

Name: _____ Student No. : _____ Mark : /100

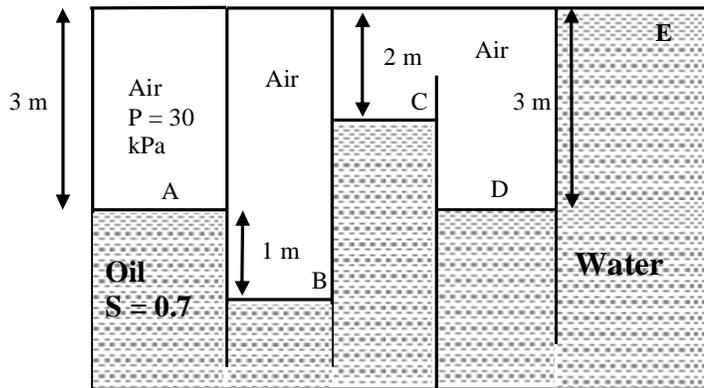
PROBLEM #1 (20%)

Complete the following sentences using the concepts you learned in CE321:

- The conditions to apply Bernoulli Equation are: -----
- -----
- The difference between Bernoulli equation and the energy equation is that. -----
- The buoyant force exerted on a body when immersed in water equals -----
- When the specific gravity for a fluid is 2.00, its density is -----, its specific weight is ----- and its specific volume is -----
- --.

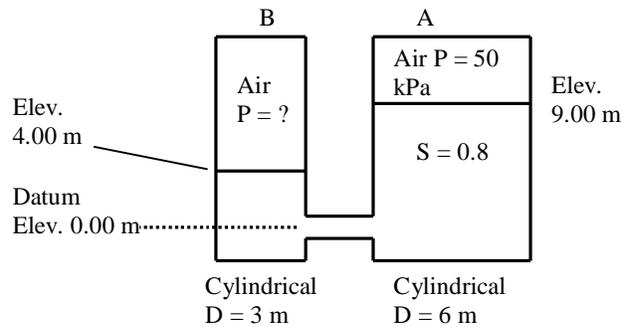
PROBLEM #2 (20%):

For the container shown to the right, find the pressures at B, C, D and E



PROBLEM #3 (20%): The two cylindrical tanks shown to the right are connected by a short pipe:

- a) What would be the air pressure in the left tank?
- b) If two holes are created one on the roof of the left tank (at B) and another on the roof of the right one (at A) what would be the stabilized elevation of the liquid on both tanks.



PROBLEM #4 (20%): Find the forces in the x and y-direction needed to hold the junction shown below in place. Note: neglect losses and elevation differences between A, B and C.

PROBLEM #5 (20%):

Refer to Problem #4 above. If the following information is given:

- Pipe AO: $L = 530$ m, $h_L = 2$ m
 - Pipe OB: $L = 400$ m, $h_L = 3$ m
 - Pipe OC: $L = 510$ m, $h_L = 1$ m
 - $Z_A = 430$ m
 - $Z_B = 425$ m
 - $Z_C = 439$ m
- a) Find the pressure at A.
 - b) Find the pressure at C.

