

EDIFY E-CLASSES PILOT PROGRAM

SENIOR ONE END OF MONTH EXAMINATION

PHYSICS

TIME ALLOWED: 1 HOUR

Instructions

- *Attempt all the questions in this question paper*
- *Cam scan your answer, make it in PDF format and submit to Google classroom.*

Questions

1.

- Define the term density (01mark)
- The density of a metal is 8.9 g cm^{-3} . What does it mean? (01mark)
 - What is the importance of this value? (02marks)
- A rectangular piece of glass has a mass of 145.8 g and measures 2 cm by 9 cm by 3 cm. Find its density and express your answer in kg m^{-3} . (03marks)
- A student carried out an experiment as follows.
He placed water in a basin and carefully and gently placed a piece of wood on water surface. He observed that the piece of wood remained on water surface.
He repeated the same but this time he used a small stone instead of wood. He observed that the stone sinks into water.
Explain these observations (03marks)

2.

- You are provided with the following
Liquid X
Solid Y
Measuring cylinder
Water
Weighing scale
A beaker

- i. Describe how you can determine the density of X and Y (05 mrks)
- ii. If density of X is more than that of Y determine what would happen if Y was placed on the surface of X (02marks)
- b. $0.0018m^3$ of fresh water of density 1000 kgm^{-3} is mixed with $0.0022m^3$ of sea water of density $1,025\text{ kgm}^{-3}$. Calculate the density of the mixture. (03marks)

3. A S.1 student went in the laboratory and found when the Laboratory assistant had arranged three similar beakers each containing different liquids P, Q and R. She was availed with the following information.

Mass of an empty beaker = 150g

Volume of liquid P = $60cm^3$

Volume of liquid Q = 60 cm^3

Volume of liquid R = $60cm^3$

Density of a colorless methylated spirit = $0.8gcm^{-3}$

Density of water = $1.0gcm^{-3}$

Density of engine oil = $1.2gcm^{-3}$

Mass of the beaker + liquid P = 222g

Mass of the beaker + liquid Q = 210g

Mass of the beaker + liquid R = 198g

TASK (10marks)

- a) Identify which of the liquids P,Q and R is
- i) Water
 - ii) Engine oil
 - iii) Colorless methylated spirit

Show how you arrived at your answer.

- b) If the three liquids were mixed together in one beaker, identify which of the liquids would be

- i) on top
- ii) at the bottom

END

SUCCESS