

NAME
SCHOOL

INDEX NUMBER
DATE

FLUID FLOW

1. 1996 Q24 P1

State how the pressure in a moving fluid varies with the speed of the fluid (1 mark)

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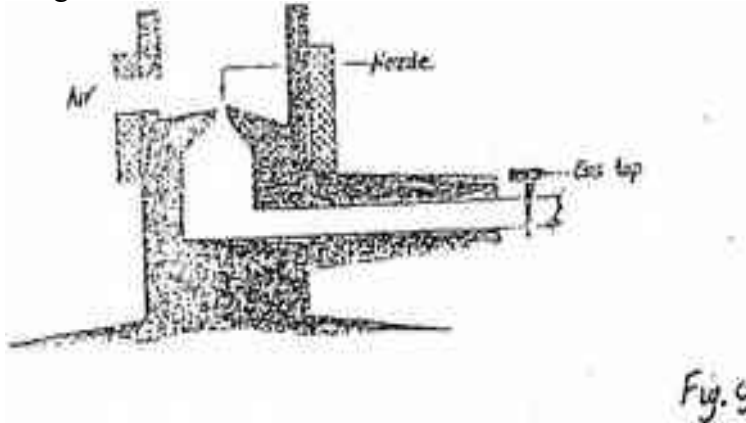
2. 1997 Q18 P1

Water flows in a horizontal smooth pipe. State the changes that would be observed in the nature of the flow if the speed of the water is steadily increased from low to a high value

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3. 1998 Q30 P1

Fig 9 shows a Bunsen burner.



Use Bernoulli's principle to explain how air is drawn into the burner, when, the gas tap is opened.

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4. **1999 Q25 P1**

Figure 13 shows a section of a pipe PQ. A constant pressure difference maintains a streamline flow of a liquid in the pipe.

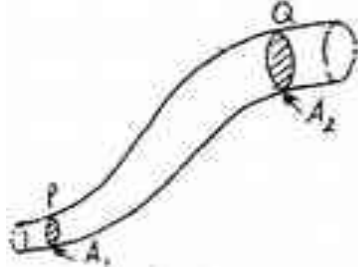


Fig. 13

If the cross-sectional area A_1 at P is less than A_2 at Q, state how the liquid velocity, V_2 at Q compares with velocity V_1 at P.

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5. **2000 Q25 P1**

A student holds a sheet of paper at one end so that it hangs in the position A shown in fig. 14

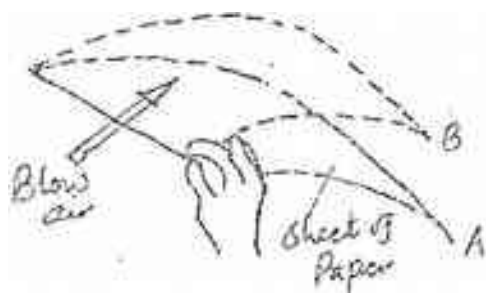


Fig. 14

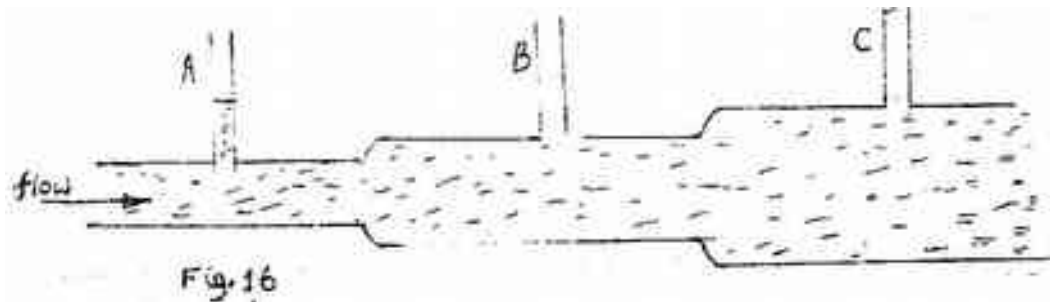
Explain why the paper rises to the position B when the student blows air in the direction shown by the arrow.

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6. 2001 Q23 P1

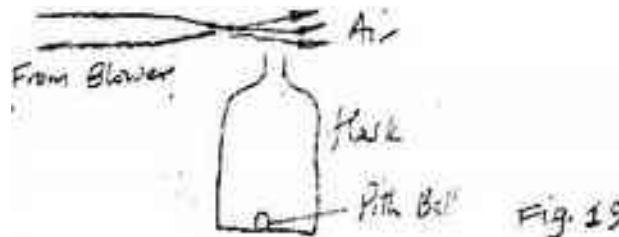
Fig. 16 shows a non – viscous fluid flowing through a pipe a long which vertical tubes A, B and C have been fitted.



Complete the diagram by indicating the possible levels of the fluid in tubes B and C.

