

Unit 6

Mechanical Properties of Matter

Sr. No.	Questions	A	B	C	D
1	A wire is stretched by a weight w . If the diameter of the wire is reduced to half of its previous value, the extension will become:	one half	double	one fourth	four times✓
2	Four wires of the same material are stretched by the same load. Their dimensions are given below. Which of them will elongate most?	Length 1 m, diameter 1 mm	Length 2 m, diameter 2 mm	Length 3 m, diameter 3 mm	Length 4 m, diameter 0.5 mm✓
3	Two metal plates of area 2 and 3 square metres are placed in a liquid at the same depth. The ratio of pressures on the two plates is:	1:1 ✓	$\sqrt{2}:\sqrt{3}$	2:3	4:9
4	The pressure at any point in a liquid is proportional to:	density of the liquid	depth of the point below the surface of the liquid	acceleration due to gravity	all of the above✓
5	Pressure applied to an enclosed fluid is:	increased and applied to every part of the fluid	diminished and transmitted to the walls of container	increased in proportional to the mass of fluid and then transmitted to each part of the fluid	transmitted unchanged to every portion of the fluid and walls of containing vessel✓
6	The principle of a hydraulic press is based on:	Hooke's law	Pascal's law✓	Principle of conservation of energy	Principle of conservation of momentum
7	When a spring is compressed, what form of energy does it possess?	Kinetic	Potential✓	Internal	Heat
8	What is the force exerted by the atmosphere on a rectangular block surface of length 50 cm and breadth 40 cm? The atmospheric pressure is 100 kPa.	20 kN ✓	100 kN	200 kN	500 kN