



Student's Assessment Number.....

THE UNITED REPUBLIC OF TANZANIA



PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
MBOZI DISTRICT COUNCIL

FORM TWO MOCK ASSESSMENT

031

PHYSICS

TIME: 2:30 Hours

YEAR. 2023

Instructions

- 1. This paper consists of sections A, B and C with a total of ten (10) questions.
2. Answer all questions in the space provided.
3. Section A and C carries fifteen (15) marks while section B carries seventy (70) marks.
4. All writing must be in blue or black ink except drawings which must be in pencil
5. All communication devices and any unauthorized materials are not allowed in the assessment room
6. Write your Assessment Number at the top right corner of every page.

Table with 3 columns: QUESTION NUMBER, SCORES, ASSESSOR'S INITIALS. Includes rows for questions 1-10, a TOTAL row, and a CHECKER'S INITIALS row.

SECTION A (15 MARKS)

Answer **all** questions in this section

1. For each of the items (i) – (x), choose the correct answer from among the given alternatives and write its letter beside the item number in the table provide.
- (i) The importance of mathematics in studying physics is that
 - A. Mathematics is the number and physics is the formula
 - B. Mathematics relations can express physics concept
 - C. Physics is the study of matter with mathematics
 - D. Physics helps mathematics to calculate number

 - (ii) Your friend is asked to explain laboratory rules he should adhere before getting to physics laboratory. Which among of these mentioned is not correct
 - A. Follow instructions carefully
 - B. Don't enter in the laboratory
 - C. Avoid running in the laboratory
 - D. Avoid testing or drinking in the laboratory

 - (iii) Using defective instrument in taking measurements may lead to
 - A. Parallax error
 - B. Zero error
 - C. Instrument error
 - D. Environment error

 - (iv) The reason why boat float on water while a nail made it sinks is that
 - A. Density of boat is larger than that of water
 - B. Density of boat is less than that of water
 - C. Upthrust of water is less than that of water
 - D. Mass of boat is larger than that of water

 - (v) You see this question paper because
 - A. It is white and have good looking
 - B. It reflects light to your eyes
 - C. It scatter light in both directions
 - D. It is smooth and have questions

 - (vi) We take into account that when capacitor are connected in series
 - A. Potential difference in each capacitor is the same
 - B. Charge in each capacitor is the same
 - C. Current of the circuit is the same
 - D. Time for charging capacitor is the same

 - (vii) For a magnet to remain strong over a long period of time where should it be stored
 - A. In a container containing the magnet
 - B. In ferrous material
 - C. In vibrating box
 - D. Away from heat

 - (viii) A pulley system has four ropes and raises a load of 5N through a height of 2M in 10 seconds. It's velocity ratio will be
 - A. 5
 - B. 2
 - C. 4
 - D. 10

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- (ix) When you suddenly apply a front bicycle brakes you likely to fall forward. This express
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|--------------------------|---------------------|
| A. Inertia of motion | C. Inertia of rest |
| B. Inertia of directions | D. Inertia of brake |
- (x) Source of energy which occurs naturally and are constantly replenished are known as
- | | |
|-----------------|-------------------------|
| A. Solar energy | C. Non renewable energy |
| B. Wind energy | D. Renewable energy |

I	II	III	IV	V	VI	VII	VIII	IX	X

2. Match each item in Column A against its corresponding item in Column B by writing letter of the correct response bellow the corresponding item number in the table provided

Column A	Column B
(i) Store charge	A. Repel
(ii) $C = C_1 + C_2$	B. Capacitor
(iii) Glass	C. Metal cap
(iv) Similar charge	D. Capacitor in parallel
(v) Detect charge	E. Negative charge
	F. Capacitor in series
	G. Insulator
	H. Capacitance
	I. Gold Leaf electroscope
	J. Positive charge

COLUMN A	I	II	III	IV	V
COLUMN B					

SECTION B (70 Marks)

Answer **all** questions in this section

3. (a) By giving two examples to each differentiate ferromagnetic material from paramagnetic Material

- (b) As a science students suggest three ways you can use to store a magnet so that they can last longer

4. (a) (i) Mention two factors on which pressure in solid depends on.

