PHYSICS FORM TWO ZANZIBAR 2016.

Solutions from: Maktaba by TETEA

by Yohana Lozaro

1.

i	ii	iii	iv	v	vi	vii	viii	ix	x
B	D	A	A	A	B	D	D	B	A

2.

i	ii	iii	iv	v	vi	vii	viii	ix	x
C	A	J	K	D	H	E	B	F	G

3. (i)diffusion process

(ii)Adhesive force

(iii)Total weight of the boby immersed

(iv)of mater beam balance

(v)luminous objects

(vi)constant or does not change.

(vii)Second

(viii)centre of gravity of the body

(ix)gold leaf electroscope

(x)Net force

4. (a)(i)Sinking is the tendency of body to move inside the water

(ii)Floating is the tendency of the body to remain above the water surface.

(b)It is due to the upward force that opposes the body in water acting upward against the body.

(c)(i)Apparent loss = 30 – 12 = 18 N

(ii) volume displaced = apparent weight loss

= 18N /10 N/kg

= 1.8 kg

Since density of water = 1000 kg/m^3

Volume = mass/density

= 1.8/1000

Volume of displaced water is 0.0018 m^3

5. (a)Forceis the pull or push of the body. SI unit is NEWTON

(b)Stretching force is the force that tends to increse the length of the body, while restoring force is the force exerted by the stretched body to gain its original position.

(c) (i)weight = mass x g

= 200 kg x 10 N/ kg

=2000 N

(ii)force = mass x acceleration

1000 = 200 x acceleration

Acceleration = 5 m/s^2

6. (a)Moment of force is the product of force and its distance from the point of action of that force.

(b)-sum of forces acting upward must be equal to sum of forces acting downward.

-sum of clockwise moments must be equal to sum of anticlockwise moments.

(c)The see-saw will not balance because all the forces acting on the same side of the pivot.

7. (a)Laws of reflection states that

- The angle of incident equals to angle of reflection
- The incident ray,reflected ray and the normal all acts on the same plane.

(b)Properties of image on plane mirror

- ✓ Its distance from the mirror equals to that of the object from the mirror
- ✓ The same in size as the body
- ✓ It is lateral inverted

(c)FROM,

Number of image = 360^0/angle -1

N= 360/6 -1

= 5 images

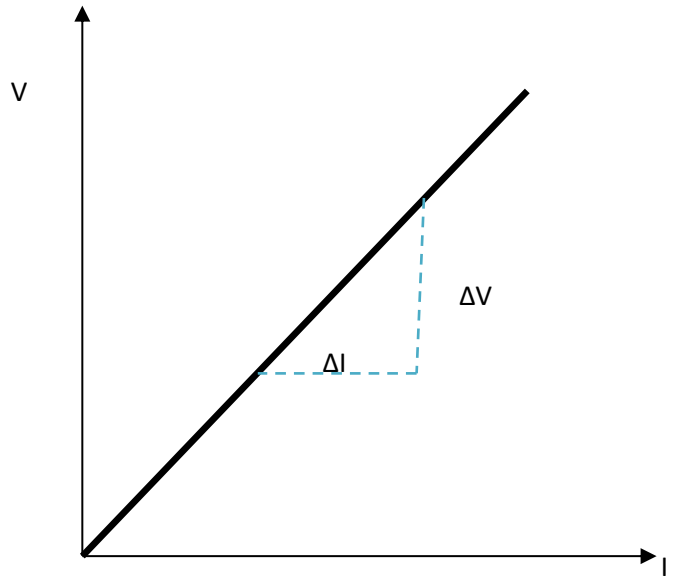
8. (a)Basic law of magnetism states that “like poles repel, unlike poles attract”

(b)-Magnetic material are the materials that can be magnetized easily, for example nickel and cobalt.

-Non magnetic materials material are the materials that cannot be magnetized easily. For example wood, papers.

(c)By placing the magnet with another magnet with North pole.If the two magnets will repel, then the unkwonm pole will be North pole;.

9.



The law is ohms law.

(b)(**I**)A –main scale

B – vernier scale.

(i)main scale reading 4.30 cm

Vernier scale reading 0.05 cm

Total reading = 4.35 cm

(ii)Vernier caliper

II.

(i)Clinical thermometer

(ii)30^0 C

10.(a)(i)By placing electric motor in the water falls.

(ii)By placing the wind mills in the localized area.

(b)Solar energy is used in lighting, charging,used by solar pannels.

-Solar energy is used to power radio and TV stations. It is also used to supply power to lighthouse and warning light for aircraft. Solar energy can be used for power generation in remotely situated places like schools, homes, clinics and buildings. Water pumps run on solar energy in remote areas.

11. **In its most basic form, a bicycle pump functions via a hand-operated piston. During up-stroke, this piston draws air through a one-way valve into the pump from outside. During down-stroke, the piston then displaces air from the pump into the bicycle tire**