**SET 1**

**PHYSICS MARKING SCHEME**

1. (a) Reading $= 6.9 + (0.01×4)$

= 6.94 cm

 Diameter $= 6.94-0.22$

 = $6.72 cm$

(b) - it can measure internal dimension

 - it can measure depth of blind holes

1. Pressure exerted at one point of a liquid is transmitted equally to all other parts of enclosed liquid.
2. (a) single stroke method

(b) X- south

 Y - North

1. (i) Electrical method

(ii) A – North

 B - South

1. Density = $\frac{120}{20×2}$

= 3 g/cm3

1. Once the surface of the cloth gets wet strong cohesive force between molecules of water from a layer (surface tension) that prevents water from penetrating.
2. (a) this battery can continuously supply a current 70 A in one hour to a load connected across it.

(b) charge = $2 × 3600$

 = $7200 C$

1. Volume of Bottle = 73.2 – 23.2

= 50cm3

Mass of sand = 55.2- 23.2

 = 32g

Vol of added water = 85.2 - 55.2

 = 30 cm3

Vol of sand = 50 – 30

 = 20 cm3

Density of sand = $\frac{32}{20}=1.6g/cm^{3}$

1. Metal being a good conductor of heat conduct heat away from the body hence bringing cooling.
2. Wood is a poor conductor of heat than metal.
3. (i) $P\_{g}= 750 + 150 = 900mmHg$

(ii) $P\_{g}= 0.9 ×10 ×13600=122400 Pa$

1. $Y\left(50-20\right)=1\left(65-50\right)+2\left(85-50\right)$

30Y = 15 + 70

Y = 2.833 N

1. $\frac{1.5 ×10^{-3}}{1.5×10^{8}}=\frac{14×10^{-6}}{D}$

$$D=1400000 km$$

$$ =1.4×10^{6}km$$

1. (i) B

(ii) A

1. (a) Let the mark be *x*

$$0.2\left(x-20\right)+ 1\left(x -50\right)= 1.4\left(90 – x\right)$$

$$0.2x-4+x-50=126-1.4x$$

$$0.2x+x+1.4=126+4+50$$

$$2.6x=180$$

$$x=69.23 cm mark $$

(b) T = 0.2 + 1 + 1.4

 = 2.6 N

Object

1. (a) Nuetral point is a point within the magnetic field where the effect of magnetism cannot be felt.

(b) A – North

 B – South

 C – South

 D – North

(c) C is stronger

(d) The magnetic field lines in C are closer than B

(e) - Stroking method

 - Electrical method

(f)

**N S**

(g) (i) Steel is a hard magnetic material while iron is a soft magnetic material

 (ii) a. Iron

 b. Steel

1. (a) (i) clean water has got a stronger surface tension

(ii) to provide enough area for maximum spreading of the oil.

(iii) If it had not settled the drop wont spread by force of gravity, other forces will be a factor.

(iv) to make the boundary between the oil and water visible. - for clarity.

(b) (i) Volume = $\frac{4}{3}×\frac{22}{7} ×\left(\frac{0.35}{2}\right)^{3}$

$$=0.0225 mm^{3}$$

 (ii) Area = $\frac{22}{7}×\left(\frac{14}{2}\right)^{2}×100 mm^{2}$

 = 154 $mm^{2}$

 (iii) Diameter = $\frac{0.0225 mm^{3}}{154}$

 = $1.54 ×10^{-4}mm$

 = $1.54 ×10^{-7}m$

 (iv) Volume = $\frac{4}{3}×\frac{22}{7} ×\left(\frac{0.000154}{2}\right)^{3}$

 =$1.77×10^{-12}mm^{3}$

(v) No. of molecules = $\frac{0.0225 }{1.77×10^{-12}}$

 = 1.27 $10^{10} molecules$