

**THE PRESIDENT'S OFFICE**  
**REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**  
**ITILIMA DISTRICT COUNCIL**  
**FORM TWO MOCK EXAMINATION: AUGUST 2020**

031

**PHYSICS****Time: 2:30 hrs****Friday 7<sup>th</sup> August, 2020 am****Instructions**

1. This paper consist of two section A and B
2. Answer all questions in both sections
3. Write your examination number on each page of your answer sheet

**SECTION A: 30 MARKS**

1. For each of the items (i)-(x) choose the correct answer from the given alternatives and write its letter beside the item numbers





(i). Archimedes' principle deal with:

- A. floating a body      B. Motion of a body      C. Sinking of a body      D. real weight of a body

(ii). A wheel barrow is a \_\_\_\_ class lever.

- A. First      B. Third      C. Fourth      D. Second

(iii). Which instrument is used to measure the potential difference \_\_\_\_\_

- A.       B.       C.   
D. 

(iv).  $F = M \left( \frac{\Delta v}{t} \right)$ . This is:

- A. the Newton's 2<sup>nd</sup> law of motion      B. The Newton's 3<sup>rd</sup> law of motion  
C. Law of inertia      D. change of momentum

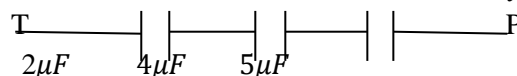
(v). The number of images formed by multiple mirrors \_\_\_\_\_ on \_\_\_\_\_ the angle between mirrors.

- A. Increase, decreasing      B. Decrease, decreasing      C. Increase, increasing      D. decrease, increasing

(vi). The following is not example of force.

- A. Torsional      B. repulsion      C. Newton's      D. Gravity

(vii). The capacitance total across TP is



- A.  $0.95 \mu F$       B.  $1.05 \mu F$       C.  $1.05 \mu F$       D.  $1.59 \mu F$

(viii). A vernier caliper is used to measure

- A. distance of a car      B. Distance of wire      C. Diameter of a wire      D. Volume of water

(ix). Which one is strongly magnetized when placed in magnetic field.

- A. Aluminum      B. Lead      C. cobalt      D. Zinc

(x). One of the following is not a safety rule in a physics laboratory

- A. To follow instruction      B. Handling apparatus      C. to wear shoes with hard soles      D. To sit on a stool

2. Match each of the statements given in list B with appropriate words given in list A. Write its letter beside the item number

List A	List B
(i). Irregular and regular reflection of light (ii). Hydrometer (iii). Can be transformed (iv). Attraction occurs when (v). Moment (vi). Gold leaf electroscope (vii). Unstable (viii). Three pulley (ix). Displacement	A. NM B. Power C. Energy D. $\text{g/m}^3$ E. $\text{Kg/m}^3$ F. Measure of force G. Measure of P.D H. N-N I. N-S J. Ohms K. Capacitor L. Detect charges N. High center of gravity O. $V.R=3$ P. Rate of change of distance in specific direction Q. Reflection of light R. Low center of gravity

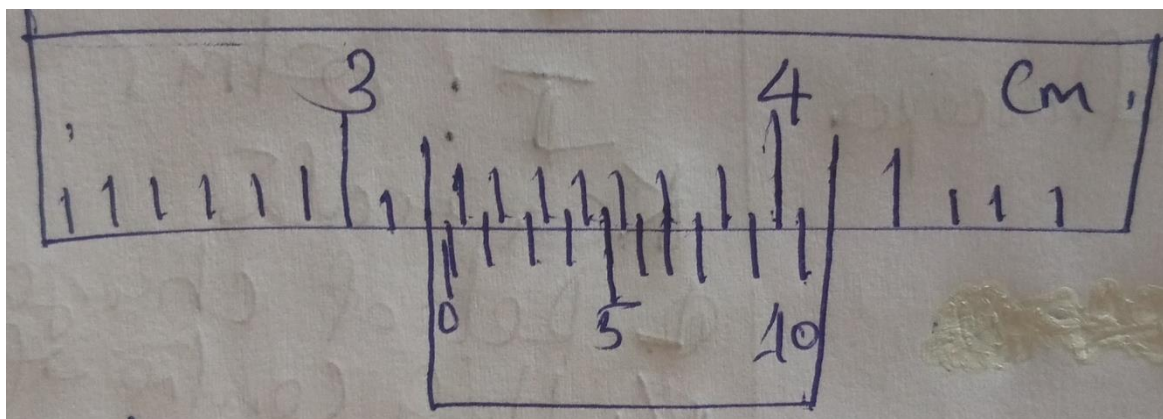
3. Fill the space provide

- (i). Mass, length and time.....  
 (ii). Water boils at  $100^\circ\text{C}$  as.....  
 (iii). Like pole repel and unlike pole attract each other. This refers to \_\_\_\_\_  
 (iv). Pressure in solid depends on \_\_\_\_\_  
 (v). Attraction force between molecules of different substance is called \_\_\_\_\_

