NAME:_____**STREAM**_____

Uganda certificate of Lower secondary education

END OF TERM II ASSESSMENT 2025

SENIOR ONE PHYSICS

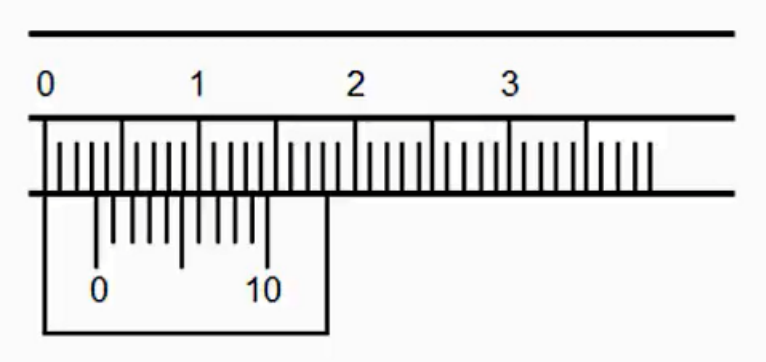
2 Hours

INSTRUCTIONS:

- *Attempt **all** questions in section **A** and **any two** questions in section **B***

SECTION A (30 SCORES)

Attempt all questions in this section



1. The diagram shows an enlarged drawing of the end of a vernier calliper. It is being used to determine the diameter of a ball bearing.

(a). Suggest a scientific phenomenon identified in the above diagram. (01 score)

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(b). (i). What is the diameter of the ball bearing? (01 score)

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(ii). Jimmy said that diameter is length which is a fundamental quantity. Why is length a fundamental quantity and suggest any other two fundamental quantities? (02 scores)

Reason:

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Other two fundamental:

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2. (a) A tin containing $\mathbf{5000}\boldsymbol{cm}^{\mathbf{3}}$ of paint has mass of **7kg**. If the mass of the empty tin, including the lid is **0.5kg,**

(i) Calculate the density of the paint.

(02 scores)

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(ii) If the tin is made of metal of density $\mathbf{7800}\boldsymbol{kg}^{-\mathbf{3}}$, calculate the volume of the metal used to make the tin and the lid.

(02 scores)

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(b) Explain why a ship or a ferry is able to float on water, even though it is made of steel which is denser than water.

(02 scores)

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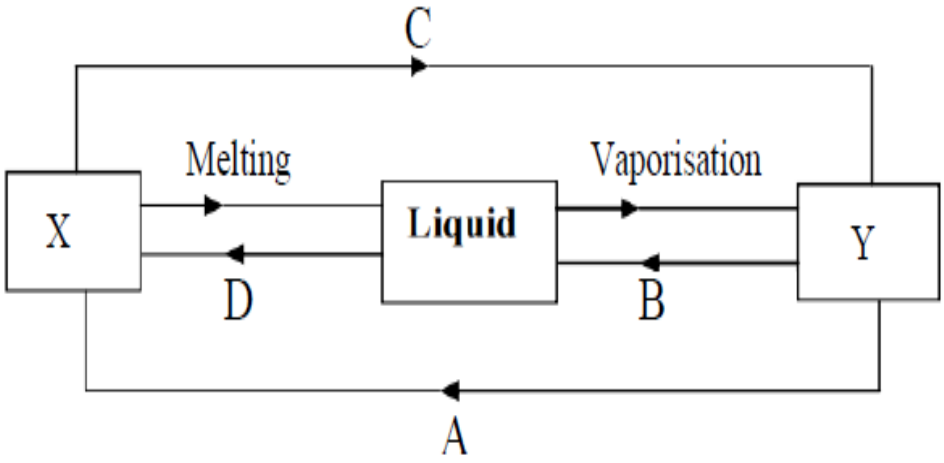
3. The diagram below shows the changes in states of matter. Use it to answer thequestions that follow.



a) Identify the states of mater represented by letters X and Y (02 scores)

(i) X .....

(ii) Y.....

b) Name the processes A, B, C and D. (04 scores)

(i) A

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(ii) B

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(iii) C

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(iv) D

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c) State one importance of process (02 scores)

(i) B

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(ii) D

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a. State two characteristics of the state of matter that results when Y is strongly heated.

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(02 scores)

d) (a) Define **temperature** and state its S.I unit. (02 scores)

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(b) A thermometer reads 111.1 K. What is the temperature in °C? (02 scores)

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(c) The length of the mercury column in a non calibrated mercury thermometer is 2cm when its bulb is immersed in melting ice and 20cm when the bulb is in steam above the boiling point of water. What would be the temperature if the length of the mercury column is 11cm. (3 scores)

