

**PHYSICS FORM TWO**

NAME.....Marking scheme.....ADM NO.....CLASS.....

1. Express each of the following volumes in SI unit giving your answer in standard form(2marks)

a)  $25000\text{cm}^3$

$2.5 \times 10^{-2} \text{m}^3$

b)  $0.5675\text{cm}^3$

$5.675 \times 10^{-7} \text{m}^3$

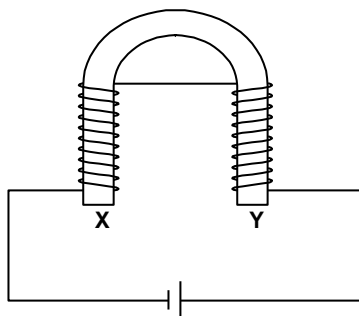
2. State the basic law of magnetism . (1mark)

*Like poles repel unlike poles attract.*

3. The figure shows an electromagnet. State the polarities at X and Y.(2 marks)

*X-South*

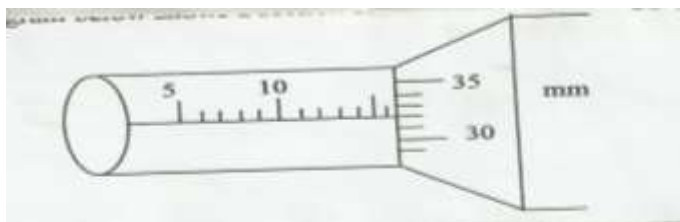
*Y-North*



4. Dust particles in air appear to move randomly, explain this observation.(1 marks)

*Due to uneven bombardment by invisible air particles or molecules in the air*

5. The diagram below shows a section of a micrometer screw gauge.



- a) State the smallest measurement that can be made by the measurement that can be made by the micrometer screw gauge. (1 mark)

***1/100mm or 0.01mm***

- b) (3 marks)

***Initials reading =16.32mm***

***0.25cm=2.5mm***

***Diameter=16.32-2.5=13.82mm***

6. State two properties of magnetic field lines (2marks)

***They originate from North Pole and end at the South Pole.***

***They repel each other side ways and form closed paths never intersecting other lines of forces.***

***They are closer together where the field is strongest***

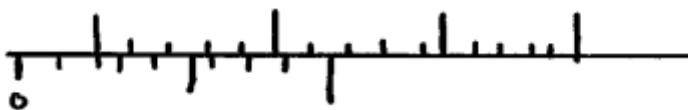
7. A charge of 180coloumbs flows though a lamp every minute. Calculate- the current flowing through the lamp(3marks)

$$Q=It$$

$$180C = 60I$$

$$I=3A$$

8. The figure below shows part of a vernier caliper when the jaws are closed without an object between the jaws



- a) What is the value of the zero error of the calipers?(1mark)

***-0.02mm***

- b) A student used the same vernier calipers in (a) above to measure the diameter of a test tube whose actual diameter is 2.15cm. What was the reading shown by the calipers(3marks)

$2.15 = \text{reading} - \text{error}$   
 $2 - 15 = \text{reading} + 0.02$   
 $\text{Reading} = 2.13\text{mm}$

9. Explain why repulsion is then sure test for polarity of a magnet(1mark)

*The polarity of a magnet can be tested by bringing both its poles, in turn, adjacent to the known poles of a suspended magnet. Repulsion only occurs between the like poles of a magnet. Attraction might occur between unlike poles and a magnetic material thus repulsion is the only sure way to test for polarity.*

10. Explain why a gold leaf is electroscope casing is made up of metal(1mark)

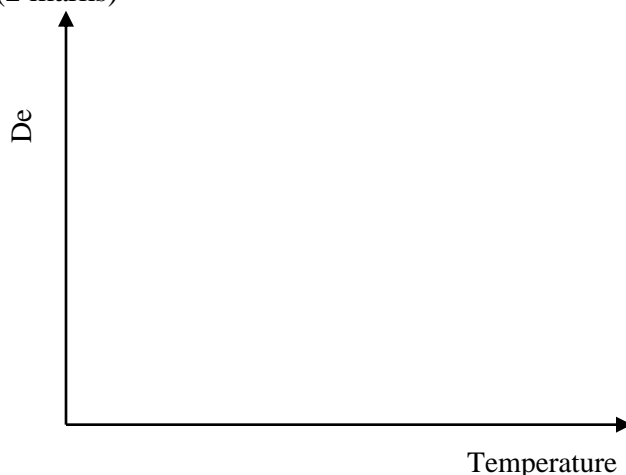
*Metal casing is for protecting the leaf from the effects of draught.*

11. explain the difference between magnetic and non magnetic materials (2marks)

*magnetic materials are those attracted by a magnet e.g iron*

*non magnetic materials are those not attracted by a magnet e.g plastic*

12. On the graph provided, sketch a graph of density against Temperature of a given mass of water(2 marks)



13. State two properties of a good thermometric liquid(2marks)

*Be easily seen (visible).*

*Expand or contract uniformly and by a large amount over a small range of temperature.*

*Not stick to the inside of the tube. (Should not wet the inside of the tube.*

*Have a wide range of temperature.*

14. State one application of magnets.(1mark)

*Magnets have a wide application in real life. For example in hospitals, they are used to remove a piece of iron from the eye.*

*They are used in making compasses, loudspeakers, telephone receivers, bicycle dynamos, generators and electric motors.*

15. i) angle of incidence=angle of reflection

ii) at the point of incidence, the incident ray,reflected ray and the normal line all lie on the same plane.