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**Admission number: 8551……………**

**Class: 1g………………………………….**

**Physics,**

form 1

TERM 1

**Physics**

PAPER 1

2 HOURS

**INSTRUCTIONS TO CANDIDATES**

1. Answer all questions.
2. All answers should be written in the space provided in this booklet.
3. Show all you working
4. Explain briefly the first aid measure that should be taken incase of(2mk)
5. Cut
6. Poisoning
7. Define physics.(2mk)

Is the study of forces,energy and matter that makes up the universe and everything in it.

1. State any five branches of physics(5mk)

1.waves

2.sound

3.light

4.electricity and magnetism

5.atomic and nuclear physics

1. State any five career opportunity in physics (5mk)

1.engineering

2geology.

3.astronomist

4.surveying.

5.meteorology

1. State any five laboratory safety rules (5mk)

1.do not run in the laboratory because you may skip and injure yourself.

2.do not smell laboratory gas.

3.always consult a teacher before doing any experiement.

4.do not taste any chemical in the laboratory.

5.incase of a fire in the laboratory,walk calmly outside.

1. Name any 4 items contained in the first Aid kit found in the laboratory(4mk)
2. Briefly explain how physics is related to biology(2mk)

Physics explain more in living organisms.

1. State any three effects of a force (3mk)

*1.Stops a moving object*

2.starts a motion

3.change the direction of a moving object

1. Describe the method you would use to measure the cicrumfrence of a cylinder using a thread and a meter rule(4mk)
2. 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(4mk)
3. State any three differences between mass and weight(3mk)

|  |  |
| --- | --- |
| Mass | weight |
| 1. Quantity of an object | *Pull of gravity in a body* |
| 1. Measured in kilograms | Measured in newton |
| 1. Magnitude only | Magnitude and direction |

1. The mass of 25cm3 of ivory was found to be 0.045kg. Calaculate the density of ivory in SI units (3mk)
2. 300 cm3 of fresh water of density 1000kg/m3 is mixed with 100cm3 of sea water density 1030kg/m3.calculate the density of mixture (4mk)
3. Explain how you would measure the volume of irregularly shaped object using the displacement method. (3mk)
4. Distinguish between a fundamental and derived quantity giving an example of each (4mk)
5. Define force and state its SI unit (2mk)

Force is pull or push and its si unit is newton

1. State any 4 types of force (4mk)

1.adhesive and cohesive force

2.centripental force

3.surface tension force

4.friction force

1. Distinguish between a scalar and vector quantity giving an example of each (4mk)
2. State any 3 applications of capillary action (3mk)
3. State any two factors affecting the surface tension (2mk)

1.impurities

2.temperature

1. A man has a mass of 70kg. Calculate
2. His weight on earth where the gravitational strength is 10 N/kg (2mk)
3. His weight on moon where the gravitational strength is 1.7 N/kg (2mk)
4. Explain briefly why water wets the glass while mercury does not(2mk)
5. Complete the table below(7mk)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Fundermental quality | SI UNIT | SYMBOL |
| 1 | kilometer | meter | M |
| 2 | Mass | kilogram | kg |
| 3 | Time | second | s |
| 4 | Electric current | ampere | A |
| 5 | temperature | Kelvin | K |

1. Differentiate between cohesive and adhesive forces (2mk)

*Cohesive force is force of attraction between molecules of the same kind*

*Adhesive force is force of attraction between molecules of different*

1. A body weighs 400N in water. If the up thrust force is 20N.calculate its weight in air (2mk)
2. Explain briefly why a razor blade floats in water and when soap solution is carefully added to the water it sinks (3mk)
3. Explain the following behavior of molecules.
4. When it is raining it is advisable not to touch a canvas tent from inside (2mk)
5. Water rises up in harrow tubes but Mercury which is also a liquid falls in a narrow tubes to level below the outside surface ?(2mk)
6. A eureka can of mass 100g and cross-sectional area 100cm2 is filled with water of density 1g/cm3.A piece of metal of mass 20g and density 8g/cm3 is lowered carefully into the can as shown

10cm

Calculate

1. The total mass of water and Eureka can before the metal was lowered (3mk)
2. The volume of water that overflowed (2mk)
3. The final mass Eureka can and its content (3mk)