



Answer the following questions:

Question one (6 marks)

The hull of a boat has a volume of 150 m^3 , and the total mass of the boat when empty is 8560 kg. Determine how much load this boat can carry without sinking in:

- a) A lake and b) Seawater with a specific gravity of 1.03.

Question two (6 marks)

Differentiate between:

1. Steady and unsteady flow.
2. Uniform and non-uniform flow.
3. Laminar, transient and turbulent flow.

Question three (8 marks)

A) Draw T.E.L. and H.G. for an orifice meter, mentioned that the flow is real and the pressure is negative at throat.

B) Water flows up AB (5m long, 40 mm diameter), then along BC (3m long, 30 mm diameter). The measured pressure at A is 275 kPa. Find the pressure at C if the flow rate is 2.0 L/s (neglect losses).

