BCM SCHOOL, BASANT AVENUE, DUGRI ROAD, LUDHIANA

CLASS – XI

SUBJECT – PHYSICS

## ASSIGNMENT

UNIT – PROPERTIES OF BULK MATTER

SHORT ANSWER TYPE QUESTIONS

Short Answer Type Questions (3 Marks)

The knowledge of elasticity useful in selecting metal ropes show its use, in cranes for lifting heavy loads, when rope of steel is used (Elastic limit 30×10^7 Nm^{-2}) if load of 10^5 kg is to be lifted.

What should be the radius of steel rope ? What should we do to increase flexibility of such wire ?

Stress-strain curve for two wires of material A and B are as shown in Fig.
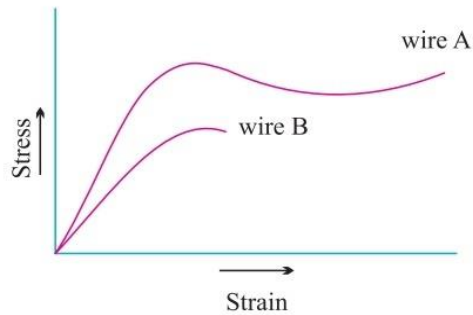
(a) which material in more ductile ?

(b) which material has greater value of young modulus ?

(c) which of the two is stronger material ?

(d) which material is more brittle ?

State Pascal's law for fluids with the help of a neat labelled diagram explain the principle and working of hydraulic brakes.

A manometer reads the pressure of a gas in an enclosure as shown in the fig. (a) when some of the gas is removed by a pump, the manometer reads as in fig (b). The liquid used in manometer is mercury and the atmospheric pressure is 76 cm of mercury, (i) Give absolute and gauge pressure of the gas in the enclosure for cases (a) and (b).
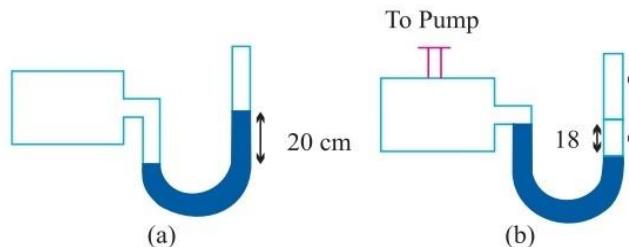
How would the levels change in (b) if 13.6 cm of H_2O (immersible with mercury) are poured into the right limb of the manometer in the above numerical.

Define Capillarity and angle of contact. Derive an expression for the ascent of a liquid in a capillary tube.

The terminal velocity of a tiny droplet is v. N number of such identical droplets combine together forming a bigger drop. Find the terminal velocity of the bigger drop.

Two spherical soap bubble coalesce. If v be the change in volume of the contained air, A is the change in total surface area then show that $3PV + 4AT = 0$ where T is the surface tension and P is atmospheric pressure.