

Part 1

1. State universal law of gravitation,
2. What do you mean by acceleration due to gravity
3. What is the relation between 'G' and 'g'
4. What is the importance of universal gravitational law
5. What is the relation between mass and weight
6. What is free fall
7. What is the value of 'g' on the surface of moon
8. If the mass between object is doubled, how will it affect force between object
9. If distance between object doubled then what will be new force
10. Derive relation between G and g
11. If an object fall from a height 1000m, how long will it take to reach ground
12. If an object throw vertically upward, calculate time to reach maximum height
13. Gravitational force on the surface of moon is only 1/6 as strong as gravitational force on earth. What is the weight in newton of a 10kg object on the moon and on earth.

Part 2

14. Define buoyancy. A solid body of mass 150g occupies 60 cm³ volume. Will it sink and float? [2.5 g cm⁻³]
15. In what direction does the buoyant force of an object immersed in a liquid act?
16. State Archimedes' principle. Write two applications
17. Differentiate thrust and pressure. Write units
18. Why buildings had wide foundation?
19. Give reason:-
 - a. Cutting tools have sharp edge
 - b. A sheet of paper falls slower than
20. The volume of a 40g of a solid is 15 cm³. If the density of water 1g/ cm³ will the solid float or sink? Why? [2.67 g/ cm³]
21. Which will exert more pressure 100kg mass on 10 m² or 50kg mass of 4m²? Give reason [98Pa, 122.5 Pa]
22. Why do we feel light when we swim?
23. Why it is easier to swim in sea water than in river water?
24. A sealed can of mass of 600g has a volume of 500 cm³ .will this sink or float in water? Why? [1.2 g/ cm³]
25. The relative of aluminium is 2.7 and density of water is 1000kg/m³. What is that density of Aluminium in SI unit? [2700 kg m⁻³]