

HEIGHTS SECONDARY SCHOOL –THIKA
END OF YEAR EXAMINATION 2016
FORM ONE PHYSICS
2 1/2hrs

NAME.....

ADMISSION NO.....DATE...../...../.....SIGNATURE.....

ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED

1. Complete the table below

Basic Physical Quantity	SI Unit	Symbol of the Units
Length	-	M
-	Kilogram	Kg
Time	-	S
Electric Current	Ampere	-
Thermodynamic Temperature	-	K

(5mks)

2. Peter found that their class width was 25 strides. His stride was 0.9 meters long. What was the class width (2mks)

3. (a) define the term ‘area’ (1mks)

(b) express each of the following in cm^2

(i) 7.5 m^2 (2mks)

(ii) 4.2 m^2 (2mks)

(iii) 0.09 m^2 (2mks)

(iv) 0.000002 km^2 (2mks)

4. (a) Define the term 'volume' (1mk)

(b) a sphere of diameter 6cm is molded into a thin uniform wire of diameter 0.02cm. calculate the length of the wire in meters.

(take $\pi = \frac{22}{7}$) (4mks)

5. (a) Define the term 'density' and give the SI unit (2mks)

(b) the density of concentrated sulphuric acid is 1.8g/cm^3 . Calculate the volume of 3.1kg of the acid. (3mks)

6. (a) What is force? (1mk)

(b) list down any 8 types of forces (4mks)

7. (a) Give the 2 factors that affect the surface tension of a liquid (1mk)

(b) calculate the weights of the following masses

(i) 450g (2mks)

(ii) 3,500,000 mg (2mks)

(c) the mass of an object is 50kg. if its weight is 1000N in a certain planet. Calculate the gravitational

field strength of the planet.

(3mks)

8. (a) Define pressure and give the SI unit

(2mks)

(b) a force of 100N is applied to an area of 100mm^2 . Calculate the pressure exerted on the area in N/M^2

(3MKS)

9. A) List down three factors that affect pressure in liquids.

(3mks)

b)The atmospheric pressure on particular day was measured as 750mmhg.Express this in N/M^2 (Density of mercury is 13600kg/m^3 and $g=10\text{N/kg}$)

(3mks)

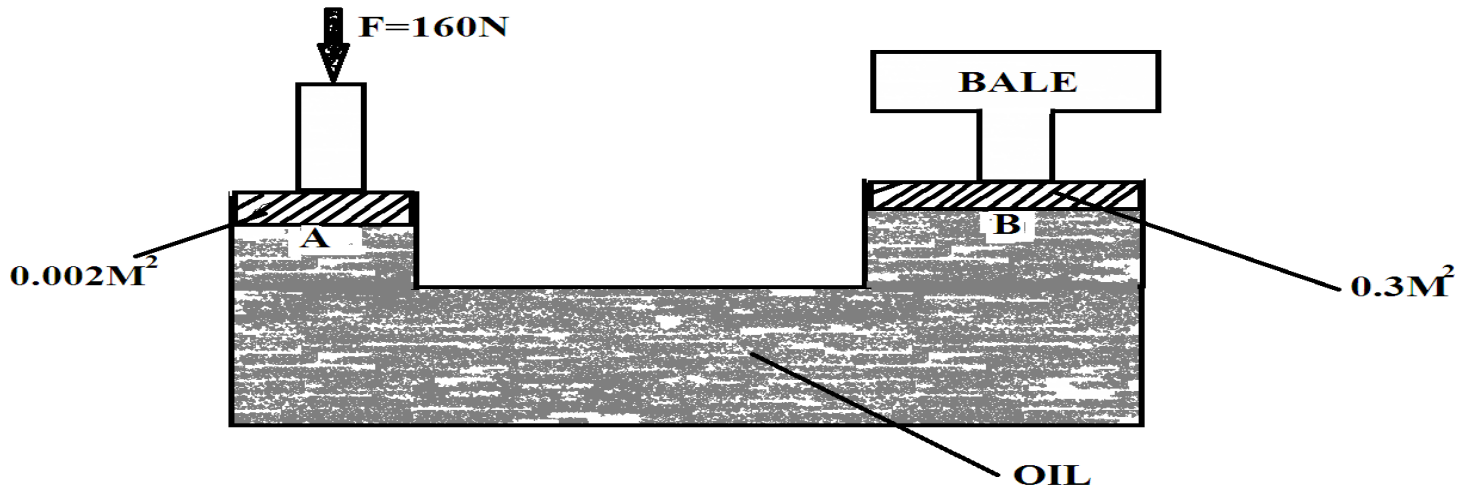
10. A)State the kinetic theory of matter.

(2mks)

b)How does the temperature affect the Brownian motion?

(1mk)

11. The figure below shows simple hydraulic press used to compress a bale. The cross section area of A and B are 0.002M^2 and 0.30M^2 respectively.



Determine

a) Pressure exerted on the oil by the force applied at A (3mks)

b) Pressure exerted on B by oil. (2mks)

c) Force produced on B compressing the bale. (3mks)

12. A) What is diffusion? (2mks)

b) Explain why smell of a rotten egg broken at one end of the room soon spreads throughout the room? (1mk)

13. A) State any three properties of liquids suitable for use in the thermometer. (3mks)

b) Convert the following from Kelvin to °C

i) 0K _____ (1mk)

ii) 283K _____ (1mk)

iii) 3480k _____ (1mk)

14. A) Define the following terms as used in heat transfer.

i) Conduction _____ (1mk)

ii) Convection _____ (1mk)

ii) Radiation _____ (1mk)

b) Describe how the following heat loss is minimized in vacuum flask

i) Evaporation _____ (1mk)

ii) Conduction and Convection__ (1mk)

iii) Radiation__ (1mk)

15. A) What is rectilinear propagation of light mean? (1mk)

b) State two laws of reflection. (2mks)

**c) At what angle would the two mirrors be inclined to form
i) 17 Images (2mks)**

ii) 29 images

16. A pinhole camera of length 15 cm form an image 3cm high of a man standing 9 m in front of the camera calculate the height of a man (3mks)

17. A) What is electrostatics?__ (1mk)

b) Give any 2 uses of an electroscope.__ (2mks)

18. A) Define the term electric current. (1mk)

b) Calculate the amount of electric current flowing through a bulb if 300colombs of charge flows through it in2.5 minutes. (2mkls)

19. A) Define the following defects in a primary cell.

i) polarization_

(1mk)

ii)Local action_

(1mk)

b) How does the above defects in (a) (i) and(ii) above get minimize d in a primary cell?

i) polarization_

(1mk)

ii)Local action_

(1mk)

*****END*****