

NAME.....ADM.....CLASS.....
PHYSICS
FORM 2
70MKS

1. (a) State and explain any 3 branches of physics. (3 marks)

(b) While stating an example in each case, differentiate between a derived quantity and basic physical quantity. (4 marks)

(c) A sphere of diameter 6.0cm is moulded into a thin uniform wire of diameter 0.2mm. Calculate the length of the wire in metres. (Take $\pi=22/7$) (4 marks)

(a) State and explain two factors affecting surface tension. (4 marks)

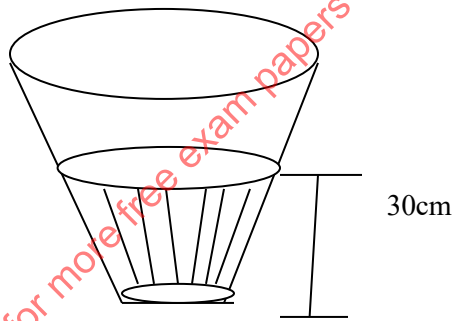
(b) Explain three differences between mass and weight. (3 marks)

3. (a) A brick 20cm long, 10cm wide and 5cm thick has a mass 500g. Determine (i) Greatest pressure that can be exerted by the brick. (2 marks)

(ii) Least pressure that can be exerted by the brick. (2 marks)

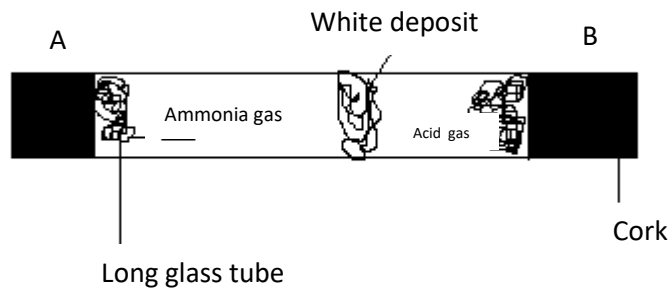
(b) Explain two properties of a brake fluid. (2 marks)

(c) The figure below shows a liquid in a pail if the liquid has a density of 1.20g/cm^3 . Determine the pressure exerted at the bottom of the container by the liquid. (3 marks)



4. (a) Differentiate between the Brownian motion and kinetic theory of matter. (1 mark)

(b) In the figure below, ammonia gas and an acid gas diffuse to form a white deposit on the walls of the glass tube. The deposit forms nearer end B.



- a) State which gas diffused faster. (1 mark)
- b) Explain why the gas in (a) above diffused faster. (2 marks)
5. (a) Draw , show and explain features of a common thermometer. (5 marks)
- (b) State 3 factors affecting thermal conductivity. (3 marks)
6. (a) State the laws of reflection. (2 marks)
- b) State two application of electrostatics. (2 marks)

- c) List 3 advantages of alkaline accumulators over lead –acid accumulators. (3 marks)
- d) A battery arculated charge round a circuit for 1.5 minutes. If the current is held at 25 A ,what quantity of charge passes through the wire. (3 marks)
7. (a) Explain the meaning of the following: (2 marks)
- (i)Magnetic field-
- (ii)Magnetic lines of force-
- (b) Describe three methods of demagnetizing a permanent magnet . (3 marks)
- (c) Use the domain theory to explain the difference between magnetic and non-magnetic material. (2 marks)
8. (a)Write the following to 2 significant figures.
7321769

0.0008996

(b) If an oil drop of diameter 0.5mm spreads on the surface of water to form an oil patch of diameter 0.2m. Estimate the thickness of the oil molecule. Write your answer to 3 significant figures. (4 marks)

9. (a) Define moment and state its SI unit. (2 marks)

(b) A uniform metre rule pivoted at its centre is balanced by a force 4.8 N at 20cm mark and some other two forces F and 2.0N at the 66cm and 90cm marks respectively. Calculate F. (3 marks)

10. (a) Explain the meaning of "center of gravity" (1 mark)

(b) Using diagrams explain the three states of equilibrium. (3 marks)