

NEET MECHANICAL PROPERTIES OF FLUIDS — BERNOULLI'S PRINCIPLE AND ITS APPLICATIONS — PYQS

Max. Marks: 20

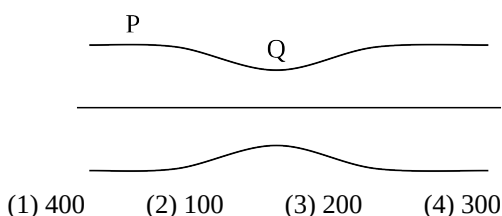
Questions: 5

Section A (MCQ) — 5 questions

- Q.1** Water flows in a streamline motion through a horizontal pipe of circular cross-section as shown in the figure. The pressure difference of water between P and Q is 15 N m^{-2} . The area of cross-section at P and Q are 40 cm^2 and 20 cm^2 , respectively. The rate of flow of water through the pipe, in $\text{cm}^3 \text{ s}^{-1}$, is:

[Take density of water = 1000 kg m^{-3}]

[RE-NEET (UG) 2026]



Scan or tap for the full solution



- Q.2** The venturi-meter works on : [NEET (UG) 2023]
- (1) Bernoulli's principle
 - (2) The principle of parallel axes
 - (3) The principle of perpendicular axes
 - (4) Huygens' principle

Scan or tap for the full solution



- Q.3** A small hole of area of cross-section 2 mm^2 is present near the bottom of a fully filled open tank of height 2 m . Taking $g = 10 \text{ m/s}^2$, the rate of flow of water through the open hole would be nearly :

[NEET (UG) 2019]

- (1) $8.9 \times 10^{-6} \text{ m}^3/\text{s}$
- (2) $2.23 \times 10^{-6} \text{ m}^3/\text{s}$
- (3) $6.4 \times 10^{-6} \text{ m}^3/\text{s}$
- (4) $12.6 \times 10^{-6} \text{ m}^3/\text{s}$

Scan or tap for the full solution



- Q.4** A wind with speed 40 m/s blows parallel to the roof of a house. The area of the roof is 250 m^2 . Assuming that the pressure inside the house is atmospheric pressure, the force exerted by the wind on the roof and the direction of the force will be ($\rho_{\text{air}} = 1.2 \text{ kg/m}^3$) [AIPMT 2015 (Cancelled)]

- (1) $2.4 \times 10^5 \text{ N}$, upwards
- (2) $2.4 \times 10^5 \text{ N}$, downwards
- (3) $4.8 \times 10^5 \text{ N}$, downwards
- (4) $4.8 \times 10^5 \text{ N}$, upwards

Scan or tap for the full solution



- Q.5** A fluid is in streamline flow across a horizontal pipe of variable area of cross section. For this which of the following statements is correct?

[NEET 2013 (Karnataka)]

- (1) The velocity is maximum at the narrowest part of the pipe and pressure is maximum at the widest part of the pipe.
- (2) Velocity and pressure both are maximum at the narrowest part of the pipe.
- (3) Velocity and pressure both are maximum at the widest part of the pipe.
- (4) The velocity is minimum at the narrowest part of the pipe and the pressure is minimum at the widest part of the pipe.

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5						
Ans.	1	1	4	1	1						