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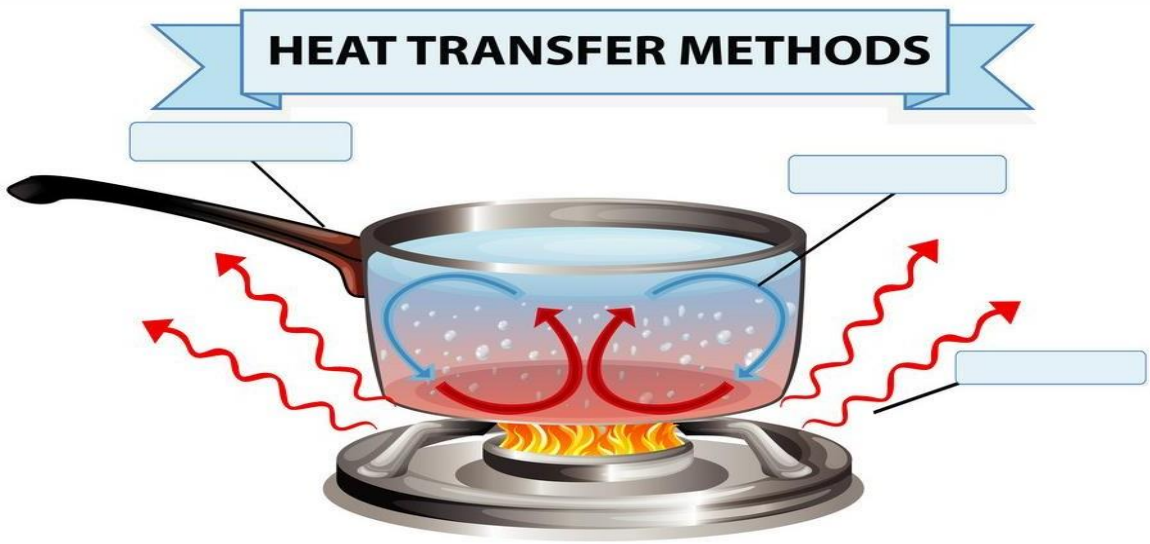
(d) The diagram below shows the methods of heat transfer. Identify and state the heat transfer methods shown in the diagram below. (03 scores)



An astronaut has a mass of 65 kg on earth, where the acceleration due to gravity is $10m/s^2$.

(a). Calculate the astronaut weight on earth. (02 scores)

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(b). The astronaut undertakes a moon landing. On the moon, the gravitational strength is 1.6N/kg.

(i). State the astronaut mass on the moon. (01 score)

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(ii). Calculate the weight of the astronaut on the moon. (02 scores)

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(c). Mass is a scalar quantity. Weight is a vector quantity. Explain why. (02 scores)

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SECTION B: 20 SCORES

ATTEMPT ANY TWO QUESTIONS FROM THIS SECTION

e) (a) A box of chalk has the following dimensions: **Length = 12cm, Width = 6cm,** and **height = 13.5cm**. it has a mass of 5kg. find its;

(i) Volume (02 scores)

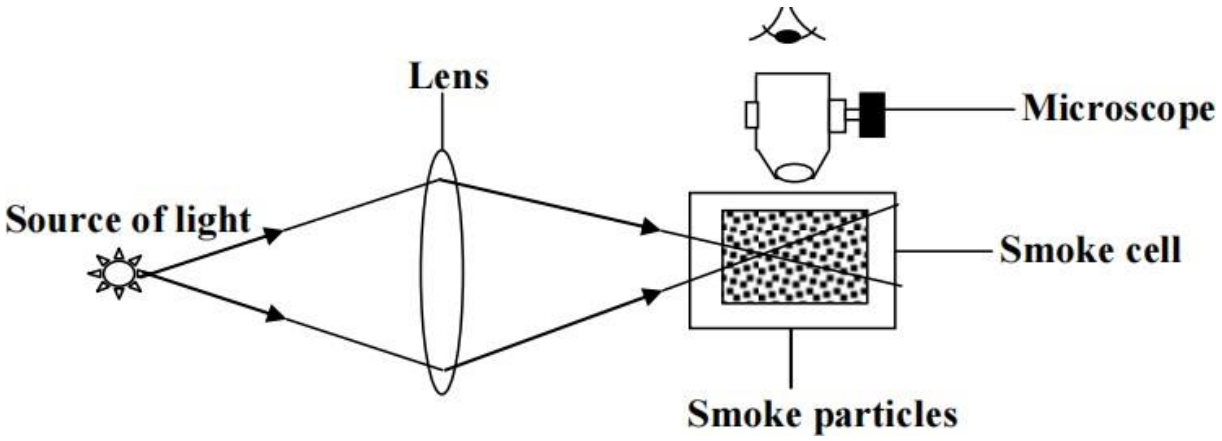
(ii) Weight (02 scores)

(iii) Density (02 scores)

b) Is mass the same as weight or they are different? Defend your answer (02 scores)

c) How do towels work? (02 scores)

f) The figure below shows a set up used by senior one class students to investigate the behaviour of particles that make up gases. Students filled the smoke cell with smoke from a burning smouldering paper.



(a) i) State what the students observed when they looked through the microscope. (01 score)

(ii) Explain the students' observation. (02 scores)

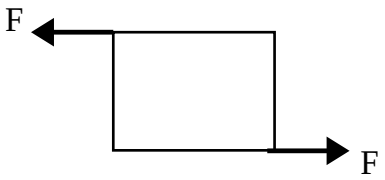
(iii) What scientific theory does the students' observation demonstrate? (01 score)

(iv) What does the principle in a(iii) state? (01 score)

(b) One student placed the smoke cell on lumps of ice. Explain what he observes. (03 scores)

(c) State any two factors that affect the rate of diffusion of a gas. (02 scores)

g) (a) The figure below shows forces applied on a body.



(i) Identify the type of forces acting on the body. (01 score)

(ii) Draw a diagram showing the effect of the forces on the body. (02 scores)

(iii) States two effects of a force on the body on which it is applied. (02 scores)

(b) The vacuum flask is used at our homes to keep things like tea, milk, porridge and others hot. Draw a diagram of a vacuum flask and label all the parts correctly. (05 scores)

END