**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ADM NO: \_\_\_\_\_\_\_\_\_\_\_\_CLASS:\_\_\_\_\_\_\_\_\_\_**

**DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SIGN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**FORM ONE**

**PHYSICS**

**MARKING SCHEME**

**MID-TERM EXAM**

**TERM 1, 2024**

**INSTRUCTIONS: (ANSWER ALL QUESTIONS) TIME: (1HR 30MIN)**

1. Define physics (2mks)

 It’s the study of matter in relation to energy.

2. Explain the relationship between the following subjects and physics

 Agriculture- Farm machinery used in agriculture are made of using physics concerts. (2mks)

 History – Carbon dating a concept used in determining the age of fossils is a physics concept which incorporates radio activity. (2mks) ½

 English – Physics is expressed in English language. (2mks)

3. State four rules to be observed in a physics laboratory. (4mks)

 a. All switches and socket are supposed to be left switched off.

 b. No running in the laboratory.

 c. Glass should be handled with a lot of care

 d. Every student should be well dressed

 e. Windows should be open especially when dealing with fumes in the laboratory

4. Explain, What is area? (1mk)

 This is the quantity of surface covered by matter

b. Find the area of triangle with a base of 10cm and height of 8cm.

 = ½bh

 = ½ x 10 x 8

 = 32cm2

5.  What is volume?

 This is the amount of space occupied by the matter. (1mk)

1. Change the following into M3  (2mks)
2. 9000cm3 - 0.009m3
3. 27cm3 – 0.000027m3

7. a. Define the term mass and state its SI unit. (2mks)

 Mass is the quantity of matter of an object. The SI unit is Kgs.

 b. Correct each of the following into Kgs

 i. 10 tones = 10 x 1000 = 10000 kgs

 ii. 256 000 = 256 000 ÷ 1000 = 256 kgs

8. Explain what density is and state its SI unit. (2mks)

 It’s the mass per unit volume of a substance. Its SI unit is kgs/m3

 b. The density of a material is 22.5g/cm3. Express this in SI unit.

 22.5g/cm x 1000

 = 22500kg/m3

9. A rectangular tank measures 12.5m long, 10.0m wide and 2.0m high. Calculate the mass of the water in the tank when it’s full. If the density of water is 1000kg/m3. (5mks)

 Volume = 12.5 x 10 x 2 = 250m3

 Mass = Density x volume

 1000 x 250

 = 2560 000kgs

10. The mass of an empty density bottle is 20grams. Its mass when filled with water is 40.0grams and 50.0grams when filled with liquid X. Calculate the density of liquid X if the density of water is 1000kgs/Ms. (7mks)

 Mass of water = 40.0 – 20.0g = 20.0g

 20/1000 = 0.02kgs

 Volume of water = 0.02/1000 = 0.000002m3

 Volume of bottle = 0.000002m3

 Liquid mass = 500 – 20g

 = 30grams

 0.03grams

 Density = 0.03/0.000002

 = 1500kg/m3

11. Explain force and state its SI unit. (2mks)

 Force is pull or push. Its SI units is Newton’s (N)

b. State and explain three forms of 4 types of forces (8mks)

i. Cohesive force – Force of alleviation between similar molecules.

ii. Adhesive force – force of alleviation between molecules of different kinds.

iii. Magnetic force – Force causing attraction or repulsion.

iv. Centripetal force -