1] For the closed tank shown with Bourdon-tube gages tapped into it, what is the specific gravity of the oil and the pressure reading on gage C?

2] A tank with an attached manometer contains water at 20°C. The atmospheric pressure is 100 kPa. There is a stopcock located 1 m from the surface of the water in the manometer. The stopcock is closed, trapping the air in the manometer, and water is added to the tank to the level of stopcock. Find the increase in the elevation of the water in the manometer assuming the air in the manometer is compressed isothermally.

3] Assume that wet concrete (SG = 3.5) behaves as a liquid. Determine the force per unit length exerted on the forms. If the forms are held in place as shown, with ties between vertical braces spaced every 0.5 meter, what force is exerted on the bottom tie?

4] The gate shown is rectangular and has dimensions 6 m × 6 m. What is the reaction at point A? Neglect the weight of the gate.

5] The uniform-diameter rod is weighted at one end and is floating in the liquid as shown. The liquid (a) is lighter than water, (b) must be water, (c) is heavier than water.