INDIAN SCHOOL NIZWA - WORKSHEET

PHYSICS

CH: 10 MECHANICAL

PROPERTIES OF FLUIDS

Name: _____ Date:_____ Class: XI Sec: _A__

1. What is the modulus of elasticity of a fluid?
2. What is the force on a man due to atmospheric pressure? Why one does not feel it?
3. Water comes out of a dropper unless its rubber bulb is pressed hard. Why?
4. Why an air bubble in water rises from bottom to top and grows in size?
5. What does sudden fall in barometer height indicate?
6. What is indicated by gradual increase of atmospheric pressure?
7. Why is it easier to swim in sea water than in river water?
8. What is the reciprocal of viscocity known as?
9. Why should the lubricant oil be of high viscosity?
10. Which fall faster – big rain drops or small rain drops?
11. Water rises in a capillary tube, whereas mercury falls in the same tube. Why?
12. Water rises to a height 20mm in a capillary. If the radius of the capillary is made 1/3 rd of its previous value, to what height will the water rise in the tube?
13. What height of water column produces the same pressure as a 760mm high column Hg?
14. The area of the smaller piston of a hydraulic press is 1cm and that of larger piston is $22cm^2$. How much weight can be raised on the larger piston by a 200kgf exerted on the smaller piston?
15.
16. Graphite consists of planes of carbon atoms. Between atoms in the planes there are weak forces. What kind of elastic properties do you expect from graphite
17. A steel wire of length 2m is stretched through 2mm. The cross sectional area of the wire is $4mm^2$. Calculate the elastic potential energy stored in the wire in the stretched condition. Young's modulus of steel is $2 \times 10^{11} Nm^{-2}$.
18. What is elastic after effect?
19. What is elastic hysteresis?
20. A hard wire is broken by bending it repeatedly in alternating directions. Why?
21. Why is the longer side of cross section of girders used as depth?
22. What is the value of modulus of rigidity for an incompressible liquid?

23. Stress and pressure are both forces per unit area. Then in what respect does stress differ from pressure?
24. The ratio stress/strain remains constant for a small deformation. What happens to this ratio if deformation is made very large?
25. A wire fixed at the upper end stretches by length l by applying a force F. What is the work done in stretching the wire?