

THE UNITED REPUBLIC OF TANZANIA
THE PRESIDENT OFFICE REGIONAL ADMINISTRATION AND LOCAL
GOVERNMENT

DODOMA REGIONAL FORM TWO MOCK EXAMINATION

PHYSICS

CODE: 031

TIME 2:30 HRS

INSTRUCTIONS

1. This paper consists of section A, B and C
2. Answer ALL questions in all sections A, B and C in the space provided only.
3. Show your work clearly and systematically
4. Use the following constants
 Density of water 1000kg/m^3 or 1g/m^3
 Acceleration due to gravity 10N/Kg

FOR EXAMINERS' USE ONLY		
QUESTION NUMBER	SCORE	EXAMINER'S INITIAL
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		

SECTION A (30 MARKS)
Answer all Question in this section

1. Write the letter of the correct answer in the box provided for each of the item

- i. The area under the velocity time graph represent
 - A. Speed
 - B. Velocity
 - C. Distance
 - D. Displacement
- ii. Action and reaction are equal but acting in opposite direction represent
 - A. Newton's first law of motion
 - B. Newton's second law of motion
 - C. Newton's third law of motion
 - D. laws of friction
- iii. A force exerted by a pressure of 20N/m^2 acting over an Area of 2m^2 is...
 - a. 10N
 - b. 18N
 - c. 22N
 - d. 40N
- iv. Swelling of soaked beans in water is demonstration is
 - a. capillarity
 - b. Diffusion
 - c. Osmosis
 - d. viscosity
- v. The surest way of testing charge is
 - a. induction
 - b. attraction
 - c. repulsion
 - d. stroking
- vi. An instrument which is used to observe object around obstacles is called
 - a. microscope
 - b. periscope
 - c. plane glass
 - d. telescope
- vii. Ohm is the SI unit of
 - a. conductance
 - b. resistance
 - c. electric potential
 - d. Potential difference
- viii. One of the following is not pair of force
 - a. attraction and repulsion

- b. gravity and diffusion
 - c. torsional and gravity
 - d. upthrust and weight

- ix. A boy weighing 45kg climbs up a stair case to a height of 7M in 5seconds.
The amount of work done by the boy is...
 - a. 70J
 - b. 450J
 - c. 105J
 - d. 3150J

- x. The sun is an example of luminous body because it
 - a. is a big star
 - b. Is made by God
 - c. produces its own light
 - d. Its own light
- xi. A smell of rotten body can be felt by process of
 - a. Diffusion
 - b. Evaporation
 - c. osmosis
 - d. Transpiration
- xii. The following are the application of magnetism in daily life EXCEPT
 - a. banks made use of magnetic ink or parked
 - b. flour is passed near a magnet before being parked
 - c. magnet are used to separate sand from glass
 - d. VHS tapes are manufactured as a result of magnetism
- xiii. An object with low centre of gravity and wide base
 - a. neutral
 - b. stable
 - c. equilibrium
 - d. unstable
- xiv. Penumbra is
 - a. light shadow
 - b. partial shadow
 - c. moon
 - d. total shadow
- xv. (xv) A potential difference of 12V is applied across a resistor of resistance 24Ω . The current in a circuit is.....
 - a. 0. A
 - b. 2A
 - c. 0.2Ω
 - d. 28Ω

- xvi. When a bus is moving with constant velocity then its acceleration is
- Constant
 - Zero
 - minimum
 - maximum
- xvii. Best test for magnetized material is
- friction
 - hammering
 - repulsion
 - heating
- xviii. The SI unit of electric charge is
- ampere
 - coulomb
 - ohm
 - second
- xix. The material which allow electricity and heat to pass freely are termed as
- conductors
 - insulator
 - semiconductor
 - semi insulator
- xx. which of the following group of instruments is used to measure the basic fundamental quantities
- beam balance, stop watch, and vernier caliper
 - chemical change, stop watch and measuring cylinder
 - measuring cylinder, beam balance and metre rule
 - spring balance, stop watch and micrometer screw gauge

2. Match the items in List A with those in List B by writing a letter of a correct response below the corresponding item number in the table provided.

LIST A	LIST B
(i) Store charge	A. Repel B. Attract
(ii) $C = C_1 + C_2$	C. Capacitor in series D. Capacitor in parallel
(iii) Glass	E. Insulator F. Gold leaf
(iv) Similar charges	G. Capacitor
(v) Detect charges	I. Metal cap

Answer

Liat A	I	Ii	iii	iv	v
List B					

3. Complete each of the following statement by writing the correct answer in the space provide

- i) The quantity of space that an object occupies is knows as
- ii) Occur when a rate of change of displacement is constant
- iii) A physical quantity measured by using thermometer is referred to as
- iv) The turning effect of the force about the point is.....
- V) Angle between the magnetic and geographical meridians is called.....

SECTION B (50 marks)

Answer all question in this section

4 (a)(i) Archimedes principle state that

.....

(ii) Law of floatation state that

.....

(b)(i) Upthrust is

.....

(ii) Apparent weight is

.....

.....

(iii) Apparent loss in weight is

.....

 ...

(iv) Real weight is

.....

 ..

4 (c) A body has mass of 12N in air. When is immersed in water its weight is reduced by 4N.
 Calculate

(i) Apparent weight

.....

(ii) Relative density of the body

.....

(iii) Density of the Body

.....

5. (a) pressure is

.....

 .

(b) Pascal principle states that

.....

(c) Why is easier to cut meat by using sharp knife edge?

.....

(d) A rectangular object whose dimension are 1.4m by 0.1m by 0.2m has a density of 200kg/m^3 . Calculate their i) minimum pressure when placed on table

ii) maximum pressure when placed on table

6. (a) Three characteristics of the image formed by plane mirrors are

- (i).....
 (ii).....
 (iii).....

(b) The laws of reflection are

- (i).....
 (ii).....

(c) Five (5) Images are formed by two plane mirrors.

(i) Calculate the angle between two mirrors.

(ii) How many images formed when the two plane mirrors are set parallel to each other.

7 (a) The law of conservation of energy states that

.....

(i) Power

.....

(ii) Kinetic energy is

.....
 .

(iii) potential energy is

.....

(iv) Work done is

.....

(c) The body of mass of 20 kg is moving with a velocity of 4m/s.

Calculate the kinetic energy of the body.

(d) An object of mass 100kg is lifted to a height of 5m above the ground in 3seconds.

Calculate

(i) Work done

(ii) Power

8. (a) The two condition for a body to be in equilibrium are

(i)

(ii).....

(b) (i) centre of mass.....

(ii) centre of gravity

(c) A uniform metre rule is balanced horizontally on a knife edge placed 5cm from

B with a mass of 60g at B. Find the mass of the ruler.

SECTION C: (20 marks)

Answer all question in this section

9. (a) define the following terms

(i) Simple machine

.....

(ii) Mechanical advantages

.....

(iii) Velocity ration

.....

(iv)Efficiency of machine

.....

(b) The load of 600N moved a distance of 4m when lifted by an effort of 300N

when moved a distance of 10 cm. calculate

(i) Mechanical advantage.....

(ii) Velocity ratio

.....

(iii) Efficiency

.....

(c) Mention any two factors which affect the efficiency of machine

.....

.....

.....

.....

10. (a) Define the following terms

(i) Current

.....

.....

(ii) Potential difference

(iii) Resistance

.....

.....

(b) State Ohms law

.....

.....

.....

.....

.....

(c) two resistors of resistance 4 ohm and 6 ohm are arranged in

(i) parallel

(ii) series

Calculate the total current flowing if the resistors are connected in circuit with potential difference of 40 V in each case above.