8. 2003 Q36 P1

Figure 19 shows a pith ball placed in a flask. When a jet of air is blown over the mouth of the flask as shown, the pith ball is observed to rise form the bottom Figure 19



Explain this observation

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9. 2005 Q26 P1

State Bernoulli's principle.

(1 mark)

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10. 2006 Q11 P1

A pipe of radius 6 mm is connected to another pipe of radius 9 mm. If water flows in the wider pipe at the speed of 2 ms^{-1} , what is the speed in the narrower pipe? (3 marks)

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11. 2007 Q3 P1

Figure 2 shows a tube of varying cross sectional area

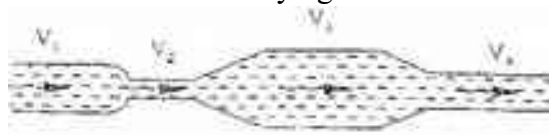


Figure 2

Arrange the speed V_1, V_2, V_3 and V_4 in decreasing order starting with the highest (1 mark)

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12. 2008 Q12 P1

Fig. 6 shows a sheet of paper rolled into a tube.

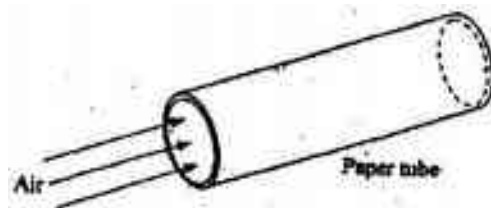


Figure 6

When a fast stream of air is blown into the tube as shown in the diagram the paper tube collapses. Explain the observation. (2 marks)

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13. 2009 Q11 P1

Figure 6 shows two inflated balloons hanging vertically on light threads

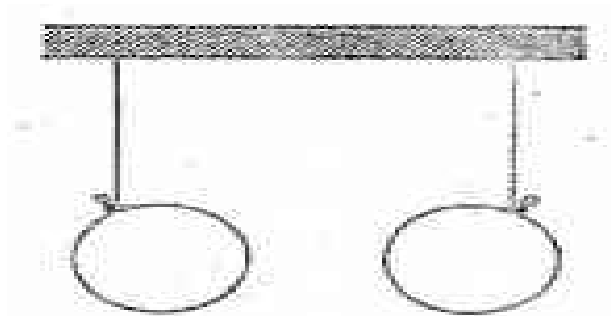


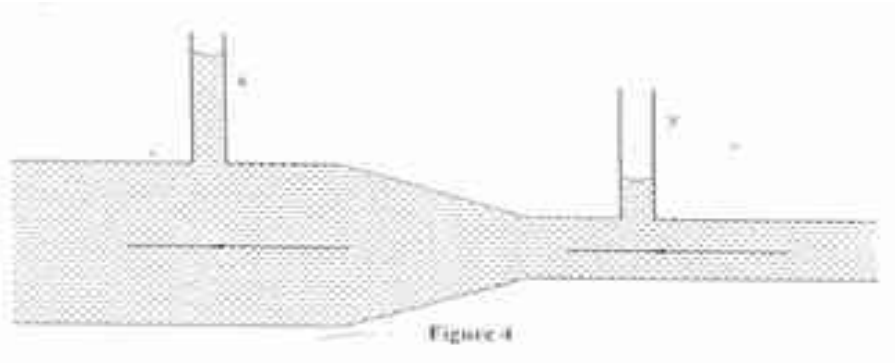
Figure 6

When a stream of air is blown in the space between the balloons, they are observed to move towards each other. Explain this observation. (1 mark)

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14. 2010 Q7 P1

Figure 4 shows a horizontal tube with two vertical tubes x and y. Water flows through the horizontal tube from right to left. The water level in tube x is higher than water in tube y.



Explain this observation.

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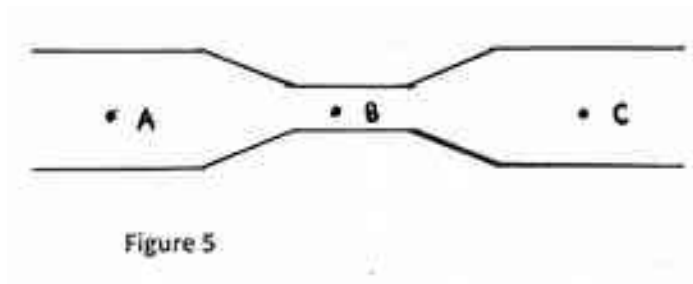
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15. 2012 Q14 P1

(a) An aeroplane is moving horizontally through still air at a uniform speed. It is observed that when the speed of the plane is increased, its height above the ground increases. State the reason for this observation. (1 mark)

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(b) Figure 5 shows parts A, B and C of a glass tube.



State with a reason the part of the tube in which the pressure will be lowest when air is blown through the tube from A towards C. (2 marks)

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