(ii) Hilda has mass of 75000g .She is standing on a ground at Mwaya girls administration block with shoes of total area 280cm².calculate the pressure in Pascals she is exerting on the ground

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(b) (i) Physics helps us to answer questions like why a man experiences some changes in his weight while his mass remain constant when he try to move from one planet to another. As a physicist briefly this phenomenon

(ii) The weight of astronaut is 900N on the earth .On the moon he weighs 150N. Calculate the moons gravitational strength (Take g=10N/kg)

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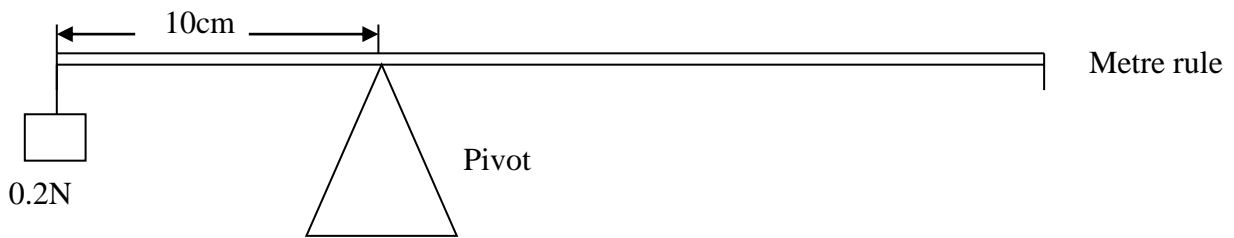
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5. (a) State the principle of moments

(b) Distinguish between stable equilibrium and unstable equilibrium

(c) A meter ruler is pivoted about a point O as shown below and it is balanced by a load of 0.2N. Calculate the mass of metre ruler



6. (a) Light is a form of energy, state any two characteristics of it. Which can be distinguished from other form of energy

(b). By the aid of diagram state the law of reflection

(c) How many images can be formed if two mirrors are set.

(i) At an angle 60°

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(ii) Parallel to each other

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7. (a). How can you relate and differentiate distance and displacement

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(b) A car starts from rest and accelerated uniformly at a rate of 4m/s^2 for 10 seconds. It remains at constant velocity for 20 seconds before it decelerates for 3 seconds to stop. Find

(i) Maximum velocity attained

(ii) Total distance covered

8. (a) Explain the following terminology as applied in simple machine

(i) Effort

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(ii) Load

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(b) Draw a well rebelled diagram of simple pulley whose velocity ratio is three

(c) Suppose that the efficiency of the machine is 80%, What load can be raised by effort of 200N

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9. (a). State the principle which deal with the floating bodies in fluid

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(b). Define the relative density of the solid

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(c). The mass of a density bottle is 15g . When it is fully filled with fluid of density 1.2 g/ cm³ its mass is 51g . Find the volume of the bottle

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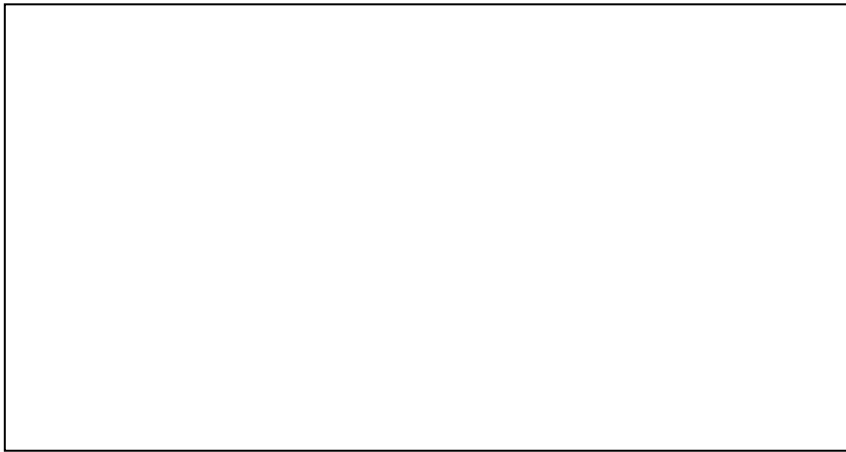
SECTION C (15 Marks)

Answer question 10

10. (a). Why the voltmeter is always connected in parallel with other electrical components in the circuit

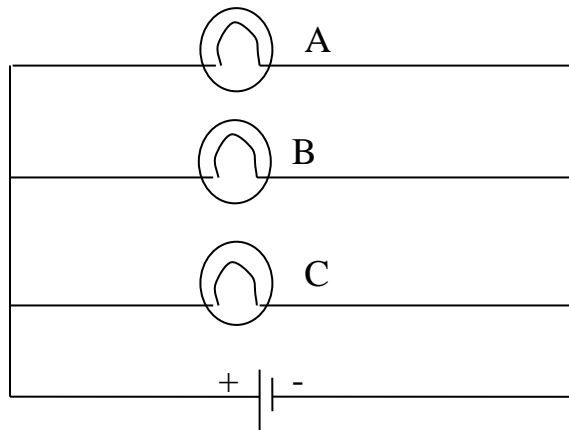
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- (b). You are provided with one dry cell(E), switch (s), Ammeter (A), voltmeter (V),rheostat (Rh) fixed resistor (R) and connecting wire.
- (i) Draw an electric circuit for it.



- (ii) State the governing rule about the circuit

- (c) Consider the circuit below



- (i) If bulb A burnt out, will bulb B and C light up? Explain your answer

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- (ii) Sketch the circuit and use arrows to show how the current will flow after bulb A burns out