IQRA National University, Peshawar

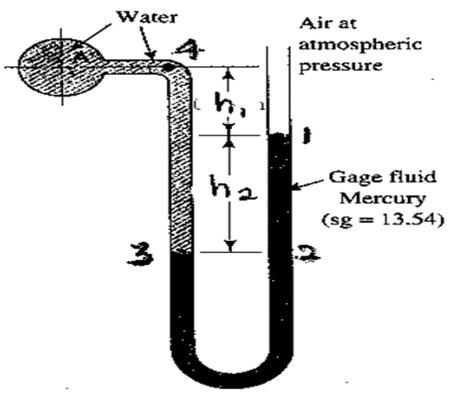
(Maximum Marks: 50)

Final Term (B. Tech Civil Technology)

Summer semester,2020

Fluid Mechanics

1. Determine the pressure at point A in the figure if $h_1 = 0.2$ m and $h_2 = 0.3$ m. Use $\rho_{water} = 1000$ kg/m^3. (10)

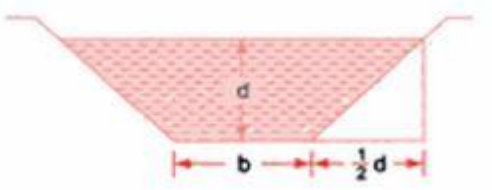


Points to be selected:

1 – at the open end of the manometer
2 – at the right leg of the manometer
3 – same level with point 2 but at left leg of the manometer
4 – same level as point A

Pressure at the points:
$P_1 = P_{atm}$
$P_2 = P_3$
$P_4 = P_A$

2. Define differential Manometer and What height would a barometer need to be to measure atmospheric pressure? (15)
3. A Trapezoidal channel has side slopes of 1 horizontal to 2 vertical and the slope of the bed is 1 in 1500.The area of the section is 40m2.Find the dimension of the section if it is most economical. Determine the discharge of the most economical section if C=50. (15)



4. What is Hydraulic Jump? Discuss typical cases for location of hydraulic jump. (10)

Good Luck