KATALA HIGH,Sunrise,BISMACK SS,Mwembeni ss,Buhare ss,Chalinze ss,Mzumbe ss,Marian, St.mary's, Mwapachu ss,Nyamagaro ss,Mbezi ss,Mihayo ss,Green view ss,Ilemela Islamic ss,Chalinze Islamic ss,Kazima ss,Moshi ss, Benjamini ss,St. John ss ,Mwembeni ss,Skanda ss,Bombamzinga,TABORA boy's,MUSABE SS,Kikuyu as, Dodoma ss,Lake zone ss, BUHONGWA ISLAMIC ss,Buhare ss,TABORA girls,BWIRU Boy's, IMPERIO ss, Uyui ss, Ipuli ss, ibungilo ss, LORETO girls ss, KIMEBO'S SS,KISESA SS,LAKE VIEW,GREEN VIEW,THAQIBU SS,TAQWA HIGH, JAKAYA SS, MABULA SS, KIBITI SS,MALAIKA TC, NYEMUGE SS, BUSWERU SS.

CODE: 031   PHYSICS 1

TIME: 3:00 HOURS   MAY, 2024

NAME………………………………………………………………………………………

Instructions

1. This paper consist of three sections A,B and C with a total of eleven (11) questions

2. Answer all questions from section A and B and only two (2) questions from section C

3. Where necessary the following constants may be used

- Acceleration due to gravity $g=10m/s^2$

- Density of water = 1.0g/cm3

- Pie $\pi = 3.14$

- Speed of light waves = $3.0×10^8 m/s$

4. Table below is for examiner`s only

QUESTION NUMBER	PUT A TICK FOR ATTEMPTED QUESTION	SCORE	EXAMINER`S INITIAL
01			
02			
03			
04			
05			
06			
07			
08			
09			

10			
11			
TOTAL			

SECTION A (10 marks)

Answer all questions in this section

1. For each of the following items choose the correct answer from among the given alternatives and write its letter beside the number in the answer booklet provided (10 marks)

   i) A study that deals with constellation, solar system and cosmos is referred to as

      A. Electromagnetism

      B. Structure and properties of matters

      C. Light

      D. Geophysics

   ii) Which of the following burning medium requires a carbon dioxide extinguisher

      A. Organic solids

      B. Flammable gases

      C. Combustible metals

      D. Electrical hazards

   iii) The initial volume of a liquid in the burette was $57cm^3$. If Xcm3. Of the liquid was poured out of the burette and the final volume of the remaining was $23cm^3$, Calculate the value of X

      A. $80cm^3$

      B. $50cm^3$

      C. $34cm^3$

      D. $-46cm^3$

   iv) Classify the force experienced when a metal solid or a hard object is twisted.

A. Compression

B. Stretching

C. Restoring

D. Torsion

E. Friction

v)   Calculate the relative density of an abject that weight 3.5N when in air and 2.8N when fully immersed in

A. 0.8

B. 6.4

C. 5.0

D. 0.22

E. 3.5

vi)   Why can water striders and ponds skaters walk water without sinking?

A. Because of the process of osmosis

B. Because of the property of capillarity

C. Because of the presence of impurities in water

D. Because of the force of surface tension

E. Because of the force of cohesion and adhesion

vii)   Identify the statement that describe the Pascal's principle of transmission of pressure in fluids

A. Pressure is equally transmitted in liquid

B. Pressure is the ratio of force to area

C. Pressure depends on the height of the liquid column

D. Pressure is affected by the force of gravity

E. Pressure process upthrust

viii) Suppose an engine raises 200kg of water steadily through a height of 60m in 20 sec. The upward force used is equal to the weight of water raised. Calculate the power in KW

    A. 6 kw

    B. 3 kw

    C. 7 kw

    D. 5 kw

    E. 4 kw

ix) The following statements about magnetic lines of force are correct except

    A. Start at north pole and end at the south pole

    B. Stronger when the lines are closer together

    C. Pass through the material both magnetic and non-magnetic

    D. Always form close loops

    E. Cross one another

x) What is a distance and displacement covered by an athlete who runs 100m to the North, 70m to the East, 100m to the South and 70m to the West to complete the race?

