HEIGHTS SECONDARY SCHOOL –THIKA
END OF YEAR EXAMINATION 2016
FORM TWO PHYSICS
21/2hrs

NAME…….

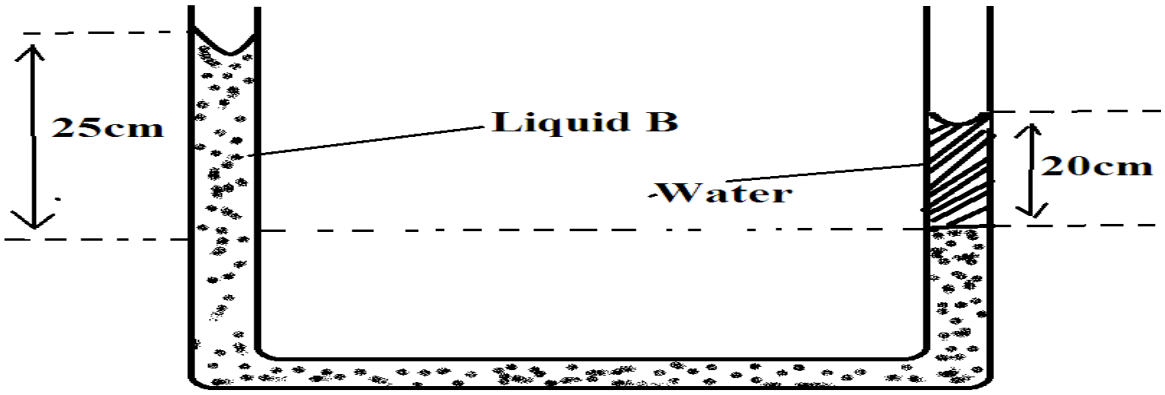
ADMISSION NO……DATE……/……/…….SIGNATURE……..

ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED

1. **What does the term polarization mean as used in primary cell?** **(1mk)**

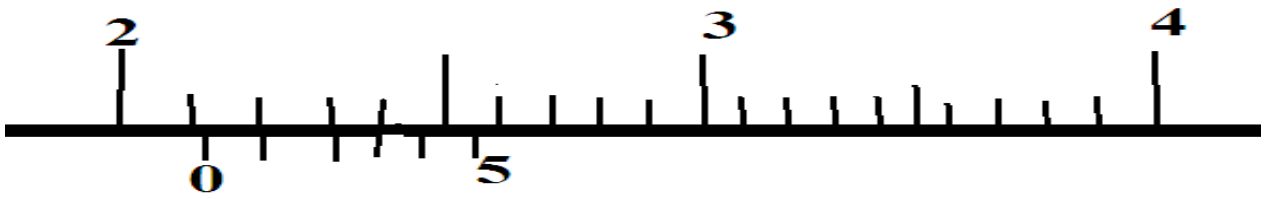
2. **The water level in burette is 35cm^3. If 20 drops of water were added and the volume of each drop is 0.15cm^3 .Determine the new level of water in the burette.** **(3mks)**

3. **Two immiscible liquids are put in manometer as shown in the diagram below.**



If the density of water is 1000kg/m^3 .Determine the density of liquid B. **(3mks)**

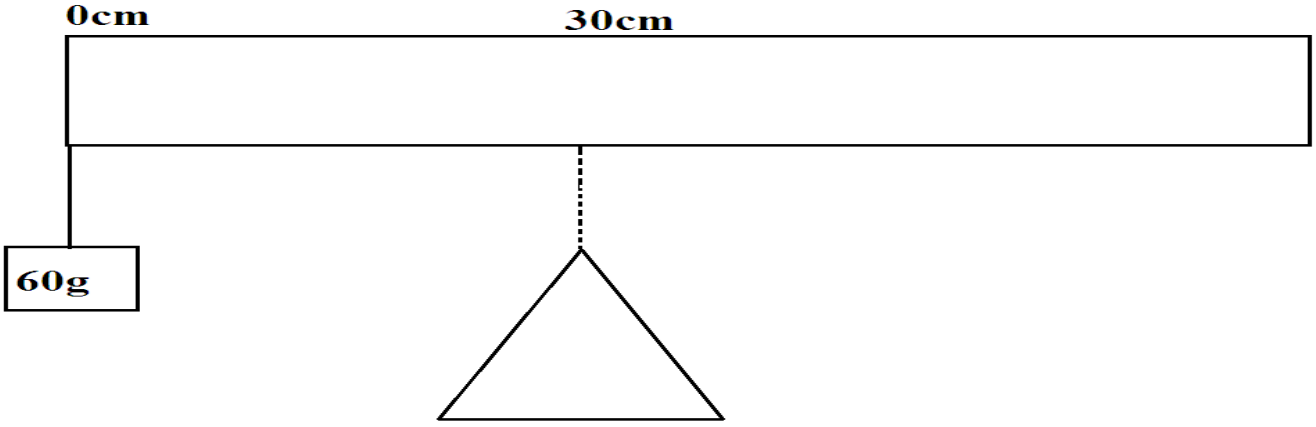
4. **The figure below shows a section of vernier caliper .Determine the reading.**



