**FORM 1**

**TERM 2**

**MARKING SCHEME**

1.

1. Length\_\_\_\_\_\_ metre
2. Mass\_\_\_\_\_\_\_\_\_\_\_ kilogram
3. Time\_\_\_\_\_\_\_\_\_\_\_\_ second
4. Electric current \_\_\_\_\_\_\_\_\_\_amphere
5. Thermodynamic temperature\_\_\_\_\_\_ Kelvin
6. Luminous intensity\_\_\_\_\_\_\_\_\_ Candela
7. Amount of substance \_\_\_\_\_\_\_ mole.

2.

1. Tailors tapemeasure , metre rule
2. Surveyors tape measure
3. Burette and measuring cylinder.

3.

1. \* 150000cm3 = 150000/1000000

=0.15m^3

1. \* 20litres = 20x 1000/1000000

=0.02m^3

3.

1. V1 = 18cm3

V2 = 46cm3

1. \* V = V2 - V1

=. 46-18

= 28cm3

1. \*Density =mass / Volume

= 150g / 28cm^3

=5.357gkm3

1. \*Mass = Density x volume

= 1000x15

=1500kg

1. \*Mass of alcohol =volume x density

0.0x800

=400kg

1. \*Density of mixture = total mass of mixture

Total volume of mixture

= (1500+400)

(1.5+0.5)

=1900

2

= 950kg/m3

4

1. \*Pressure is force acting perpendicularly/normally per usual area.
2. Many wheels increase the area of contact of the heavy vehicle and the road thus reduces pressure exerted on the road thus minimizing damage.

5.

(a.)\* largest area = 20 x 10/10000

= 0.02m

b, \* Force = weight = mg

= 0.5x10

= 5N

1. \* Pmin = Force / Area max

= 5/0.02

= 250 Pa

6. \*Remove the cork from the can and pour some water

\*Boil the water for some minutes

\*Replace the cork and allow the container to cool.( or pour some cold water on it)

\*During cooling, the can crushes inwards

\*This is due to the excess atmospheric pressure on the outside than pressure inside where a partial vacuum was created.

7. \* Pressure X = Pressure Y

0.25x800x10 = density y x 0.2x10

Density y = 0.25x800

0.2

Density of y = 1000kg/m3

8. a.

\* P = F/A

= 160

0.002

= 80,000N/m2

b. \* pressure on B = Pressure at A

= 80000 N/M2

C. \* force on B = Pressure at Bx Area B

=80000 x 0.3

= 24000 N

9.

1. Anything that occupies space and has mass
2. Matter is made up of tiny particles which are in constant state of motion.
3. (I) Particles in solids are closely packed together in an organized manner

Particles liquids are further apart and are not fixed as in solids.

(II) Solids molecules have strong attractive (cohesive) forces, liquids molecules have weaker attractive forces.

10. \*Movement of particles from areas/region of high concentration to region / area of low

concentration.

\*Temperature.

\*Density /mass of molecules

11. \*Force is a push or a pull

* Newton
* b. \* makes stationary object start moving
  + \* Increases /decreases speed of a moving object
  + \* Stops a moving object
  + \* Changes direction of a moving abject
  + \* Distort (change the shape) of an object

C,

|  |  |
| --- | --- |
| **Mass** | **Weight** |
| 1. Quantity of matter in a body 2. Measured in kilograms 3. Same everywhere 4. Measured using beam balance 5. Has magnitude only | 1. Pull of gravity on a body 2. Measured in newton’s 3. Changes from place to place 4. Measured using spring balance 5. Has both magnitude and directions |

d).\* gravitational acceleration =. Weight/mass

Mass of astronaut = 900/10

=90kg

Gmoon = 150/90

= 1.667/kg

1. \* Increase in size of an object due to heating

\* The ball does not fit in the ring

\* Ball increased (expanded) in size after heating

1. \* Air inside the flask became warm and expands , expanded air escaped out of the flask seen as air bubbles
2. \* Constriction

\* Short range of temperature

1. \* Expand and contract uniformly

\* Seen clearly

\* Should not stick ( wet) to the inside of the tube

\* Should have a wide range of temperature between boing and freezing.

1. \* 307K = ( 307-273)

= 30°C

14. \* Conduction

\*\_ Convection

\* Radiation

b) \* temperature difference between the ends \*Length of the conductor.

\* Cross-sectional area.

\*Thermal conductivity /nature of the materials

\*A – vacuum

\*B-- silvered/shiny surfaces

v. \* Vacuum

\* Vacuum

\* Silvered surface