Assignment # 1
Hydraulics Engineering

1. What is venture flume? Explain with detail?
2. A 3-m wide channel carries a total discharge of 12 m^3/sec.
   Calculate:
   - a) The critical depth
   - b) The minimum specific energy
   - c) The alternate depths when E = 4 m.

Assignment # 2
Hydraulics Engineering

Problem # 1

Water flows at a depth of 10 cm with a velocity of 6 m/s in a rectangular channel. Is the flow subcritical or supercritical? What is the alternate depth?

Problem # 2

Water flows with a velocity of 2 m/s and at a depth of 3 m in a rectangular channel. What is the change in depth and in water surface elevation produced by a gradual upward change in bottom elevation (upstep) of 60 cm? What would be the depth and elevation changes if there were a gradual downstep of 15 cm? What is the maximum size of upstep that could exist before upstream depth changes would result? Neglect head losses.

Assignment # 3
Hydraulics Engineering

Problem:
A water passing from the slice gate in Dam having a depth of water at upstream side is 3.6m, after passing through sluice gate the back water curve shows that depth of water at downstream side is 0.9m. The width of slice gate is 3.9m.
Determine:
   a. Discharge Q
   b. Froud Number Upstream and Downstream