

PYQSide

JEE MAIN MECHANICAL PROPERTIES OF FLUIDS — CAPILLARY RISE — PYQS

Max. Marks: 12

Questions: 3

Section A (MCQ)

- Q.1** When a part of a straight capillary tube is placed vertically in a liquid, the liquid rises up to certain height h . If the inner radius of the capillary tube, density of the liquid and surface tension of the liquid decrease by 1% each, then the height of the liquid in the tube will change by _____ %.

[JEE Main 2026 (Online) 22nd January Evening Shift]

- (1) +3 (2) +1 (3) -1 (4) -3

Scan or tap for the full solution



- Q.2** Surface tension of two liquids (having same densities), T_1 and T_2 , are measured using capillary rise method utilizing two tubes with inner radii of r_1 and r_2 where $r_1 > r_2$. The measured liquid heights in these tubes are h_1 and h_2 respectively. [Ignore the weight of the liquid above the lowest point of meniscus]. The heights h_1 and h_2 and surface tensions T_1 and T_2 satisfy the relation :

[JEE Main 2026 (Online) 21st January Evening Shift]

- (1) $h_1 > h_2$ and $T_1 = T_2$ (2) $h_1 < h_2$ and $T_1 = T_2$
 (3) $h_1 > h_2$ and $T_1 < T_2$ (4) $h_1 = h_2$ and $T_1 = T_2$

Scan or tap for the full solution



- Q.3** A capillary tube of radius 0.1 mm is partly dipped in water (surface tension 70 dyn/cm and glass water contact angle $\approx 0^\circ$) with 30° inclined with the vertical. The length of water risen in the capillary is _____ cm. (Take $g = 9.8 \text{ m/s}^2$)

[JEE Main 2025 (Online) 7th April Evening Shift]

- (1) $\frac{82}{5}$ (2) $\frac{68}{5}$ (3) $\frac{57}{2}$ (4) $\frac{71}{5}$

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3								
Ans.	2	2	1								