Note: (1) Think and Answer (2) Read the questions properly

Name: **Date:**

Areas of Improvement:

Maximum Marks	**31**
Marks Obtained	
%	

Parent Signature	**Parent Signature**

Section A

[0.5 x 10 = 5]

1. The correct relation is:

A. Density = Mass x Volume

B. Mass = Density x Volume

C. Volume = Density x Mass

D. Density = Mass + Volume

2. The relative density of alcohol is 0.8. Its density is:

A. 0.8

B. 800 kg m^{-3}

C. 800 g cm^{-3}

D. 0.8 kg m^{-3}

3. A block of wood of density 0.8 g cm^{-3} has a volume of 60 cm^{-3}. The mass of block is:

A. 60.8 g

B. 75 g

C. 48 g

D. 0.013 g

4. The density of aluminium is 2.7 g cm^{-3} and that of brass is 8.4 g cm^{-3}. The correct statement is:

A. Equal masses of aluminum and brass have equal volumes.

B. The mass of a certain volume of brass is more than the mass of an equal volume of aluminum.

C. The volume of a certain mass of brass is more than the volume of equal mass of aluminum.

D. Equal volumes of aluminum and brass have equal masses.

5. The correct statement is:

A. The buoyant force on a body is equal to the volume of the liquid displaced by it.

B. The buoyant force on a body is equal to the volume of the body.

C. The buoyant force on a body is equal to the weight of the liquid displaced by it.

D. The buoyant force on a body is always equal to the weight of the body.

6. The weight of a body is more than the buoyant force experienced by it, due to a liquid. The body will:

A. sink

B. float with its some part outside the liquid.

C. floats just below the surface of a liquid.

D. floats with whole of its volume above the surface of a liquid.

7. The density of mercury is 13.6 gcm^{-3} in CGS system. Its density in SI system is :

A. 136 Kgm^{-3}
B. 1360 Kgm^{-3}
C. 13600 Kgm^{-3}
D. no change in density

8. When the air cools, its density :

A. **i**ncreases
B. decreases
C. does not change
D. none of these

9. In coastal regions the density of air above the sea, during the night is :

A. more than that of land air
B. less than that of land air
C. same as that of land air
D. none of these

10. One liter is equivalent to:

a) 1000 cubic meters b) 100 cubic centimeters

c) 1000 cubic centimeters d) 100 cubic meters

Section B

C. Short Answer Questions: (any 10 questions only) [1 x 10 = 10]

Q1. Define the term density of a substance.

Q2. Name the S.I. unit of density. How is it related to g cm^{-3}.

Q3. The density of brass is 8.4 g cm^{-3}. What do you mean by this statement?

Q4. Arrange the following substances in order of their increasing density:

Q5. How does the density of a liquid (or gas) vary with temperature?

Q6. A given quantity of a liquid is heated. Which of the following quantities will vary and how?

(a) mass
(b) volume
(c) density

Q7. Define the term relative density of a substance.

Q8. What is the unit of relative density?

Q9. Distinguish between density and relative density.

Q10. Explain the meaning of the statement 'Relative density of aluminium is 2.7.

Q11. State the law of floatation.

Q12. Why does a piece of ice float on water?

Section C (any 3 questions only) [2 x 3 = 6]

Q13. How does the density of a liquid change with the rise in temperature?

Q14. How is land breeze formed? Explain.

Q15. How is sea breeze formed? Explain.

Q16. Describe a comparison of densities in the three states of matter.

Section D (any 5 questions only) [2 x 5 = 10]

Q17. Calculate the volume of wood of mass 6000 kg if the density of wood is 0.8 g cm^{-3}.

Q18. Calculate the density of a solid from the following data:

Q19. The mass of an empty-density bottle is 21.8 g, when filled completely with water it is 41.8 g and when filled completely with liquid it is 40.6 g. Find:

Q20. From the following observations, calculate the density and relative density of a brine solution.

Mass of empty density bottle = 22 g

Mass of bottle + water = 50 g

Mass of bottle + brine solution = 54 g

Q21. A piece of wood of mass 150 g has a volume of 200 cm^3 . Find the density of wood in

(a) CGS System

(b) SI System

Q22. 5 litres of kerosene oil is found to weigh 4.40 kg. Find the density of kerosene oil in

(a) CGS System

(b) SI System

_____All the Best_____