(2mks)

5. **A) Determine the principle of moments.** **(2mks)**

b) The fig below shows a uniform metal rod whose length is 1.2 m. The metal is balanced on a knife edge with amass of 60g hanging at the zero cm mark and it is pivoted at 30cm mark.



Determine the weight of the rod. **(3mks)**

6. **A) Define the term density.** **(1mk)**

b)The density of mercury is 13.6g/cm^3.find the volume of 2720g of mercury m^3 **(3mks)**

7. **A man has a mass of 70kg. calculate**

   a) His weight on earth whose gravitational field strength is 10N/Kg. **(2mks)**

   b)His weight in the moon where it gravitational field strength is1.7N/Kg. **(2mks)**

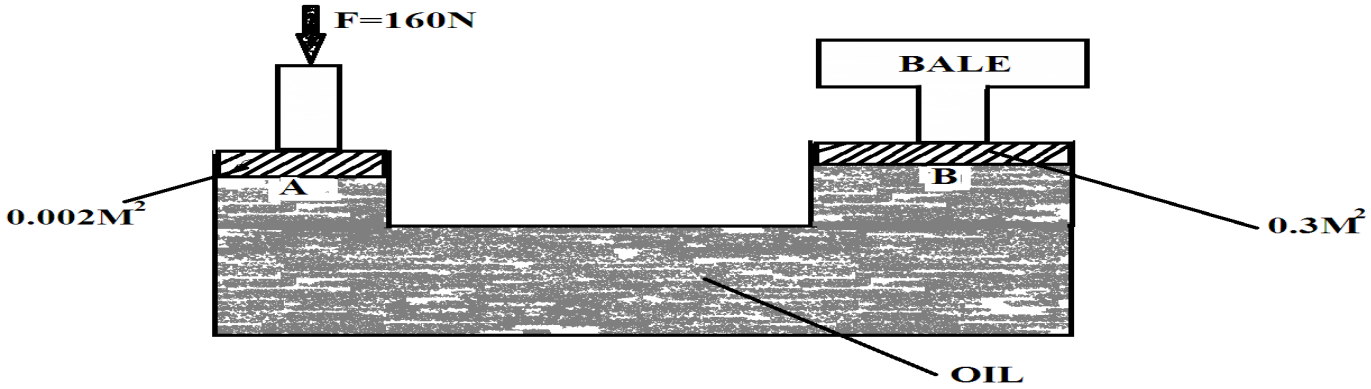
8. **A) List down two factors that affects the surface tension of water.** **(2mks)**

   b) Distinguish between cohesive force and adhesive force. **(2mks)**

9. **A) What I pressure?** **(1mk)**

   b)Samuel has a mass of 84 kg and stands upright on the floor . if the area of contact of his shoes and the floor is 420cm^2 .Determine the average pressure he exerts on the floor . **(3mks)**

10. 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)

11. **A) Highlight any 3 characteristics of a good thermometric liquid** **(3mks)**

b) Give any 3 differences between mercury and alcohol as thermometric liquids.

Alcohol	**Mercury**

i) (i)

ii) (ii)

iii) (iii)

(3mks)

c) Converts the following Kelvin to ^{O}C

i) 100K (1mk)

ii) 0 K (1mk)

iii) 350K (1mk)

12. How many images would be seen from two mirrors when reflecting surface make an angle of

a)60^{0} (1mk)

b)90^{0} (1mk)

c)180^{0} (1mk)

13. A) State hook law. (2mks)

b) List down any 4 characteristics used to describe a material. (2mks)

c) A spring stretches by 1.2 cm when a 600g mass is suspended on it ,what is the spring constant? (3mks)

