**NAME --------------------------------------- CLASS --------------------------------------ADM NO ------------------**

**PHYSICS FORM 1 END OF TERM 3 2013 EXAM TIME: 2HRS**

**ANSWER ALL QUESTIONS**

**SECTION A (40 MKS)**

1. State three fundamental quantities and their S.I units. 3mks
2. Express the following in millimeters 6mks
3. 2.7 m
4. 96.9 cm
5. 25 km
6. A cylinder has a diameter of 2.1 cm. how many times would a thread of 132 cm go round the cylinder? 3mks
7. A block of iron has dimensions 4.2 cm × 3.4 cm ×5.0 cm. it has a mass of 535.5 g. calculate
8. Volume of the block in mm3 2mks
9. Density of the block in g/cm3 2mks
10. A tin lead alloy has a mass of 25.5 g and a volume of 3 cm3. Calculate the mass of tin in the alloy.(density is 7.3 g/cm3 and that of lead is 11.3g/cm3. 4mks
11. Calculate the weight of the following 4mks

(take g =10n/kg)

1. 300g mass of water
2. 0.05 mg mass of wool
3. Find the resultant of the following forces 4mks
4. 150N due East and 200N due west



1. 450N due North and 1000N due south



1. Give scientific reasons for the following statements
2. Water wets glass 1mk
3. Mercury meniscus is convex 1mk
4. Gravitational pull of the moon is 1/6 of that due to earth. Calculate the weight of a body whose mass is 40kg on
5. Moon’s surface
6. The earth surface (take g= 10N /kg)
7. Give four differences between mass and weight 4mks

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| --- | --- |
| mass | Weight |
|  |  |
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1. A concrete slab of 101.5kg is held by a steel cable of crane as shown below



1. On the diagram above, mark and name the force acting on the slab 1mk
2. Find the tension in the cable 1mk

**section B☹40MKS☺**

1. 12 (a) Define pressure and state its S.I unit 2mks
2. Sinking of tyres of a car into soft damp sand patch may be prevented by letting off some air in each tyre. Explain 2mks
3. Calculate the pressure at the bottom of a beaker when it is filled to a height of 12.5 cm. take density of water as 1 g/cm3 and g =10N /kg. 2mks
4. A block of iron measures 6cm ×8cm×1cm. it has a mass of 360g. calculate
5. Its density 2mks
6. The greatest pressure it can exert on a flat horizontal surface. 2mks

13.

1. The figure below shows a lift pump



 Explain why, when the piston is;

1. Pulled upwards, valve A opens while B closes 2mks
2. Pushed downwards, valve A close while valve B opens 2mks
3. After several strokes, water rises above the piston as shown below



State how water is removed from the cylinder through the spout 1mk

1. A lift pump can lift water to a maximum height of 10m. determine the maximum height to which the pump can raise paraffin.(take density of paraffin as 800kgm-3 and density and density of water as 1000kgm-3) 3mks
2. State two factors that determines the height to which a force pump can lift water. 2mks.
3. The diagram shows a light container containing two liquids. Water and paraffin.(take density of paraffin =0.8g/cm3). The container rests on a table.
4. What is the liquid pressure at point A? 2mks
5. What is the liquid pressure at B due to water? 3mks
6. Find the total pressure exerted on the table 3mks

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| WORK TO BE DONE | TYPES OF FORCE |
|  | Centripetal force |
| Swimming |  |
|  | Gravitational attraction between the earth and the moon |
| Separate sand from iron fillings |  |

1.
2. State the kinetic theory of matter 1mk
3. The diagram shows how hydrogen gas was passed to the porous pot connect via a delivery tube to beaker containing water.
4. What would happen when hydrogen has been passed for some time. 1mk
5. Explain your answer 2mks
6. What will happen when the gas jar is removed? 1mk
7. Explain (c ) above 2mks