**PHYSICS PAPER 1**

**MARKING SCHEME-MUHORONI DISTRICT.**

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|  | **SECTION A** | 12. | - it is done within elastic limit;- k = f/e= 10 = 20 = 30 = 40 =5;8642 |
| 1. | 5 + 0.5 + 121005.62mm; | 13. | - Air at high speed reduces pressure inside the paper;- Atmospheric pressure then pushes the tube inwards and collapses.; |
| 2. | Vol. = massDen= 50.116.7= 3cm3New vol. = 3 + 15 = 18cm3(must be shown) |  | Ft = m(v -u );720 x 0.1 = 0.6 (v -0);V = 720 x 0.1 0.6 = 120m/s; |
| V = rw; = 8 x 2π x 33; = 16.59m/s |
| 3. | Reduce / become less | 15.  |
| 4. | At high altitude, atm. Pressure is less than the body’s pressure hence bleeding.; | **SECTION B**(a) **Smoke particles** are hit/bombarded. By unseen air molecules.; Smoke particles also reflect/scatter light falling on them; **LENS:** Focuses light to fall on the smoke cell.;;**Microscope:** enables the bright specs to be seen against the grey background;;(b) – Smoke particles scatter the light falling on them and so appear as bright points; - The smoke particles move about in a continuous random movement because of uneven bombardment by the invisible molecules of air.;(c) The smoke particles will move faster/with an increased speed. |
| 5. | They are being hit/ bombarded continually by the unseen water molecules; | 16. |
| 6.Vol. cm3 | 9EC6EDF4labelling ;4 Temp (0C) ; ;shape ; |  |
| 7. | Radiation; |  |
|  8. | Distance X1 should be reduced/ A should be brought nearer the metal blade than B.; |
| 9. | Dull black surface are better absolvers of heat than shinny surface; | 17. | (a) (i) A=vacuum; B= silvered wall;(b) Vacuum: minimize heat loss through conductor and convection.;**Silvered wall:-** minimizes heat loss through radiation. |
| 10. | **F**20cm50cm 10cm Clockwise moment = anticlockwise moment;F x 70 = wt x300.6 x 70 = wt x 30;Wt = 0.6 x 7030= 1260N; |  | **Cork:** = minimizes heat loss through evaporation.(iii) B;Air above liquid in A will absorb some heat through convection;(b) Heat absorbed by melting ice = mlf = 40 x 340 000 1000 = 13600J; Heat absorbed by melted ice to final temperature T = 40 X 4200 x T 1000 = 168 T;Heat absorbed by water in the calorimeter = MCθ = 400 X 4200 (20 – t) 1000 = 33600 - 1680 T;Heat loss = heat gained 33600 - 1680T; = 13600 + 168T;1848T = 20,000T = 10.820C; |
| 11. | - Black becomes more stable;- COG is lowered; |  |

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| 19. | (a) when a boy is partially or totally immersed in a fluid, it experiences an upthrust equal to the weight of the liquid displaced,;(b) (i) W = U + T; (ii) W= density x volume x g; = 10500 x 30 x 20 x 20 x 10 100 100 100= 105 x 3 x2 x 2 x 10= 126O N;(iii) Wt of liquid displaced = dvg = 12000 x 30 x20 x 20 x10 100 100 100 = 12 x 3 x 2 x2 = 144;(iv) T = w -u = 1260 - 144 = 1116N(c) Wt. of solid displaced = wt. of kerosene displaced. = dvg = 800 x 10 x 10; 1000000 = 0.08N;Mass of kerosene displaced = 0.08 10 = 0.008kg; Density of the solid = .008 50 x 10-6 = 160 kgm-3 |  18.  | (a) Is a gas that obeys the gas laws completely.;(b) (i) By carrying out the experiment in a room (where temp. is constant);(ii) k = ∆P ∆ 1/v = (4.0 x 105) - (0) (4.85 x 106) -(0) = 4 x 10-1 = 4 x 10-1 = 0. 8247 x 10-1 = 8. 247 x 10-2(iii) energy(iv) allow air to adjust to room temperature;(c) V1  V2; T1  = T24000 = V2;310 340V2 = 4000 X 340; 310= 4387 litres: |