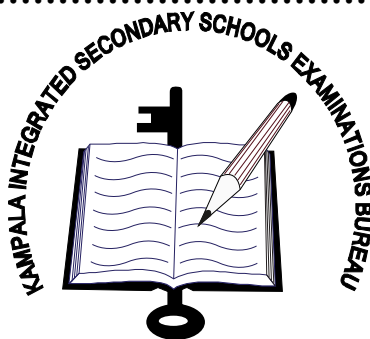


NAME.....STREAM.....



KAMSSA

KAMSSA LOWER SECONDARY LEVEL ASSESSMENT

SENIOR THREE

BEGINNING OF TERM II 2024

PHYSICS

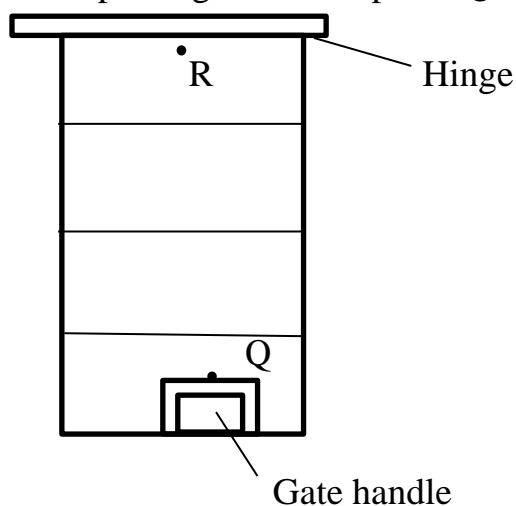
TIME: $1\frac{1}{2}$ HOURS

INSTRUCTIONS

- Attempt **all** questions

ITEM 1

A business man opens a gate from a point **Q** and closes it from the end **R** as shown



The business man realizes that opening the gate from point **Q** is easy compared to closing the gate at point **R**. He continued to the shop but he did not have a weighing balance. He used a uniform beam of mass 1.5kg of length 1m to determine the mass of the remaining sugar. The beam balanced with the pivot at 70cm and the sack of sugar at 90cm. He later observed a bus loaded at the base.

Task

As a physics student;

- Explain to the business man the experience at the gate
- Why is it necessary to load a bus at the base?
- Help the trader determine the mass of sugar

ITEM 2

A certain primary school is located in village which is prone to lightning strike. Every one is worried thinking that they are going to die any time, others think that their ancestral spirits are annoyed and some say that they are being witched by the neighboring school.

Task

As a student of physics;

- (a) Explain to the pupil and teachers the cause of lightning and thunder
- (b) Help the pupils and teachers to protect the school against lightning strike.

ITEM 3

A boy was sent by his father to go and buy iron nails for tightening the door as he was coming back while running, he collided with another boy of mass 30kg who was standing near a pool of clean water. If the boy was moving at 20 cm s^{-1} and after colliding they moved together with 10 cm s^{-1} . As they collided, some of the nails dropped into the pool of water. The boys tried to hand pick them because they appeared to be near the surface but he failed because they had fallen deep in the water.

Task

As a physics learner;

- (a) Why did his father opt to use iron nails for tightening the door.
- (b) How heavy is the boy?
- (c) Explain why nails appeared to be near the surface of clean pool of water
- (d) How can they pick out the nails from the water without entering into it?

ITEM 4

A doctor is supposed to examine the tooth of the patient. The doctor is to use a mirror whose focal length is 10cm. The doctor is not so sure of the right position where the patient's tooth from the mirror should be. The possible positions of the tooth from the mirror are positions A, B, C, D and E

Support

POSITION	A	B	C	D	E
OBJECT DISTANCE(u)	30CM	20CM	15CM	10CM	4CM

U is the position of the tooth of the patient from the mirror.

Task:

Using physics knowledge, explain how you will help the doctor to select the best position of the patient's tooth from the mirror and give reasons why you did not select each of the other remaining positions.

END