

NALANDA COLLEGE - COLOMBO 10

Unit Test

Grade 09

Science

Unit 11 – Density

Part I

❖ **Underline the most corrected answer.**

01. The mass per unit volume is

- (1). pressure (2). density (3). concentration (4). force

02. S.I. unit of measuring the density,

- (1). g cm^{-3} (2). kg m (3). kg m^{-3} (4). kg m^{-2}

03. Which of the following contain the maximum density?

- (1). Water (2). Kerosene oil (3). Salt solution (4). Mercury

04. An instrument which is used to find the composition of rubber latex.

- (1). Metrolac instrument (3). Urinometer
(2). Lactometer (4). Rubber meter

05. Not a factor effects on the density of liquids

- (1). Volume of a liquid (3). Type of liquid
(2). Mass (4). Temperature

06. Consider the following statements related to the density.

- (a) Density is changed according to the type of a substance.
(b) When the volume of substance is increased, it's density also increased.
(c) To measure the density we can use g cm^{-3} also as a unit.

Correct statements,

- (1). a and b (2). a and c (3). b and c (4). a, b and c all

07. If mass of 3 m^3 volume of Petrol is 2400 kg. Find the density of Petrol.

- (1). $\frac{3}{2400} \text{ kg m}^{-3}$ (2). $\frac{2000}{3} \text{ kg m}^{-3}$ (3). $(2400 \times 3) \text{ kg m}^{-3}$ (4). $\frac{1}{(2400 \times 3)} \text{ kg m}^{-3}$

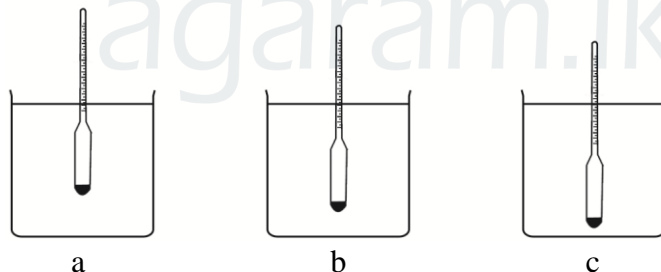
Part II

01. Fill in the blanks by using followings.

(Physical quantity, 1000, kg m^{-3} , g m^{-3} , density, temperature, hydrometer, larger, lesser)

- i. Density = Mass
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- ii. The S.I. unit of measuring the density is
- iii. can be used to measure the density of a liquid.
- iv. The density of water is kg m^{-3} .
- v. Density is very important
- vi. Density of milk is than the density of water.
- vii. Density of Kerosene oil is than the density of water.
- viii. The mass of unit volume of a substance is
- ix. The density of water g cm^{-3} .
- x. is very common unit used to measure the density in the laboratory experiments.

02. Glycerin, salt solution and alcohol are contained in 03 unlabeled bottles. Following diagrams indicate sinking heights of hydrometer in samples of above 03 liquids.



- i. What is the use of the hydrometer?
- ii. Define “**the density of a liquid**”.
- iii. How can you find the density of a liquid?
- iv. Identify a, b and c liquids.
- v. Find the volume of 225 kg of liquid with the density 900 kg m^{-3} .
- vi. What is the reason for filling the bulb of hydrometer from lead shots?
- vii. What is the use of metrolac instrument?
- viii. Explain why orange seeds float on water after adding sugar when preparing an orange juice.

03. The mass of a wooden block with dimensions 1 m, 60 cm and 20 cm is 240 kg.
- Find the volume of the wooden block from cm^3 .
 - Find the volume of the wooden block from m^3 .
 - Calculate the density of wooden block from kg m^{-3} .
 - Mention an observation when above wooden block put in to the water.
 - If density of another wooden block with the mass 500 kg is 7500 kg m^{-3} . Find the volume of it

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