the experiment by using aqueous solutions of $BaCl_2$ and Na_2SO_4. A chemical reaction takes place in this case and a white precipitate of $BaSO_4$ is formed.
   (4) 142 g/mol.

10. **1. (a) Scalar quantity**
    2. (b) negative
    3. (a) Joule