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SHAMBHUNATH INSTITUTE OF ENGINEERING ANDTECHNOLOGY

**Subject: Fluid mechanics SubjectCode- RCE-303**

**B.Tech. (3RD -SEMESTER)**

Branch :(CIVIL)

Time- 80Min Maximum Marks - 60

NOTE: (Attampt all the question)

a) Write any five properties of fluids.

b) Derive relation b/w Pressure, Height & Density of fluids.

c) Derive complete expression for Vertical Single column manometer with neat sketch.

d) The pressure outside the droplet of water of dia. 0.04mm 10.32N/cm2(atm).Calculate

the pressure within the droplet if surface tension is given as 0.0725N/m of water.

e) A tank contains water upto a height of 1m above the base. An immiscible liquid of sp. gravity 0.8 is filled on the top of water upto height 1.5m calculate Total pressure on the side of tank and Centre of pressure which is 3m wide.

f) Derive formula for total pressure and Centre of pressure for vertical plane submerged in liquid.