### SECTION B

#### ANSWER ALL QUESTIONS.

4. (a) Define measurement  
 (b) Draw and label micrometer screw gauge  
 (c) What is the reading in the figure below



Main scale is \_\_\_\_\_ cm

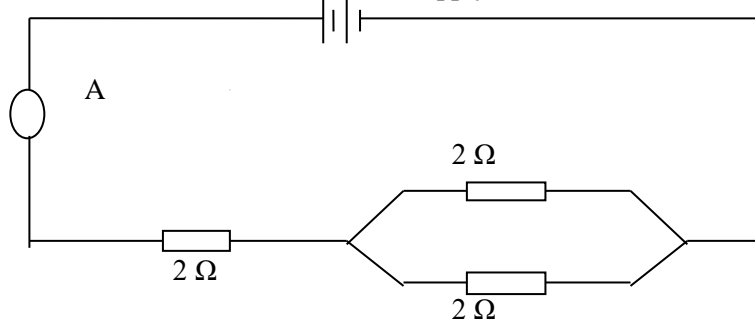
Vernier scale is \_\_\_\_\_ cm

Total reading is \_\_\_\_\_ cm

5. (a) What is  
 (i) Load  
 (ii) effort  
 (iii) Velocity ratio as applied in simple machine

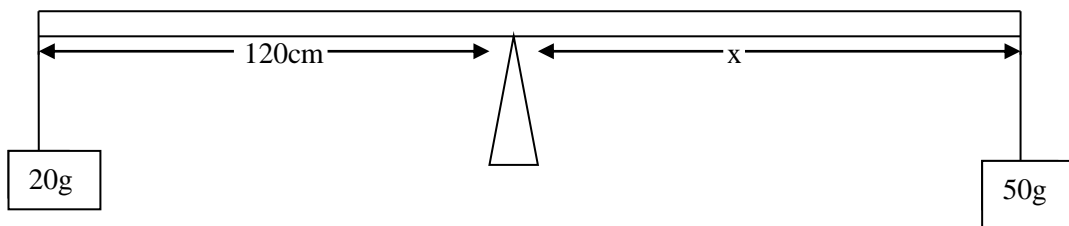
(b) A hydraulic press has effort and load pistons with areas  $0.02\text{m}^2$  and  $0.3\text{m}^2$  respectively. A force of  $550\text{N}$  is required to lift a car with a mass of  $680\text{kg}$ . What is the efficiency of the press.

6. (a) Distinguish between:
  - (i) Distance and displacement
  - (ii) Speed and velocity
- (b) An object travelling at  $10\text{m/s}$  accelerates at  $4\text{m/s}^2$  for  $8\text{s}$ , calculate:
  - (i) Final velocity
  - (ii) How far does it travel for  $8\text{s}$
7. (a) State the ohms law
- (b) State the SI unit for:
  - (i) Voltage
  - (ii) Resistance
  - (iii) Current
- (c) Below is an electric circuit with  $3\text{V}$  supply

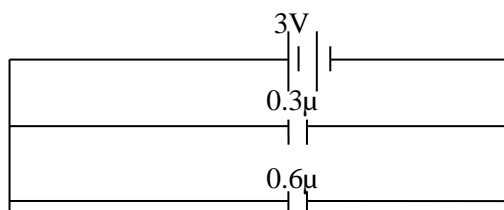


Calculate the current passing through the circuit

8. (a) What is sustainable source of energy
- (b) List five (5) sustainable source of energy
9. (a) What is
  - (i) Center of gravity
  - (ii) Centre of mass
- (b) State two factors that affect the stability of a body
- (c) Calculate the distance  $X$  in the diagram below



- 10 (a) What is capacitance
- (b) Determine the effective capacitance of the capacitor below



- (c) What is the value of the charges stored?