

Name:.....Stream:.....

ST. HENRY'S COLLEGE KITOVU
END OF TERM I EXAMS – 2004
PHYSICS

Time: 1 Hour, 15minutes.

S.1

Instructions:

- Attempt all questions.
- Put a ring around the correct alternative in Section A.

SECTION A (10 MARKS)

1. Density of a substance is defined as:
A. mass per unit area
B. mass per unit volume
C. volume per unit mass
D. force per unit area.
2. Which of the following is a derived quantity
A. Area B. time C. length D. mass.
3. A solid cube of steel has each side 10cm long. Find its mass of the density of steel 6.5 g/cm^3 .
A. 6500kg B. 6500g C. 6500N D. $6.5 \times 10^{-3} \text{g}$.
4. What is the surface area of a cube whose volume is 125cm^3 ?
A. 150cm^3 B. 100cm^2 C. 50cm^2 D. 25cm^3 .
5. The mass of a body is
A. the amount of matter in the body
B. the volume the body occupies
C. the product of its density and volume
D. its weight at sea level.
6. The number 0.087 in standard or scientific form is,
A. 87×10^{-2} B. 8.7×10^{-2} C. 8.7×10^2 D. 8.7×10^0
7. A glass block, 5cm long, 4.0cm thick and 2.5cm high has a mass of 125g. Calculate the density of the glass.
A. 250kg/m^3 B. $2.5 \times 10^3 \text{ g/m}^3$ C. $2.5 \times 10^3 \text{ kg/m}^3$ D. $50 \times 10^{-6} \text{ g/cm}^3$.
8. An orange fruit is cut open from one corner of a class room. In about 10 minutes the orange smell covers the whole room. The smell covers the whole room by a process known as:
A. Osmosis B. transpiration C. diffusion D. fission.
9. Which of the following instruments can be used to measure mass?
A. vernier calipers C. burette
B. Micrometer screw gauge D. Tripple beam balance.

10. The zigzag motion of molecules in a fluid is:
A. Brownian motion
B. Diffusion
C. Osmosis
D. Transpiration.

SECTION B: (40 Marks)

1. (a) Define the following terms:

(i) Density.....
.....
.....

(1 mark)

(ii) Relative density.....
.....
.....

(2 marks)

(b) In an experiment using a relative density bottle, the following results were obtained:

Mass of a bottle = 0.32g
Mass of bottle full of water = 0.57g
Mass of bottle full of liquid = 0.62g

Calculate:

(i) Relative density of the liquid (4 marks)
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.....
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.....

(ii) The density of the liquid (2 marks)
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(c) 500 pages of a book have a total mass of 2.5kg. What is the mass of each page in grams? (1 mark)

.....
.....

2. (a) State the three basic fundamental quantities in Physics.

(i)(1 mark)

(ii)(1 mark)

(iii)(1 mark)

(b) With the help of a diagram explain how you would determine the volume of an irregular object.

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3. (a) The SI unit of length is.....

(5 marks)

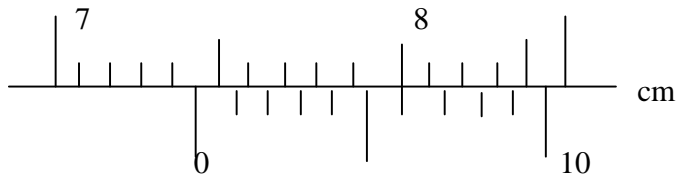
.....(1 mark)

(b) (i) Draw a well labeled diagram of a vernier caliper.

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(4 marks)

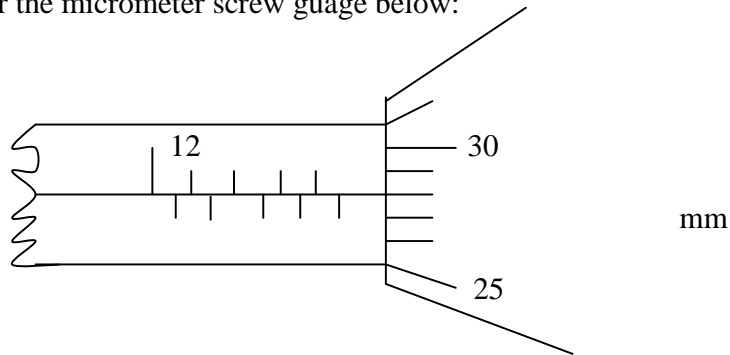
(ii) Consider part of the vernier calipers below



The reading is.....

(3 marks)

(c) Consider the micrometer screw guage below:



The reading on the micrometer screw guage is.....

(2 marks)

4. Explain carefully how you determine the density liquid.

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*****END*****

(10 marks)