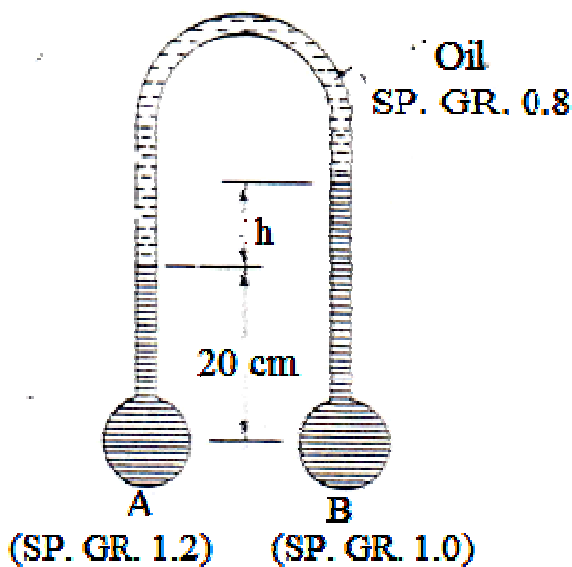


**Student Name:**

**Student ID:**

1. If the density varies linearly with height the pressure will vary \_\_\_\_\_ with height. [1]
2. As the density of manometric fluid decreases, the manometric deflection for the same pressure difference \_\_\_\_\_. [1]
3. A meteorologist states that the barometric pressure is 28.5 inches of mercury. Convert this pressure to kilopascals. [2]
4. Determine the differential reading  $h$  of an inverted U-tube manometer containing oil of specific gravity 0.8 as the manometric fluid when connected across pipes A and B conveying liquids of specific gravities 1.2 and 1.0 respectively and immiscible with the oil. Pressure at A and B are equal and they are located at same datum level. [3]



5. The temperature in the atmosphere is approximated by  $T(z) = 15 - 0.0065z^\circ\text{C}$  for elevations less than 11 000 m. Calculate the pressure at elevations of 3000m. [3]
6. A multi-tube manometer is employed to determine the pressure in a pipe. Compute the pressure in the pipe and also in the levels in the manometers shown in fig.. [10]

