FORM 1 PHYSICS
APRIL HOLIDAY ASSIGNMENT - 2024

1. Explain 4 injuries that can happen in the laboratory and the immediate action that should be taken in each case.

2. Differentiate between physical quantities and derived quantities.

3. List the seven basic physical quantities, their SI units and their symbols.

4. What is the difference between Area and volume?

5. Explain how to measure the circumference of a cylinder using a thread.

6. Convert each of the following into the units in brackets.

     a. $9000cm^3$ (M^3)

     b. 0.000953 ($mm^{3)}$)

     c. $285m^3$ (dm^3)

7. Find the volume of a cylinder measuring 7cm in radius and 10cm in height.

8. Describe an experiment on how to measure the volume of an irregular shaped object.

9. Differentiate between mass and density.

10. A rectangular tank measures 20m by 6m and 5m. Calculate the mass of liquid in the full tank, (density of the liquid is $0.87g/cm^3$).

11. The mass of an empty density bottle is 20grams. When filled with liquid X of density $1875kg/m^3$ its mass increases to 70grams. When it's filled by another liquid Y its mass changed to 89 grams. Find the density of liquid Y.

12. Liquid B of density $1800kg/m^3$ and volume $2000cm^3$ is mixed with another liquid D of density $1200kg/m^3$ of volume $160cm^3$. Find the density of the mixture.

13. What is force?

   Explain 6 types of forces.

14. a. What is surface tension? Explain two factors affecting surface tension.

    b. Highlight the consequences of surface tension.

15. Explain the following occurrences.

    a. A steel needle placed carefully on surface of the water does not sink.

    b. When a small drop of detergent is placed on water the needle moves away from it and sinks when more detergent is added.

c. When it's raining it is advisable not to touch a canvas lens from the inside.

d. Water wets cleans surfaces of glass but not waxed ones.

16. Show diagrammatically how the forces of 7N and 9N can be combined to give a resultant force of

a. 16N

b. 2N