## Prelab Questions

These questions need to be completed before entering the lab. Please show all workings.

## Marker's <br> Initials

## Prelab 1

A cylindrical object of volume $\boldsymbol{V}$ is immersed completely in a liquid where $\boldsymbol{\rho}$ is the density of the liquid. Write the expression for the buoyant force on the object, using these terms.

## Prelab 2

A cylindrical object of mass $\boldsymbol{m}$, bottom area $\boldsymbol{A}$, and height $\boldsymbol{H}$ is attached to a string and at rest when immersed at a distance $\boldsymbol{h}$ in a liquid with density $\boldsymbol{\rho}$. Let $\boldsymbol{T}$ be the tension in the string. Draw the free body diagram for the cylinder when it is partially submerged. Label all forces clearly and write expressions for each force.

