

- experimentally? Explain with neat sketch. (14)
- Q-4 Attempt all questions (14)**
- (a) Explain analytical Method to determine Metacentric height. (7)
- (b) Derive an expression for the force exerted on a sub-merged vertical plan surface by the static liquids and locate the position of center of pressure. (7)
- Q-5 Attempt all questions (14)**
- (a) State the Bernoulli's equation and obtain Bernoulli's equation from Euler's equation of motion. (7)
- (b) Derive continuity equation for 2-D incompressible flow in Cartesian form stating the assumption made and principle involved. (7)
- Q-6 Attempt all questions (14)**
- (a) Give classification of notches and weirs. Derive equation for the flow over a triangular notch. (7)
- (b) What is Venturimeter? Derive an expression for the discharge through a Venturimeter. (7)
- Q-7 Attempt all questions (14)**
- (a) Describe various types of fluid flows with examples of each. (7)
- (b) Obtain an expression for the force exerted by a jet of water on a fixed vertical plate in the direction of the jet. (7)
- Q-8 Attempt all questions (14)**
- a) Explain jet impingement upon a stationary flat plate. (7)
- b) Explain the jet impingement upon a moving flat plate. (7)

