

IGANGA TOWN VIEW SECONDARY SCHOOL.

MID TERM

NAME :

STREAM

S.2

PHYSICS

MID TERM 2

TIME : 2Hrs

MID TERM 2

2023

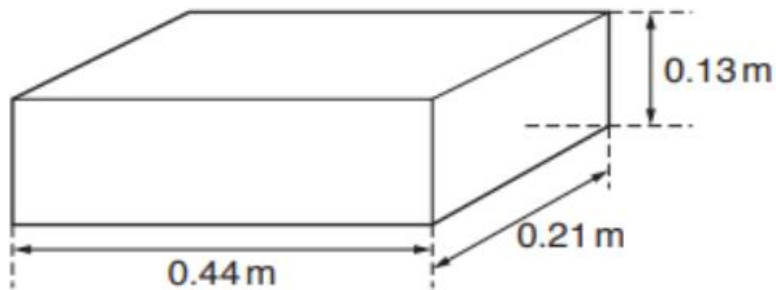
READ THESE INSTRUCTIONS FIRST.

You must answer on the question paper

- Write in dark blue or black pen.
- You may use an HB pencil for any diagrams or graphs.
- Do not use , paper clips, glue or correction fluid.
- Answer all questions.
- Write your answers in the spaces provided on the Question Paper.
- Electronic calculators may be used.
- You may lose marks if you do not show your working or if you do not use appropriate units.
- At the end of the examination, fasten all your work securely together.
- The number of marks is given in brackets () at the end of each question or part question

TURN OVER

1. A solid, rectangular concrete block is lying horizontally on flat ground with one of its largest sides in contact with the ground. Fig. shows the dimensions of the block.



- a) If the block has a mass of 5kg ; Calculate the pressure exerted on the ground .
(02marks)

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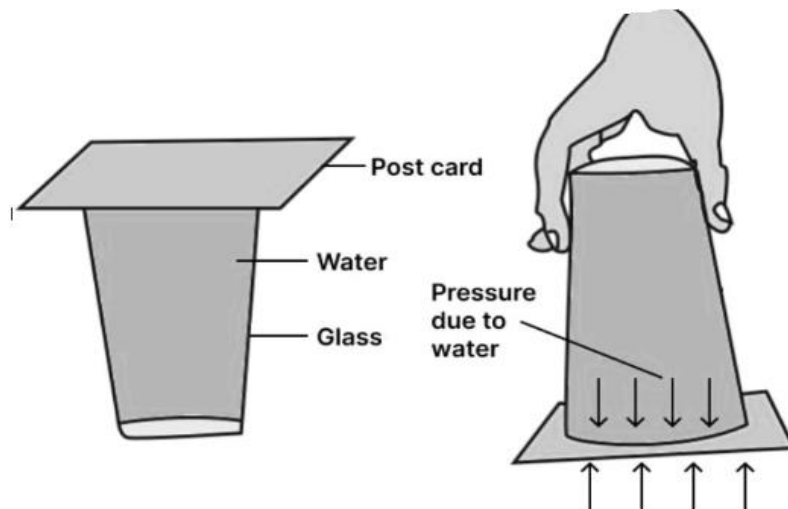
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- b) one day ; the teacher of physics demonstrated an experiment in class using the post card , water and glass as illustrated in the figure below



As a student of physics , explain how the above experiment can be made successful , and why water can not pour off.

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C) As people were celebrating on the birthday party of MR Kawanga @ 45 years , a lot of drinks and food stuffs were enjoyed by people who attended the party , but the **drinks were taken by straws** as illustrated in the figure below



Using the knowledge acquired in physics , explain how is it possible to take a drink using straws as illustrated in the figure (02 marks)

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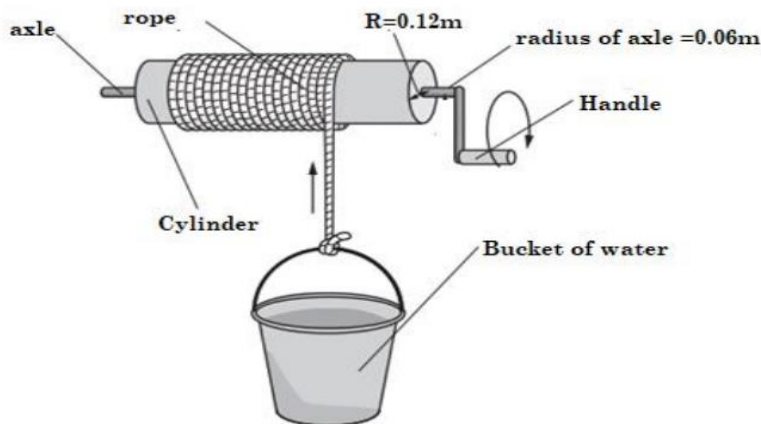
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4. A bucket of water is pulled up out of a well using a rope. Fig. shows the rope winding on to a cylinder as the handle is turned.



(a) If an effort of 100N is used to lift a load of 300N, Calculate

(i) Mechanical advantage (02marks)

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(ii) Velocity ratio (02marks)

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(iii) Efficiency of the system (03marks)

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(b) What is meant by the term pitch of a screw (01mark)

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5. it is a very common practice for people in Uganda to overload trucks with charcoal as shown in the figure (a) below



(a) Truck overloaded with charcoal



(b) Loading luggage in a bus cabin

Explain

- i) why this is risky in relation to stability in figure (a)

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- ii) why the current design of buses allows for the loading luggage in bus cabins as shown in the figure (b) above , than carrying it on top of roof racks.

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END