NAME: .....

FLUID FLOW

1. Bernoulli's principle describes the property of a .....

A. fluid in motion
B. fluid at rest
C. object submerged in a fluid.
D. object floating in a fluid.

2. According to Bernoulli's principle if velocity increases pressure _____.

A. Increases
B. Decreases
C. Stays the same
D. None of the Above

3. According to Bernoulli's principle, if pressure increases then velocity must _____.

A. Decrease
B. Increase
C. Does Nothing.
D. None of the Above

4. If the pressure under the wing of an airplane is greater than the pressure on top of the wing, the airplane should _____.

A. Fall
B. Land
C. Lift
D. A and B

5. a) What is meant by?
(i) Streamline flow [1m]

(ii) Turbulent flow [1m]

b) (i) State the equation of continuity. Define any symbols used. [1m]

(ii) In deriving the equation of continuity, what three assumptions are made? [3m]

(iii) Water flows along a horizontal pipe of cross sectional area 48cm^2 which has a constriction of cross sectional area 12cm^3 at one place. If the speed of the water at the constriction is 4ms^{-1}, calculate the speed in the wider section. [2m]

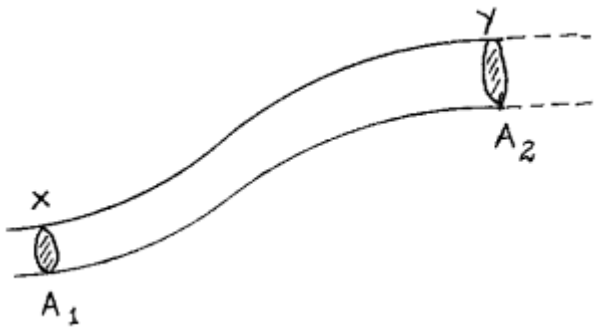
c) (i) State Bernoulli's effect. [1m]

(ii) Give three examples of Bernoulli's effect in air.

[3m]

6.

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



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

_____

[1m]