    A. Distance is 0m and displacement is 340m

    B. Distance is 700m and displacement is 700m

    C. Distance is 340m and displacement is 0m

    D. Distance is 0m and displacement is 0m

    E. Distance is 340m and displacement is 340m.

2. Match the properties or functions of a simple machine in LIST A with their corresponding names of the machines in LIST B by writing the letter of the correct response beside the corresponding item number in the answer booklet provided **(6 marks)**

List A	List B
(i) Carries objects from one point to another horizontally	A. Screw jack
(ii) Operates based on the principle of transmission of pressure in fluids.	B. Pulley
	C. Windmill
(iii) Applies the principle of first class lever	D. Inclined plane
(iv) Its velocity ratio increases by increase the length of the ramp.	E. Tong
	F. Wheel and axle
(v) The effort is between the load and fulcrum	G. Hydraulic press
(vi) It is useful in drawing water from a borehole.	H. Claw hammer
	I. Wheel barrow

SECTION B(54 marks)

Answer all questions in this section

3. (a) A convex mirror is often used as the driving mirror of a cars and motorcycle instead of plane mirror. Give one reason to support that stamen **(3 marks)**

(b) An object 2cm high is placed 24cm from a converging lens. An erect image which is 6cm high is formed. Determine the focal length of the lens **(6 marks)**
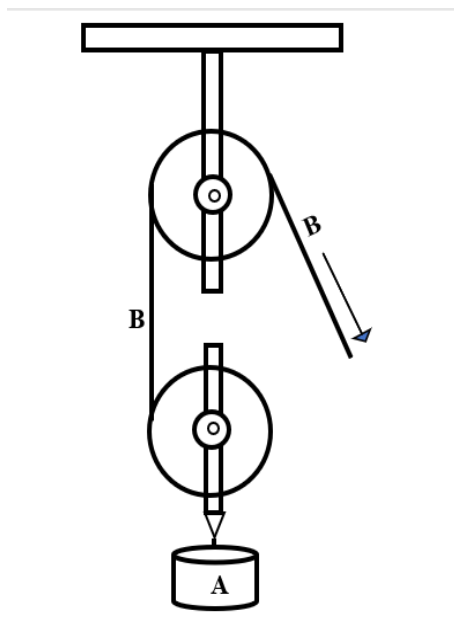
4. (a) Why is it practical to make a barometer with mercury than water?**(4marks)**

(b) A force of 200N and 20cm long spanner and 150N and 30cm long spanner were separately used to loosen the left and right front car tire nuts respectively. Show that the 30cm long spanner will be more effective than the 20cm long spanner **(5 marks)**
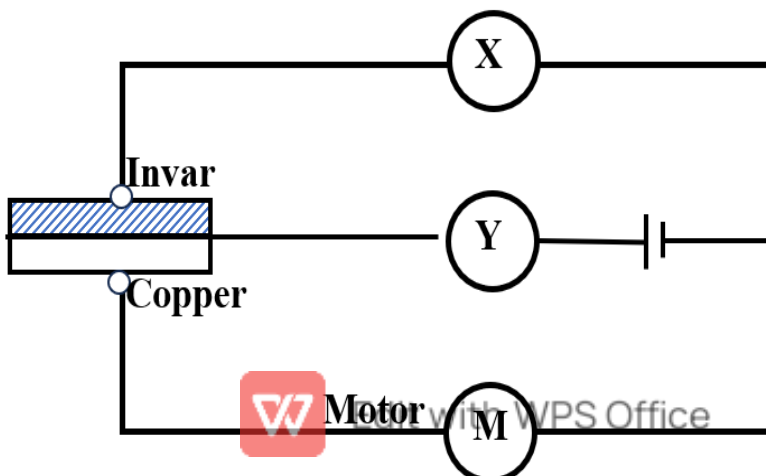
5. (a) Explain why a horse cannot pull a cart and run in empty space   **(4 marks)**

