**Name: ………………………………………………. Adm. No ……Class…………**

**MUKINDURI SECONDARY SCHOOL**

PHYSICS FORM ONE

MID TERM II 2017

TIME: 2 HOURS

**INSTRUCTIONS TO CANDIDATES**

1. Write your **NAME, ADMISSION NUMBER** and **CLASS** in the space provided above.
2. Answer **ALL** the questions in the spaces provided.
3. **ALL** working **MUST** be clearly shown
4. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
5. Candidates should answer questions in **ENGLISH .**
6. Calculators **SHOULD NOT** be used

KNEC Mathematical tables may be used where necessary.

Where necessary, take

g = 10N/kg

Density of water = 1000kg/m3

1. Name three physical quantities and their SI units. (6mks)
2. Name the instruments you would use to measure each of the following:
3. The length of a football field. (1mk)
4. The height of a 20 litre jerrican (1mk)
5. The circumference of your waist. (1mk)
6. A cylinder has a diameter of 4.2cm. How many times would a thread of 132cm be wound around the cylinder ? (3mks)
7. A page of a book measures 14.5cm x 21.4 cm. What is its area in square millimetres ? (3mks)
8. Define density and state its SI units. (2mks)
9. The water level in a burette is 30cm3. If 55 drops of water fall from the burette and the average volume of one drop is 0.12cm3, what is the final water level in the burette ? (3mks)
10. A cube of iron of side 4cm has a mass of 512g. Find:
11. The volume of the cube in m3 (3mks)
12. The density of iron in kgm-3 (3mks)
13. What is pressure ? State its SI unit. (2mks)
14. Explain the action of drinking straw. (3mks)
15. Using the crashing can experiment, explain using a diagram the existence of atmospheric pressure (5mks)
16. The diagram below shows a mercury manometer. Some dry gas is present in the closed space in limb A, while limb B is open. If atmospheric pressure Pa = 103 000 pa, h = 30mm and density of mercury is 13 600kgm-3. Determine pressure Pg of the gas. (Take g = 10Nkg-1) (4mks)
17. The figure below shows a simple hydrauric press used to compress a bale. The cross-section areas of A and B are 0.002m2 and 0.30m2 respectively:



1. Pressure exerted on the oil by the force applied at A. (3mks)
2. Pressure exerted on B by the oil. (2mks)
3. Force produced on B compressing the bale. (3mks)
4. A sea diver is 35m below the surface of sea water. If the density of the sea water is 1.03gcm-3 and g is 10N/kg. Determine the total pressure on him.

(Atmospheric pressure = 103 000Nm-2) (3mks)

1. A brick 20cm long, 10cm wide and 5cm thick has a mass of 500g. Determine the:
2. Greatest pressure that can be exerted by the brick on a flat surface. (3mks)
3. Least pressure that can be exerted by the brick on a flat surface. (Take g = 10N/kg) (3mks)
4. Define matter and give the three states of matter. (4mks)
5. Explain why the density of a gas is much less than that of a solid or liquid. (2mks)
6. Explain the following:
7. It is possible to compress gases but not solids and liquids. (2mks)
8. A perfume sprayed at one corner of a room spreads quickly to the entire room. (2mks).
9. Define force and give its SI units. (2mks)
10. When water is poured on a dry glass slab it spreads uniformly but it forms spherical droplets on a waxed glass slab. Explain. (4mks)
11. A man has a mass of 70kg. Determine
12. His weight on earth, where the gravitational field strength is 10N/kg. (3mks)
13. His weight on the moon, where the gravitational field strength is 1.7N/kg. (3mks)
14. A mass of 7.5kg has weight of 30N on a certain planet. Calculate the acceleration due to gravity on this planet. (3mks)