**LAB 1 – Buoyancy Name: …………………….…………**

Aim: To be able to determine the upthrust of a submerged object and compare with the value predicted by Archimedes’ Principle. *The buoyancy force (upthrust) = weight of water displaced.*



Method (part 1):

1. Suspend an object from a newton meter (spring scale) and record the reading.
2. Submerge the object in water and again record the newton meter reading.
3. Record the volume of the object.
4. Repeat for a range of materials.

Data (3 marks)

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| **Sample** | **Weight, *mg*****(N)** | **Volume, *V*****(cm3)** | **Density, ρ****(g/cm3)** | **Measured upthrust, *FB’*****(N)** | **Predicted upthrust, *FB*****(N)** |
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| Conclusion and Evaluation:(3 marks) |

Method (part 2):

1. Carefully measure the dimensions of a block of wood.
2. Weigh the wood on a balance and calculate the density.
3. Use Archimedes Principle to predict the depth that it will float at – i.e. where is the waterline – mark it on the wood with a pencil.
4. Carefully place in water and check your prediction – can you determine the percentage error?
5. Calculate the maximum number of 10 g masses it will be able to carry – test this out carefully!

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| APS, Golconda | Priyanka Gupta: CLASS -9- F.A.3 - PHYSICS - REVISION(4 marks) |