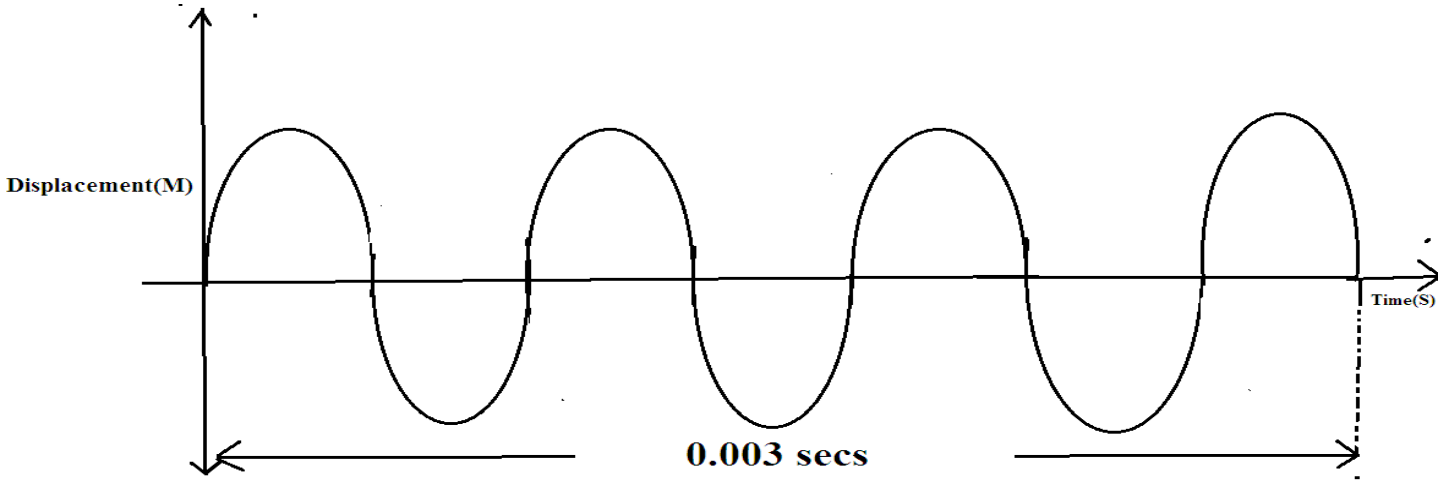
14. A) Distinguish between transverse and longitudinal waves. (2mks)

b)A water wave travels 12m in 4seconds. If the frequency of the wave is 2 Hz. Calculate,.

i) Velocity of the wave (2mks)

ii) Wavelength of the wave. (2mks)

15. The diagram below shows a displacement time graph. Use it to answer the question that follows.



a) How many complete circles are shown? (1mk)

b) What is the frequency of the wave form? (2mks)

16. The range of audible frequency varies from 20KHz . if the speed of the sound is 340m/s, What is the corresponding range of the wavelength? (3mks)

17. A) Define the term Bernoulli's principles . **(2mks)**

b) Water flow steadily through an horizontal pipe of varying cross section area ,At a point A of cross section area is $10cm^2$, the velocity is $0.2\ m^2$. Calculate the velocity at point B of cross section area $2.5\ cm^{2.}$ **(3mks)**

c) Give any two hazards of Bernoulli's effect **(2mks)**

18. A) State the basic law of magnetism. **(1mk)**

b) List down any 4 methods of magnetization. **(2mks)**

c) Explain the meaning of the following terms as used in magnets. **(3mks)**

i) Magnetic field.

ii) Magnetic shield

iii) Magnetic flux

19. A) List down 2 factors that affect the stability of an object. **(2mks)**

b)What type of equilibrium has the following.

i) A marble on top of a level table. **(1mk)**

ii)A tight rope walker **(1mk)**

iii)A cylinder sitting on its base **(1mk)**

iv)A ball on a glass table top **(1mk)**

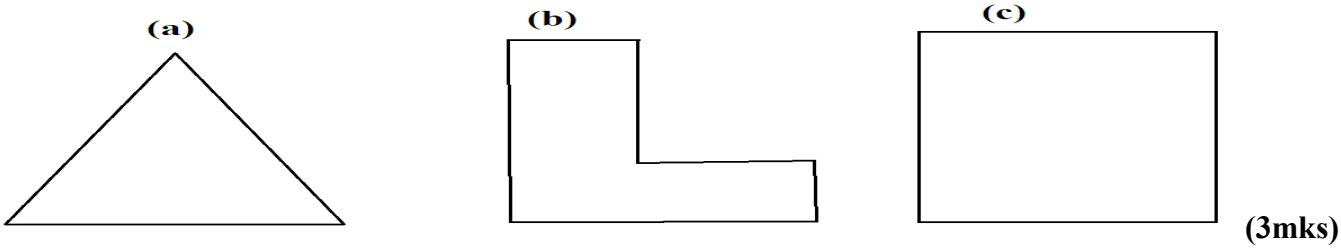
20. An object is placed about 30 cm from a concave mirror of focal length 20cm calculate :

a) Image position **(3mks)**

b)Magnification **(2mks)**

21. A) List down any 4 factors that affect the strength of an electro magnet. **(4mks)**

22. By the use of geometrical construction, Show how to get the centre of gravity of the following shapes.



(3mks)

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