

Worksheet: Mechanical Properties of Fluids

ISC · Class 11 · Physics · 5 questions · 13 marks

Name: _____

Date: _____

Score: _____ / 13

Q1. Find the pressure at the bottom of a 10 m water tank ($\rho = 1000$, $P_0 = 1e5$ Pa, $g = 10$). [2 marks]

Q2. Water rises 5 cm in a capillary. If the radius is halved, what is the new rise? [2 marks]

Q3. A hydraulic lift has piston areas 10 cm^2 and 500 cm^2 . Find the force on the small piston to lift 2000 kg. [3 marks]

Q4. An object weighs 50 N in air and 30 N in water. Find its volume and density. [3 marks]

Q5. A 1 mm sphere ($\rho = 5000$) falls through water ($\rho = 1000$, $\eta = 0.001$ Pa s, $g = 10$). Find terminal velocity. [3 marks]
