NAME………………………………………………… ADM NO……………….

CLASS…………….

PHYSICS

FORM ONE

TERM 1 2023

Physics

2 HRS

<u>**INSTRUCTIONS TO CANDIDATES**</u>

   I.   Answer all questions.

  II.   All answers should be written in the space provided in this booklet.

 III.   Show all you working

1. Explain briefly the first aid measure that should be taken in case of   (2 marks)

a) Cut

b) Poisoning

2. Define physics.   (2 marks)

3. State any five branches of physics   (5 marks)

4. State any five career opportunities in physics   (5 marks)

5. State any five laboratory safety rules   (5 marks)

6. Name any 4 items contained in the first Aid kit found in the laboratory   (4 marks)

7. Briefly explain how physics is related to biology   (2 marks)

8. State any three effects of a force   (3 marks)

9. Describe the method you would use to measure the circumference of a cylinder using a thread and a

   meter rule   (4 marks)

10. A sphere of diameter 3.0 cm is mounted into a thin uniform wire of diameter 0.2mm calculate the length

    of the wire in meters   (4 marks)

11. State any three differences between mass and weight   (3 marks)

Mass	Weight
I.	
II.	
III.	

12. The mass of 25cm^3 of ivory was found to be 0.045kg. Calculate the density of ivory in SI units

(3 marks)

13. 300 cm^3 of fresh water of density 1000kg/m^3 is mixed with 100cm^3 of sea water density

1030kg/m^3.calculate the density of mixture   (4 marks)

14. Explain how you would measure the volume of irregularly shaped object using the displacement

method.   (3 marks)

15. Distinguish between a fundamental and derived quantity giving an example of each

(4 marks)

16. Define force and state its SI unit (2 marks)

17. State any 4 types of force (4 marks)

18. Distinguish between a scalar and vector quantity giving an example of each (4 marks)

19. State any 3 applications of capillary action (3 marks)

20. State any two factors affecting the surface tension   (2 marks)

21. A man has a mass of 70kg. Calculate

a) His weight on earth where the gravitational strength is 10 N/kg   (2 marks)

b) His weight on moon where the gravitational strength is 1.7 N/kg   (2 marks)

22. Explain briefly why water wets the glass while mercury does not   (2 marks)

23. Complete the table below   (7 marks)

	Fundermental quality	SI UNIT	SYMBOL
1		meter	M
2	Mass		kg
3	Time		

4			A
5		Kelvin	K

24. Differentiate between cohesive and adhesive forces   (2 marks)

25. A body weighs 400N in water. If the up thrust force is 20N.calculate its weight in air

(2 marks)

26. Explain briefly why a razor blade floats in water and when soap solution is carefully added to the water

it sinks   (3 marks)

27. Explain the following behavior of molecules.

   a) When it is raining it is advisable not to touch a canvas tent from inside

(2 marks)

   b) Water rises up in harrow tubes but Mercury which is also a liquid falls in narrow tubes to level

below the outside surface?   (2 marks)

28. A eureka can of mass 100g and cross-sectional area $100cm^2$ is filled with water of density $1g/cm^3$. A piece of metal of mass 20g and density $8g/cm^3$ is lowered carefully into the can as shown
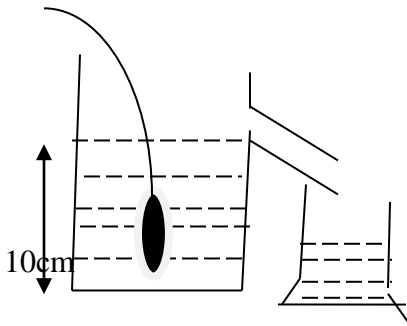
Calculate

a) The total mass of water and Eureka can before the metal was lowered   (3 marks)

b) The volume of water that overflowed   (2 marks)

c) The final mass Eureka can and its content   (3 marks)