PRESIDENT'S OFFICE

REGIONAL ADMINSTRATION AND LOCAL GOVERNMENT

KIGAMBONI MUNICIPAL COUNCIL

FORM TWO MOCK EXAMINATION

031 **PHYSICS**

Time 2:30 Hours **THURSDAY 18TH MAY 2023 A.M**

INSTRUCTIONS

1. This paper consists of section A, B and C
2. Answer all questions from all section
3. All answer must be written in the space provided
4. All writing must be in blue or black ink. EXCEPT diagrams which must be in pencil
5. Write your assessment Number at the top right hand corner of every page

ASSESSOR USE ONLY		
QUESTION NUMBER	**SCORE**	**ASSESSOR'S INITIALS**
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
TOTAL		
CHECKER'S INITIALS		

SECTION A (15 Marks)

1. Choose the most correct answer and write its letter in the space provided for each question.
   i. A ferry boat floats in seawater because its density is ……
      a) Greaser than that of water
      b) Smaller than that of water
      c) The same as its weight
      d) Greater than its weight
   ii. An electrostatic machine which produce an unlimited supply of sparks by induction is called.
      a) A gold leaf electroscope
      b) An electrophorus
      c) A generator
      d) A speedometer
   iii. The process of assigning numbers to observations or events is called ….
      a) Measurement
      b) Counting
      c) Calibration
      d) Induction
   iv. Current electricity is measured in …
      a) Amperes
      b) Cowombs
      c) Farad
      d) Volts
   v. A mass of 1 kilogram is pulled by the gravitation force towards the center of the earth by a force of ……
      a) 1 Newton
      b) 10 Newton
      c) 100 Newton
      d) 1000 Newton
   vi. The shortest distance which can be measured by a meter rule is ….
      a) 0.1 mm
      b) 1.0 mm
      c) 10mm
      d) 100mm
   vii. The closed path through which the electrons flow is called
      a) Electric current
      b) Conducting wire
      c) Electric circuit
      d) Ammeter
   viii. In physics work is said to done only if
      a) Velocity of a body increase
      b) Force produces movement of a body
      c) If a sweat appear during working
      d) A body is stopped by a large force.
   ix. A potential different of 12 volts is applied across a resistor of resistance 24 ohms. The current flowing in the circuit is ……
      a) 0.5 A

b) 0.05A
c) 0.005A
d) 0.0005A

x. When a plastic pen is rubbed against dry hair, the pen attracts small piece of paper this means that ……
   a) The hair becomes negatively recharged
   b) The hair gains electrons
   c) Pen loose electrons
   d) The hair become positively recharged

2. Match each of the item in LIST A with a correct response in LIST B by writing below the number the corresponding item in the table provided.

LIST A	LIST B
i. A state of balance of a body ii. The sum of the forces in one direction must be equal to the sum of the forces in opposite direction. iii. A point where the force of gravity can be considered to act iv. The object with high center of mass v. All points in a body move around a single line.	A. Center of gravity B. Unstable equilibrium C. Translational motion D. Rotational motion E. Condition for equilibrium F. Point of application G. Equilibrium H. State of equilibrium.

ANSWER

LIST A	i.	ii.	iii.	iv.	v.
LIST B					

Section B (70 Marks)
Answer All Question from This Section

3. a) A form one student was arguing that, if you drop a dry wood into water obviously you find it floating.
   a) With their discussion state all forces acting to the wood while submerged
   ……..
   …….
   …….
   b) Give two conditions that enable the wood to float in water
   i) ……..…
   ……..
   ii) ……
   ……..

4. Give four application of density in our daily life

i) ……
ii) ……..
iii) ……
iv) …….....

b) a form one students perfumed an experiments in the laboratory to determine density of special stone provided by his teacher. He used an electronic balance to weight the mass of the stone, which was found to be 178g. The stone was then completely immersed in water of initial volume 60cm^3 contained in the measuring cylinder. If the final volume was 80 cm^3.What density of the stone the student got?

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5. a) In this presentation a form two student made this statement in "The ruler may become negatively charged when rubbed with the fabric, because the ruler losses protons to the fabric". It is the statement correct? Explain

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b) You are provided with two capacitors of capacitance C_1 = 34μf and C_2 = 6μf. Show that their total capacitance when they are connected in parallel is greater than total capacitance when they are connected in series.

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6. a) Alex has a long spanner and Juma has short. Spanner between Alex and Juma who can open easily a nut and explain why?

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b) A heavy uniform beam AB of weight 500N is supported at its ends. The beam carries a weight of 300N at a distance of 1.5m from the end A. if the beam is 4m long. Find the tension at A and B.

7. a) i) State the law of polarity

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ii) Illustrate this law using diagram

b) Explain with illustration how one can locate the position of north pole a bar magnet.

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c) Give four properties of magnetic line of force

i) ……..……..
ii)……..……
iii) ……..…….
iv) ……..……..….

8. a) The science subject which deals with study of matter in relation to energy and this subject it help a student to become a scientist. Explain four importance of that subject.

i) ……..……..……..……..
ii)…….……..…
iii) ……..……..…….
iv) ……..…….

b) A tank 2m tall and base area 2.5m^2 is filled to the brim with a liquid which exerts a force of 40,000N at the bottom. Calculate the density of the liquid.

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9. a) Explain why petrol road tankers usually have a length of metal chain hanging down touching the ground.

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b) A stone of mass 2kg is released from a height of 2m above the ground. Find

i) Total energy……
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ii) Potential energy at height of 0.5m …….
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……..
……..

iii) Kinetic energy at height of 0.5m…….
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……..

iv) Velocity acquired at 0.5m……...
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……..

SECTION C

10. a) Explain why is advised to connect bulb in parallel arrangement during installation of electricity in most building ……..……
…….…….…..
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b) Draw an electric circuit showing proper arrangement of an Ammeter (A), voltmeter (V), a Battery of two cells, a fixed resister and an open switch. Show the direction of current flow.

c) From two students at Uyole Secondary School is carry out an experiment of potential difference 12v which is applied across two resistors of 10Ω and 20Ω connected in series.

Find

i) the equivalent resistance for the circuit
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ii) The total current in the circuit
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iii) The current through each resistor
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iii) The voltage drops across each resistor
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