(b Look at the image of the pulley. If the bucket A has a mass of 5kg, what will be minimum effort force required to lift the bucket if friction is ignored? **(5 marks)**
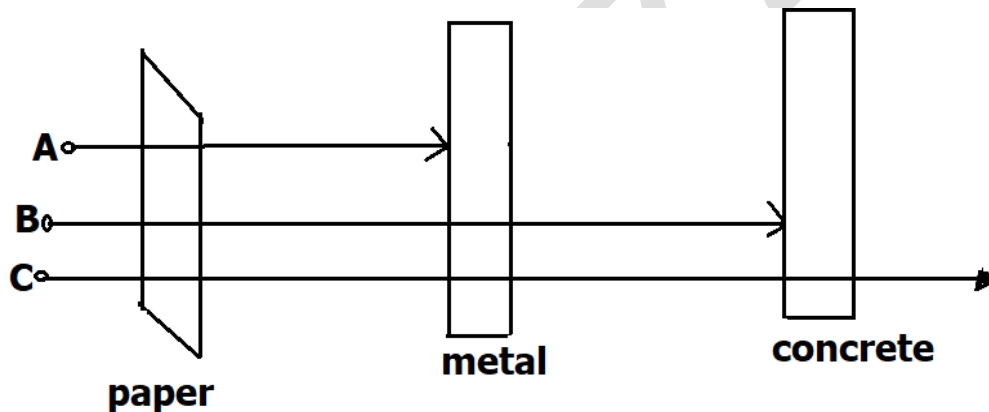

6. (a) The diagram below show bimetallic strip used thermostat in a circuit. The copper expand more than the invar for the same temperature rise. What will be switched on between the components shown in the circuit bimetallic strip become hot?. Identify the component and Y by their name. **(4 marks)**

(b) Demonstrate by using diagram on how heat transfer by convection takes place when water is heated?(5 marks)

7. (a) Compare the effect of frequency and amplitude to musical sound. Give two (2) points each (4 marks)

   (b) Using the diagram below identify the A, B, C and explain the penetrating ability of the three type of radiation.**(5 marks)**

8. (a) Why are the surface wave more dangerous than the primary and secondary waves   (3 marks)

   (b) Describe the three uses of constellation   (6 marks)

SECTION C(30 marks)

9. (a) Define the term electromotive force and internal resistance as used in current.

   (b) The storage battery of a car has an emf of 12V. If the internal resistance of the battery is 0.4 Ω. What is maximum current can be drawn from the battery?

   (c) Why different electrical appliances in domestic circuit are connected in parallel?

10. i) Describe the following terms as used in radioactivity

   a) Alpha decay

   b) Beta decay

   c) Gamma decay

   ii) The half – life of Zn- 71 is 2.4 minutes. If one has 100g at the beginning, how many grams would be left after 7.2 minutes have elapsed?

11. (a) Define the term diode and its application in daily life.

   (b) Draw electronic diagram to show the following

   (i) Common – base

   (ii) Common- collector

UKIHITAJI KUJIUNGA NA MTIHANI WA PAMOJA ZAIDI YA SHULE 200 NA KUTOWA MATOKEO YA PAMOJA KARIBUNI SANAH

   PRE-MOCK F2&4 NA TERMINAL F1&3 EXAMINATION WITH MARKING SCHEME ZIKO TEYALI

   WASILIANA NA MALAIKA FOUNDATION LABORATORY 0685991172 (WHATSSAP)

   *ACADEMIC TAALUMA 0678426804 (WHATSAPP)

MR.ANUARY* SHULE YAKO IWEPO HAPO

GHARAMA KWA MITIHANI VIDATO VYOOTE

🛑SOMO 1 3000 TU

⚫ F1&3 15,000/=Tu

🟤F2&4 22,000/= TU MASOMO YOOTE HADI YANYONGEZA
BOOKEEPING,COMMERCE,FRENCH,EDK,BIBBE
KNOWLEDGE,ARABIC,FRENCH,ICS, AGRICULTURE, CHINESE
LANGUAGE AND FOOD NUTRITION

KUJIUNGA NA GROUP LA WHATSAPP KWA SHULE ZOOTE
276 NA NYINGINE BADO ZINAFANYA MJUMUIKO NASI

 MIEZI 6 15000 TU

28/04/2024-----28/10/2024

MIEZI 12. 25000 TU

 28/04/2024----28/04/2025

MALIPO NAMBA

TIGO PESA 0679091172 MALAIKA KABATE

M-PESA 0752850793 MALAIKA KABATE

Airtel money 0685991172 MALAIKA KABATE

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MID-TERM,TERMINAL, ANNUAL,PRE-MOCK,MOCK,JOINT AND PRE-NECTA WITH MARKING SCHEME ZAKE ZOOTE ZITATUNGWAA KWA WAKATI KWA MJUMUIKO WA SHULE 413