FORM ONE PHYSICS - TERM 1 2023

MARKING SCHEME

1. **Explain briefly the first aid measure that should be taken in case of** **(2 marks)**

   Cut ……   dress the cut to stop breeding

   Poisoning…………. medical assistance should be sough

2. Define physics   (2 marks)

Physics is a natural science that deals with a study of matter in relation & energy or study of matter and natural forces.

3. Any five- mechanic, properties of matter, geometric optics, physical optic, sound ,heat, static electricity, magnetism, current electricity, electronics, electromagnetic induction, atomic nuclear physics.

4. engineering and technology(laboratory technology, mapping and surveying, civil ,mechanical, instrumentation technology, meteorology, electronics and telecommunication, architecture, aerinative, teaching, medical sports optician.

5.

(i)   Never enter the laboratory when the teacher is not in

(ii)   Do only what the teacher has instructed you to do

(iii)   Do not run, play or throw things

(iv)   Never chew, eat or drink in the labarory

(v)   Never heat glass bottle containers with stoppers on.

ix)   Ensure sockets switches are off before plugging in any electric device.

vii) Never handle electrical apparatus with wet hands

xi)   Avoid open circuits

xii) Wear protective goggles where there is a danger of hot or caustics materials being splashed into the

xiii) Tidy your work place after the experiment is over

Xiiii) Inform the teacher at once about any accidents.

6. Gloves, forceps, safety pins, mild antiseptic solution sterilized cotton wool and gauze. An assortment of

bandages, pair of blunt ended scissors   **(Any 4)**

7. A biologist will assist a physist in the awareness of

-Balanced diet and nutritive diet.

-Some simple extenses to keep fit.

-Effects of excessive drinking and drug abuse.

A physist will help a biologist to develop a microscope and a hand lens used for magnification.

8. - Change of state

   - Change of shapes

   - Turning effects

9. Tie a thread on the cylinder. Count the number of turns, measure the length of the thread using the metre rule.

Divide the length by the number of turns.

10. volume of sphere $= 4/3\pi r^3 = 2/3$ x 22/7 x 3/2 x 3/2 x $3/2cm^3 = 14.1428cm^3$ area of the wire

$= \pi r^2 = \frac{22}{7} x \frac{0.02}{2} x 0.02/2cm^3 = 0.00031428$

$\frac{14.1428}{0.00031428} = 4500.6363cm = 45m$

11. **MASS**	**WEIGHT**
Quantity of matter	pull of gravity
SI unit is kg	SI unit is Newton
Constant everywhere	change from place to place
Scalar quantity	vector quantity
Measured by a beam balance	measured by a spring balance.

12. $\frac{0.045}{25 \times 10^{-6}} = 1800kg/m^3$

13. $300 + 1000$ $=400cm^3$

$300 \times 1g/cm^3 = 300g$

$100 \times 1.03= \underline{103g}\ \underline{403} = \underline{1.0075g/cm^3} = \underline{-100.75kg/cm^3}$
$\qquad\qquad 403g \qquad 400$

14. Partially fill the measuring cylinder with water. Record the initial column of water as v_1 .immerse the object onto the water record the new reacting of the water as v_2. The volume of the object $=v_2-v_1$.

15. Fundamental quantities. Cannot be expressed in terms of other quantities

   Derived –expressed in terms of other quantities e.g. Area, volume, and density.

16. Force is pull or a push –SI unit = Newton.

17. –gravitational, friction, magnetic, electrostatic up thrust, action and reaction, tension cohesive and adhesive, surface tension.

18. Scalar –magnitude only-distance, mass, density, area, volume.

Vector –Both magnitude and directions force, weight, acceleration.

19. Spreading of ink over a blotting paper.

   Kerosene rises up the wick of a lamp.

   Rise of saps from the soil up in plants.

   Towels used for drying.

20. Temperature

   Impurities

21. $W = Mg$

$70 \times 10 = 700n$

b) $W = Mg$

$70 \times 1.7 = 119\ N$

22.

In water Adhesive force are greater that the cohesive in mercury. The cohesive forces are greater than adhesive

Fundamental quality	Si units	Symbol
Length	Meter	M
Mass	Kilograms	Kg
Time	Second	S
Current	Ampere	A
Temperature	Kelvin	K

Cohesive force – force of attraction between molecules of the same kind

Adhesive force- force of attraction between molecules of different kind

25) 400N + 20= 420N

26) Because of surface Tension – The soap solution breaks the surface tension

27) The surface tension is broken and therefore the water penetrates through.

(b) This is because of capillary action. The water rises up so as more molecules can be in contact with glass

molecules while the mercury drops in the tube so as more mercury molecule can be in touch with each other.

V x p =m.

100 x 10 x 1 =100g – water

100g

100g

(b) Volume of metal

V=m/p=20/8=2.5cm^3

c) $2.5x$ g/cm^3=2.5g

$1100 + 20$=1300-2.5 =1297.5g.