

J.E.E./A.I.P.M.T. Foundation - XI Physics Worksheet

Time: 30 min

Chapter#10: Mechanical Properties of Fluids-02

Full Marks: 20

Instructions:

- 1. All questions are compulsory.**
- 2. Please give the explanation for the answer where applicable.**

Q1 - What is a streamline flow?

(1 Mark)

Q2 - What is surface tension? Give its unit.

(1 Mark)

Q3 - What is Reynold's number?

(1 Mark)

Q4 - What is capillarity?

(2 Marks)

Q5 - The excess pressure inside a soap bubble of radius 4 cm is 30 dyne/cm². Find the surface tension?

(2 Marks)

Q6 - A 40kg girl wearing high heel shoes balances on a single heel. The heel is circular with diameter 2cm. What is the pressure exerted by the heel on the horizontal floor?

(2 Marks)

Q7 - The excess pressure inside a soap bubble is twice the excess pressure inside a second soap bubble. The volume of the first bubble is 'n' times the volume of the second bubble. Find the value of 'n'?

(3 Marks)

Q8 - Find the work done by a boy in making soap bubble of diameter 1.4 cm by blowing. Surface tension of soap bubble is 0.03N/m.

(3 Marks)

Q9 - The cylindrical tube of a spray pump has a cross section of 8.0cm², one of which has 40 fine holes each of diameter 1.0mm. If the liquid flows inside the tube at the rate of 1.5m per minute, what is the speed of ejection of the liquid through the holes?

(5 Marks)