PHYSICS FORM 1

OPENER EXAM TERM 2 2023

NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_STREAM\_\_\_\_\_\_DATE:\_\_\_\_\_\_\_\_\_\_

**QUESTION PAPER**

**FORM ONE (1)**

**INSTRUCTIONS TO CANDIDATES**

1. *Write your name, index number, admission number and sign in the spaces provided above.*
2. *Answer* ***all*** *the questions in the spaces provided.*
3. *All workings* ***must*** *be clearly shown where applicable.*
4. *All numerical answers must be expressed in decimal form*
5. *Non-programmable silent electronic calculators and KNEC Mathematical tables may be used where applicable.*

**For Examiner’s use only**

|  |  |  |
| --- | --- | --- |
|  | **Maximum Score** | **Candidate’s Score** |
| **TOTAL** | **50** |  |

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

1. Give two ways in which physics is useful in the field of Medicine. ( 2 marks)

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1. Why should one **Never** plug in foreign materials into electrical sockets? ( 1 mark)

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1. The mass of a bucket containing sand was found to be 12 kg. If the volume of the sand was and that the mass of empty bucket was 0.3 kg, find the density of sand. (3marks)

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1. Figure (1) shows a steel needle resting on water surface:

Graphical user interface, application

Description automatically generated

Figure

1. What makes the needle to float in (a)? (1 mark)

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1. Explain what would happen if the needle was placed vertically on the water surface as in figure (b). (2 marks)

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1. The weight of a 16 kg object is 80 N on a certain planet.
2. Find the gravitational field strength on the planet. (3 marks)

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1. If an object weighs 140 N on the planet, find its mass. (2 marks)

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1. Explain why water on surface of glass smeared with oil forms droplets while on a clean glass surface it spreads. (2 marks)

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5. Figure 2 below shows two blocks A and B placed against a sphere on a metre rule:

Graphical user interface, application

Description automatically generated

Figure

Determine the volume of the sphere. (3 marks)

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6. Describe briefly how you would use a metre rule and a piece of thread to measure the radius of a boiling tube. (4 marks)

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7. A student recorded the following measurements while using a meter rule: 5.32 cm, 4.9 cm and 8.013 cm. Which is the correct reading? Explain your answer (2 marks)

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8. Define mass and state its SI unit. (2 marks)

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9. The density of a liquid is .

(i) Express the density in ( 1 mark)

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1. Calculate the volume of 150 gm of the liquid ( 3 marks)

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10. The volume of one drop of a liquid was found to be 0.045 ml. If 30 drops were delivered by a burette from an initial reading of the liquid being 11.4 ml, find the final reading of the liquid.

(3 marks)

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11. The mass of a density bottle filled with a liquid is recorded as 89.37 g. Given that the density of the liquid is 1.21 g/cm3 and the capacity of the bottle is 50 ml, determine the mass of the bottle. (4 marks)

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12. What is the measurement shown by the scales? (1 mark)

Graphical user interface, application

Description automatically generated

Figure

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13. A piece of plastic is moulded to form a cuboid of volume . If the mould is made to form a cylindrical shape of radius 0.7 cm, determine its height. (3 marks)

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14. (a) Define force. (1 mark)

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(b) State three effects of force. (3 marks)

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15. Name and briefly explain two branches of physics (4 marks)

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