Candidate's Index No……

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATIVE AND LOCAL GOVERNMENT
KIBAHA DISTRICT COUNCIL
FORM TWO MOCK EXAMINATION
SUBJECT: PHYSICS

TAHOSSA
KIBAHA DC

CODE: 031
TIME: 2:30 HOURS FRIDAY, 02nd OCTOBER, 2020

INSTRUCTIONS

1. This paper consists of sections A, B and C.
2. Answer all questions
3. All answer must written in the space provided
4. Write your examinations number on every page of the examination
5. Where necessary use the following constants
    - Density of water = 1g/cm^3 or 1000 kg/m^3
    - Acceleration due to gravity g= 10 m

FOR EXAMINER'S USE ONLY			
QUESTION NUMBER	PUT TICK	EXAMINER USE ONLY	
1.		MARKS	SIGNATURE
2.			
3.			
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6.			
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9.			
10.			
TOTAL			
Checker's initials			

SECTION A (30 MARKS)

1. For each of the items (i-xx) choose the most correct answer among the given alternatives and write its letter in the space provided.

(i) The following instruments are used to measure length except

(a) Meter rule

(b) Eureka can ( )

(c) Vernier caliper

(d) Micrometer screw gauge

(ii) When a body floats on a liquid its

(a) Weight is greater than upthrust ( )

(b) Weight is equal to upthrust

(c) Weight is less than upthrust

(d) Volume is greater than the volume of the liquid displaced

(iii) The irregular motion of tiny particles suspended in a fluid is called

(a) Mobility

(b) Brownian motion

(c) Kinetic motion ( )

(d) Random motion

(iv) What is the change of momentum when a force of 150N act on a body for 0.02sec

(a) 3kgm/s

(b) 7500kgm/s

(c) 75kgm/s ( )

(d) 300kgm/s

(v) For safe diving, which factor among the following will you consider?

(a) Area of water

(b) Volume of water

(c) Depth of water ( )

(d) Mass of water above you

(vi) One of the laws of reflection can be stated as follows

(a) The angle of incidence and angle of refraction are equal.
(b) The angle if incidence and the angle of reflection are equal and opposite to the normal.
(c) Angle of incidence is equal to the angle of reflection.

(d) Incident ray, reflected ray and the normal line all lies in the same plane

(vii) A branch of science in which relationship between matter and energy are studied is?

(a) Biology

(b) Chemistry ( )

(c) Astronomy

(d) Physics

(viii) The temperature of 100^0F is equal to

(a) 33.3^0C

(b) 37.8^0C ( )

(c) 47.8^0C

(d) 73.7^0C

(ix) Pond skater and mosquito are able to walk on the surface of water because of the

(a) Upthrust

(b) Plasticity of the surface

(c) Surface tension of water ( )

(d) Light weight

(x) Electric current is produced by flow of

(a) Electrons

(b) Protons

(c) Neutrons ( )

(d) Particles

(xi) The similarity between velocity and speed lies in their

(a) Units being the same

(b) Direction of travel ( )

(c) Magnitude of the same

(d) Covered distance being in the same direction

(xii) A stone of mass of 500g is lifted through a height of 2M. the work done on the stone is

(a) 40J

(b) 10J

(c) 10000J ( )

(d) 70J

(xiii) Mwamposa wants to identify polarity of charges. Which instrument would you advise him to use?

(a) Ammeter
(b) Charge meter ( )
(c) Electroscope
(d) Voltmeter

(xiv) A lever which has its fulcrum between a load and effort is

(a) First class
(b) No class ( )
(c) Third class
(d) Second class

(xv) To view solar eclipse which material is best for covering your eyes?

