**NAME: ……………………………………………ADM.NO.…………….STREAM…………**

**PHYSICS FORM TWO**

**END TERM EXAM – TERM TWO 2017. (70 Marks)**

* **Answer all questions in the spaces provided.**
1. State any two differences between mass and weight. (4 marks)
2. A basic laboratory safety rules states “Never heat a glass bottle with its stopper on”. Explain the purpose of this precaution. (1 mark)
3. The length and breadth of a certain rectangular block of wood were measured and found to be 10.3 cm and 7.8 cm respectively. (1 mark)
4. Calculate the face area of the block. (2 marks)
5. Express the area correct to three significant figures. (1 mark)
6. What is the reading in the vernier caliper shown below? (2 marks)
7. Explain why:-
8. A bottle of perfume sprayed at one end of a room can be detected shortly afterwards at the other end. (1 mark)
9. Diffusion takes place faster in gases than in liquids. (1 marks)
10. Explain three different modes of heat transfer in:
11. Solid (1 mark)
12. Liquid (1 mark)
13. (a) State the basic law of magnetism. (2 marks)

(b) Name two properties of a magnet. (2 marks)

(c) In a preliminary project for the construction of an electric motor, a student sets up a

 flexible metal wire in a magnetic field as shown.

1. State the behavior of the wire when the switch S is closed. (1 mark)
2. What changes are observed when the size of the current is increased? (2 marks)
3. Explain how electric bell system works? (5 marks)
4. Briefly explain 4 common methods used in magnetization of a magnetic material.

 (8 marks)

1. (a) State the principle of momentum. (2 marks)

(b) The figure below shows a uniform metre rule of weight 1.6 N supported by spring balanced at the 32 cm mark. The metre rule is balanced horizontally by a 1.2 N weight suspended as shown.

Find:-

1. The point where the 1.2 N is suspended. (3 marks)
2. The reading on the spring balance. (2 marks)

 (c) State and explain two factors affecting stability of objects. (4 marks)

1. (a) State the principal of reversibility of light. (1 mark)

 (b) An object is placed (a) 18 cm (b) 6 cm in front of a concave mirror of focal length

1. m. Determine the position and nature of the image formed in each case. (a and b)

(8 marks)

(c) (i) State the law of reflection. (1 mark)

 (ii) What are the effects of the following on size of the image formed on the screen of

 the pin hole camera.

1. Increasing the distance of the object from the pin hole. (2 marks)
2. Decreasing the distance of the screen from the pin hole. (2 marks)
3. (a) State Hooke’s law. (1 mark)

(b) A spring has a length of 11 cm when supporting no load. When a small rectangular metal block is hung on the spring, the length becomes 15.8 cm. A mass of 72 g is added to the metal block and the total length of spring balance becomes 19 cm. Calculate mass of the metal block. (3 marks)

1. (a) What do you understand by the term anomalous expansion? (1 mark)

(b) Differentiate between heat and temperature. (2 marks)

(c) The figure below shows a cross-section of a vaccum flask.

1. Name the part labeled A and B. (1 mark)
2. Explain how the heat loses are minimized when hot liquid is poured into the flask.

 (3 marks)