PHYSICS

2019 TERM 2 EXAM

Form 1

MARKING SCHEME

PHYSICS

1. Physics is the study of matter and its relation to energy.

2. a) Mechanics involves study of motion of bodies under the influence of forces.

b) Atomic physics involves the study of the behaviour of particles constituting the nucleus and accompanying energy changes.

c) Geometrical optics is the behaviour of light as it trasverses various media.

d) Waves deals with propagation of energy through space.

3. a) Construction of instruments used in geography and also various concepts studied in physics e.g heat transfer.

b) Design and manufacture of some kitchen equipments

4. Handle electrical apparatus with dry hands

- Never plug in foreign objects into electrical sockets.

- Ensure that all electrical switches are turned off when not in use.

5. a) First stop the bleeding then dress up the woud.

b) Wash off the eye with a lot of cold water immediately.

c) Run cold water fast over the hand.

d) Put off the main switch.

6. a) Basic physical quantities can not be obtained from any other physical quantities but derived quantities Are obtained by multiplying or dividing basic physical quantities.

b) Area, volume, density.

c)

Basic physical quantity	**SI Unit**	**Symbol of unit.**
Electrical current	Amphere	A
Luminous intensity	Candela	Cd
Time	Second	s
Amount of substance	Mole	mol
Mass	kilogram	kg

7. $d = \frac{m}{V} = \frac{1080}{(3x4x3)} = \frac{1080}{36} = 30g/cm^3$

$30 \times 1000 = 30,000kg/m^3$

8. 5.50kg
9. p_1 = 6.90 cm

   P_2 = 7.50 cm

   P_3 = 8.00 cm

   P_4 = 8.50 cm or 8.60 cm

   P_5 = 8.80 cm

10. a) A pull or a push

       Newton

b) Makes a stationary body start moving
   Slow down or stop a moving body
   Change direction of a moving body
   Change shape of a body.

11. Glycerine is more viscous than water hence the ball bearing in water falls faster than in glycerine.

12. In figure (a) the cohesive forces between water molecules are stronger than adhesive force between water and glass Molecules.

    In figure (b) the Adhesive forces between water and glass molecules are greater than cohesive forces between water molecules

13. Impunities
    Increase in temperature.

14. 120 - 70 = 50N

15. Acceleration due to gravity changes from place to place away from the earth.

16. a) Force acting normally per unit area

    - Newton per square metre or pascal

b) Density and depth of the liquid.

17. a) F = 5 x 10 = 50N

$$P_{max} = \frac{F}{A_{min}} = \frac{50}{0.1 \times 0.02} = 25{,}000 \text{ pa}$$

b) $$P_{min} = \frac{F}{A_{max}} = \frac{50}{0.2 \times 0.1} = 2500 \text{ pa}$$

18. a) There will be no change in flow

b) $h_1 \rho g = h_2 \rho g$

$8 \times 1.8 \times 10 = h_2 \times 10 \times 0.8$

$h_2 = \frac{8 \times 1.8 \times 10}{10 \times 0.8} = 18$ cm

C) $P = \rho gh$

$= 13600 \times 10 \times 0.76$

$= 103{,}360 n/m^2$

19. a) $70 - 20 = 50g$

b) $55 - 20 = 35$ g

c) $V = \frac{m}{\rho} = \frac{50}{l} = cm^3$

d) ρ liquid $= \frac{m}{v} = \frac{35}{50} = 0.7\ g/cm^3$