

SIR C.R.REDDY COLLEGE OF ENGINEERING, ELURU
DEPARTMENT OF CIVIL ENGINEERING
II Year First Semester, Academic Year 2018-19
I -Assignment
Subject: R16-21016 Fluid Mechanics, Mrs K. Dharani

Batch: I

1. a) A square metal bar 1.8m side & 1.8mm thick weighing 60N is to be lifted through a vertical gap of 30mm of infinite extent. The oil in the gap has specific gravity 0.95 & viscosity of 3Ns/m^2 . If the metal plate is to be lifted at a constant speed of 0.12 m/s. find the force & power required.
b) Explain the terms surface tension & vapour pressure.
2. An inclined rectangular gate of width 5m & depth 1.5m is installed to control the discharge of water as shown in fig. the end A is hinge. Determine the force normal to the gate applied at B to open it.

- b) Derive the expression for pressure difference in case of micro manometer with neat sketch.
3. State & derive Bernoulli's equation stating its assumptions.

Batch: II

1. Explain in detail about different types of mechanical gauges.
2. a) Derive the expression for total pressure & centre of pressure for inclined surface submerged in liquid.
b) How the viscosity of fluids varies with temperature.
3. State & derive Bernoulli's equation stating its assumptions.
