HOLASECONDARYSCHOOL

Mid-Term Examinations- February 2017

**PHYSICS FORM ONE**

**TIME: 2 HOURS**

**Name ……………………………..………...…………. Adm. No …………………**

**Class ………………………………………………... Date ………………..........**

***INSTRUCTIONS:***

* Write your name, class and admission number in spaces provided above*

* Answer* ***ALL*** *the questions in the spaces provided*

* Mathematical tables and electronic calculators may be used*

* All working must be clearly shown where necessary.*

1. What is Physics? (1 mark)

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1. State four branches of physics (2 marks)

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1. State the relationship between physics and;
2. Biology (1 mark)

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1. Geography (1 mark)

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1. What is technology? (1 mark)

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1. What is a laboratory (1 mark)

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1. State four laboratory safety rules. (4 marks)

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1. Differentiate between basic physical quantities and derived quantities. (2 marks)

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1. Complete the table below for the basic physical quantities

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| --- | --- | --- |
| Basic physical quantity | SI unit | Symbol of unit |
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|  |  |  |
|  |  |  |
|  |  |  |
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(14 marks)

1. Define the following terms and state their SI units;
2. Length (1 mark)

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1. Area (1 mark)

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1. Volume (1 mark)

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1. Mass (1 mark)

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1. Density (1 mark)

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1. The shadow of a metre rule is 60cm long. Estimate the height of a building whose shadow is 2.52m long. (3 marks)

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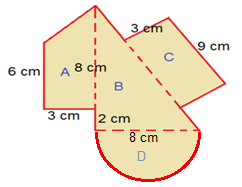
1. Explain the procedure of using a metre rule to measure the length of an object. (3 marks)

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1. A thread 100.5cm long was wound closely around a pipe. The total number of turnings was found to be 20. Determine the diameter of the pipe. (3 marks)

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1. Determine the total area of the shape below. (4 marks)



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1. Convert the following values into the units stated in brackets
2. 900cm2 (1 mark)

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1. 800ml (litres) (1 mark)

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1. 4.5 l (cm3) (1 mark)

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1. 1200 mg (g) (1 mark)

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1. The initial level of water in a burette was 20.3 cm3. 20 drops each of volume 0.02 cm3 were let out into a beaker placed below the burette. Determine the final level of water. (2 marks)

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1. A wooden block 8cm long, 6cm wide and 3cm thick has a mass of 360g. Calculate its density in;
2. g/cm3  (3 marks)

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1. kg/m3 (1 mark)

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1. In finding the density of an irregular solid, a student weighed the solid in air, and then immersed the solid in water in a measuring cylinder. She obtained the following data:

* Mass of solid = 160g
* Volume of water before solid was immersed = 75.5 cm3
* Reading of the measuring cylinder with the body fully immersed = 88.9cm3

Calculate the density of the solid. (3 marks)

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1. 120cm3 of sea water of density 1150kg/m3 is mixed with 150cm3 of fresh water of density 1000kg/m3. Determine density of the mixture. (3 marks)

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