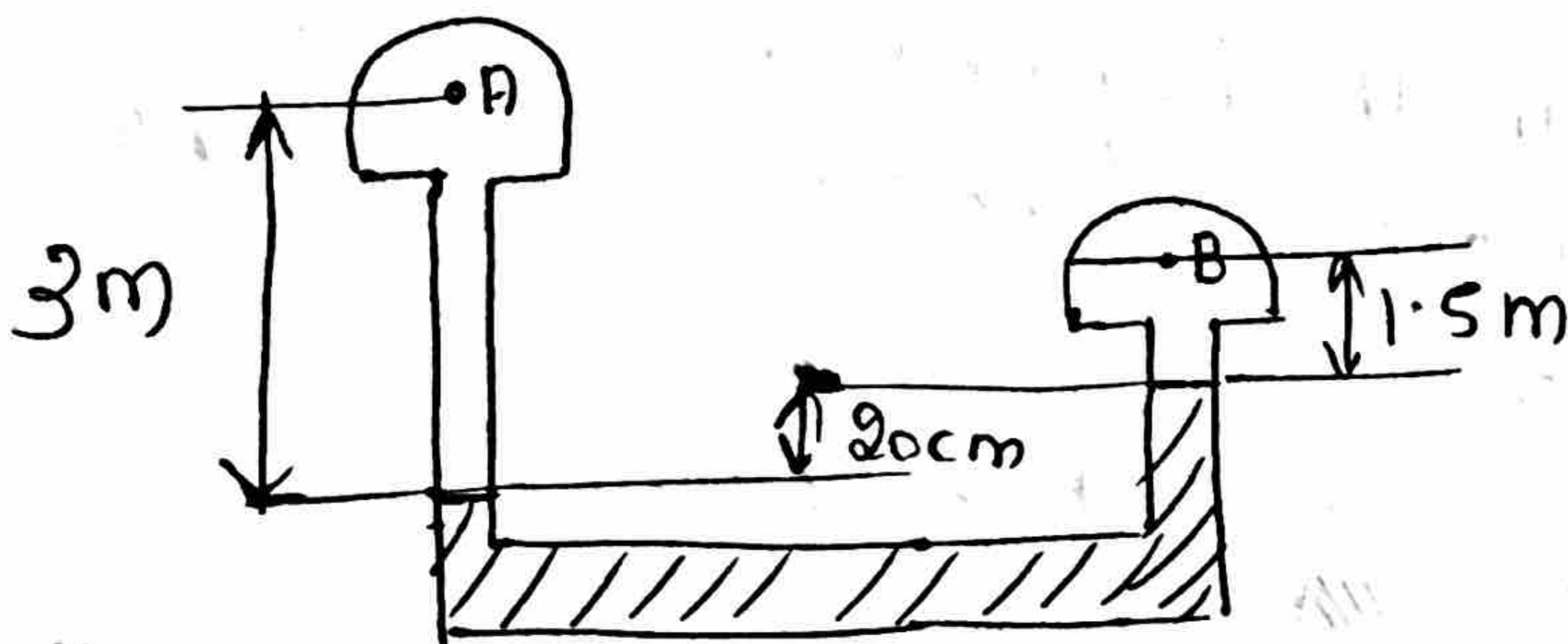


## Fluid Mechanics

FOR GATE-2018

Q1  $\Rightarrow$  Two pipe lines, one carrying oil ( $\rho = 900 \text{ kg/m}^3$ ) and other water are connected to Manometer as shown. By what amount the Pressure in the water pipe should be increased so the mercury level in both the limbs of manometer becomes same. ( $\rho_m = 13550 \text{ kg/m}^3$ )  $\rightarrow$  \*



Q2  $\Rightarrow$  Figure shows a U-tube having a  $5 \text{ mm} \times 5 \text{ mm}$  square cross section filled with Mercury (S.G. = 13.6) up to a height of 20cm in each limb (open to atmosphere). If  $5 \text{ cm}^3$  of water is added to the right limb, then the new height of the mercury in left limb will be \_\_\_\_\_ cm?

Q3  $\Rightarrow$  Convert a Pressure of  $7834 \text{ Pa}$  (gauge) in  $\rightarrow$

(i) (absolute) of 'm' of water.

(ii) mm of Mercury (gauge)

Consider the atm pressure to be 800 mm of oil (S.G. =  $11400 \frac{\text{kg}}{\text{m}^3}$ )

\* Figure for Q2  $\Rightarrow$