(a) Transparent
(b) Opaque ( )
(c) Glass
(d) Translucent

(xvi) A point at which all weight of a body acts is called

(a) Gravitational centre
(b) Centre of weight ( )
(c) Centre of gravity
(d) Centre of mass

(xvii) The turning effect of a force about a point is called

(a) Turning force
(b) Centre of gravity ( )
(c) Principle of moment
(d) Moment of force

(xviii) Potential difference of 24volts is applied across a resistor of resistance 12Ω. The current flowing through the circuit is

(a) 0.5A
(b) 1.5A ( )
(c) 288A
(d) 2A

(xix) The following are forms of energy

(a) Chemical and sound

(b) Joule and sound ( )

(c) Nuclear and joule

(d) Heat and calorie

(xx) The ability of a material to regain its original size after removal of an applied force

(a) Plasticity

(b) Elastic limit ( )

(c) Elasticity

(d) Stretched material

i	ii	iii	iv	v	vi	vii	viii	Ix	x	xi	xii	xiii	xiv	xv	xvi	xvii	xviii	xix	xx

2. Match the items in list A with responses in list B by writing the letter of a correct response beside the items number in the table provided.

List A	List B
i) Total dark shadow	a) Electromotive force
ii) Spring balance	b) Potential difference
iii) The energy which drives an charges through a conductor or resistor	c) Penumbra
	d) Umbra
iv) The type of electric circuit in which the switch is not connect and therefore there is no flow of current	e) Measures force of gravity
	f) Measures mass
	g) Open circuit
	h) dead circuit
v) Its connected in series with other electrical components in the circuit	i) ammeter
	j) galvanometer
	k) voltmeter

List A	I	ii	iii	iv	v
List B					

3. Complete the following by writing the correct answers in the space provided

(i) An attractive force between molecules of honey and container is known as……..

(ii) ……..... image formed when two mirrors are set parallel to each other.

(iii) During ……. Both momentum are conserved

(iv) Movement of electrons to the ground …….

(v) The tendency of oil to rise through a wick of a lump is known as ……

SECTION B (50 MARKS)

4. (a) Though fossil fuels are widely used, they are not sustainable. Give two reasons

i. ……. …….

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ii. ……

(b) What are the two benefits and drawbacks of hydroelectric energy?

i. ……
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ii. ……...
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(c) Give two criteria for identifying electromagnetic force

i. ……
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ii. ……
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(e) With example- briefly explain Torsional force

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5. (a) Differentiate real weight from apparent weight

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(b) A solid weighs 36N in air and 6N when totally immersed in kerosene of density 0.8g/cm^3. Calculate, weight of the fluid displaced.

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(c) State the law that enables objects to float in liquids

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6. (a) (i) explain why atmospheric pressure cannot break windows

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(ii) Explain why a person feels pain when walks bare footed on the pebble road?

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……. ……
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(b) Mention two devices that utilize Pascal's principle

i. ……
ii. ……

(c) A hydraulic press has a larger circular piston of diameter 0.7m and plunger piston of diameter of 0.21m, a force of 300N is exerted on the plunger. Find the force required to lift the heavy load.

7. (a) Define the terms

(i) Capacitor ……..
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(ii) Farad ……. ……
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(b) A capacitor with a capacitance of 50μF is charged to 30volt. What is the charge on its plates?

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(c) Determine the effective resistance obtained when three resistors each of 2Ω are connected

(i) Series

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(ii) Parallel

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8. (a) what do you understand by the following terms

(i) Mechanical advantage ……. ……
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(ii) Velocity ratio. …….
…… ……

(b) A load of 500N is raised through 5m by a machine where its effort E moves simultaneously through a distance of 25m. If the machine has efficiency of 80%, calculate the effort of the machine.

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SECTION C (20 MARKS)

9. (a) give the two conditions for work to be done

i. ……..
ii. …….

(b) A 2kg object is at rest on a table 1.2m above the floor. The ceiling in the room is 2.8m above the floor. Calculate the work done in lifting the object to the ceiling.

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(c) Give two conditions you will consider in constructing a stable tower.

i. ……
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ii. ……
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10. (a) State the law of inertia

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(b) What are the applications of momentum and impulse in daily life?

(i)……

(ii)……

(c) A driver jumps from a plane on an air cushion with a speed of 12m/s. the average force of the cushion on the body while he is being stopped is 940N. If his mass is 70kg, calculate the distance he will sink in the cushion.

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