**GITHUMU HIGH SCHOOL**

**2024 FORM 1 PHYSICS AUGUST HOLIDAY ASSIGNMENT**

1. Define current and state its SI units. (2 mks)

2. In a hydraulic press, a force of 200N is applied to a master piston of area 25cm3 . If the press is designed to produce a force of 5000N, determine;

(a) The area of the slave piston (2mks)

(b) The radius of the slave piston (2mks

3. A steel needle when placed carefully on water can float. When detergent is added to the water it sinks. Explain (2mks)

4. Water is known to boil at 1000C. A student heated some water and noticed that it boiled at 1010C. State two possible reasons for this observation (2mks)

5. Explain the cause of random motion of smoke particles as observed in Brown Motion experiment using a smoke cell (3mks)

6. Name two types of forces that act between bodies not in contact. (2mks)

7. Convert the each of the following temperatures into Kelvin . (2 mks)

a) 25 0c

b) -123 0c

8. Calculate the maximum pressure a glass block of density 2.5gcm-3 would exert on a horizontal surface, if the block measures 20cm x 10cm x 5cm. (3mks)

9. Give a reason why fish can survive under water in a pond even when the surface is frozen. (1mk)

10. Give one advantage of alcohol over mercury as a thermometric liquid. (1mk)

11. An object weighs 49N on earth where acceleration due to gravity is 9.8N/kg. Find the acceleration due to gravity on another planet where the same object weighs 40.5N. (2 mks) 12.Give a reason why boiling water cannot be used to sterilize a clinical thermometer. (1mk

13. State four factors that affect thermal conductivity. (4mks)

14. It is easier to detect a bad smell from a gaseous substance than a solid substance. Explain