

P535/1

PHYSICS

(Theory)

NOVEMBER.2023

2 HOURS



SHAPTA JOINT ASSESSMENT BOARD

Uganda Certificate of Lower Secondary Education

PHYSICS

PAPER 1

SENIOR TWO

TIME: 2HRS

INSTRUCTIONS TO LEARNERS:

- Respond to all **items** in this paper.
- You may use relevant diagrams and examples where necessary.
- Ensure neatness in your work.

CASE STUDY/SCENARIO:

1. In a certain school, the senior two classroom block is located about 200metres from the school girl latrines. However, on hot days learners sense a bad smell from these latrines. This affects their afternoon lessons every day.



TASK:

- a) Explain why learners are able to detect this bad smell yet their class room is far from the latrines (04 scores)

b) Advice these learners on the possible measures they can take to reduce this bad smell (06 scores)

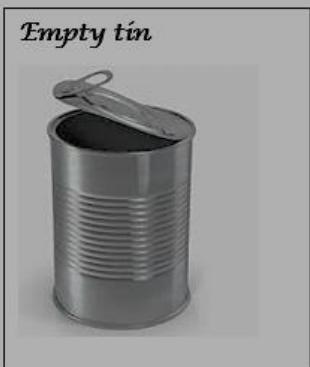
The image features a red graduation cap positioned centrally on a red shield. The shield contains the letters 'H' and 'P' in white. The entire emblem is surrounded by two symmetrical laurel wreaths, one on each side. The background is a light gray color with faint, horizontal dotted lines, giving it the appearance of a ledger or notebook page.

CASESTUDY/SCENARIO;

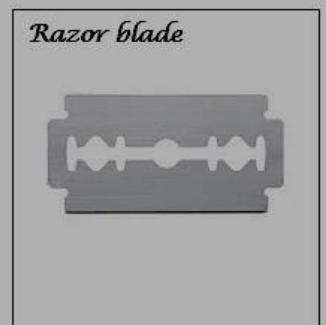
2. On one weekend it rained heavily and as a result lightning struck and destroyed one of the transformers supplying power in your community. Due to the blackout created in your community in absence of electricity in the surrounding area you were left with no light at home however inside your home you found an empty tin, paraffin, a cotton cloth and a razorblade for cutting the cloth and a box of matchsticks.



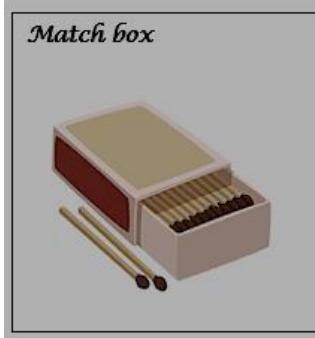
Paraffin



Empty tin



Razor blade



Match box



Cotton cloth

TASK:

- a) Develop the guidelines you should follow to use the available materials to solve the problem of darkness in your home.
(Include the illustration) (10 scores)

(10 scores)

b) Explain the process through which your light source works
(10 scores)

CASE STUDY/SCENARIO:

3. On the rainy day, one of your community members was struck by lightning and his body was having third degree skin burns and deep wounds. Most community members claimed it was witchcraft; maybe they are right or there maybe another better explanation to this scenario using knowledge of states of matter.



TASK:

- a) Explain to the community members what state of matter lightening is; give three more examples of other substances that fall in the same state of matter as lightening? (10 scores)

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

CASESTUDY/SCENARIO:

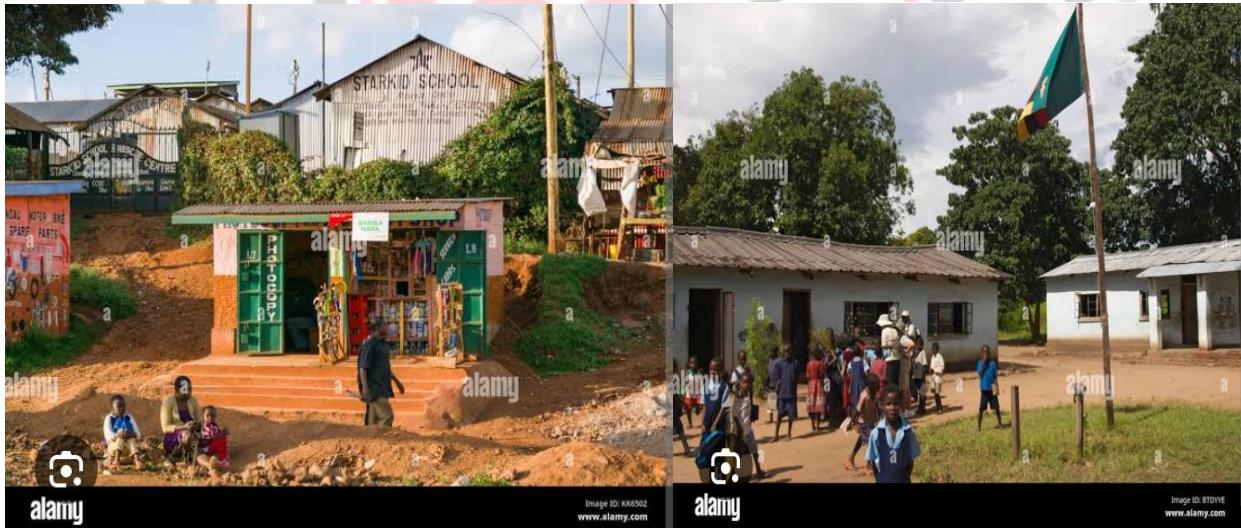
4. Assuming the senior one learners at your school are in the science laboratory conducting a physics practical with their physics facilitator, one of your group members sustained serious blisters on the hand. After successful handling and treatment of the causality, your Head teacher of your school identifies you to present to the entire school the guidelines of proper laboratory use.



Write a comprehensive report on which your presentation shall base, clearly indicating the possible dangers that can arise as a result of neglect of the given guidelines. (10 scores)

CASESTUDY/SCENARIO:

5. A certain family stays near the marram road and a school. Every day, the family receives dust raised by moving vehicles from the road and the bad smell from the school pit latrines. In the morning hours, the dust is not so much and the smell from the pit latrine is not so much either. But these conditions worsen around midday on hot sunny days. The family is disgusted by these conditions. They don't know the cause of these conditions.



- a) As a physics learner, write a message to this family explaining what causes the above conditions? (10 scores)

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

- b) Evaluate the possible ways of solving the above problem in the scenario?
(10 scores)

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....



END