GRADE 9 • PHYSICS • CHAPTER MCQ BANK

Mechanical Properties of Matter

65 High-Yield Solved MCQs

Elasticity & Hooke's Law · Density · Pressure & Liquid Pressure
Atmospheric Pressure & Barometers · Pascal's Law & Hydraulic Systems

65	7	100%
MCQS	TOPICS	EXPLAINED

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What's Inside This Bank

✎ Every question includes the correct answer highlighted in green with a tick, plus a concise, original explanation to reinforce the underlying concept — ideal for quick revision before exams.

Question 1 / 65

Deformation of Solids & Elasticity

The property of a solid by which it restores its original shape and size upon the removal of a deforming force is called:

A Plasticity

B **Elasticity** ✓

C Density

D Pressure

💡 **EXPLANATION**

Elasticity is the fundamental property of solids that allows them to return to their original state after the external force is removed. Plasticity, on the other hand, results in permanent deformation.

Question 2 / 65

Deformation of Solids & Elasticity

Which of the following materials is considered highly inelastic?

A Rubber band

B **Clay dough** ✓

C Steel wire

D Spring

💡 **EXPLANATION**

Inelastic (or plastic) materials do not regain their original shape after the deforming force is removed. Clay dough is a classic example of a substance that permanently changes shape.

Question 3 / 65

Deformation of Solids & Elasticity

The maximum stress a material can withstand without undergoing permanent deformation is known as its:

- **A** **Elastic limit** ✓
- **B** Breaking point
- **C** Yield strength
- **D** Spring constant

💡 **EXPLANATION**

The elastic limit is the threshold. Beyond this point, the material will not return to its original shape, leading to permanent deformation.

Question 4 / 65

Deformation of Solids & Elasticity

When a tennis ball is hit by a racket, the shape of both changes temporarily. This deformation is an example of:

A Plastic deformation

B **Elastic deformation** ✓

C Permanent deformation

D Inelastic collision

💡 **EXPLANATION**

Both the ball and racket temporarily distort upon impact but immediately regain their original shapes once the force is removed, demonstrating elastic deformation.

Question 5 / 65

Deformation of Solids & Elasticity

The force that opposes the deforming force and tries to restore the original shape of an object is called:

A Frictional force

B Gravitational force

C **Restoring force** ✓

D Normal force

💡 **EXPLANATION**

The restoring force is generated internally within the material to counteract the external deforming force, attempting to bring the object back to equilibrium.

Question 6 / 65

Hooke's Law & Spring Constant

According to Hooke's Law, the extension or compression of a spring is directly proportional to the applied force, provided the force does not exceed:

A. The breaking point

B. **The elastic limit** ✓

C. The yield point

D. The weight of the spring

💡 **EXPLANATION**

Hooke's Law only holds true within the elastic limit. Beyond this limit, the relationship is no longer linear, and permanent deformation occurs.

Question 7 / 65

Hooke's Law & Spring Constant

The mathematical representation of Hooke's Law is:

A F = k/x

B **F = kx** ✓

C F = x/k

D F = kx²

💡 **EXPLANATION**

Hooke's Law states that force (F) is directly proportional to extension (x). Introducing the constant of proportionality (k) gives the equation F = kx.

Question 8 / 65

Hooke's Law & Spring Constant

The constant 'k' in Hooke's Law is known as the spring constant. Its SI unit is:

A N

B N/m^2

C **N/m** ✓

D N·m

💡 **EXPLANATION**

Since k = F/x, the unit is Newtons divided by meters (N/m), or Newtons per meter.

Question 9 / 65

Hooke's Law & Spring Constant

If the graph of force (F) vs. extension (x) is plotted for a spring within its elastic limit, the graph will be:

A. A curve passing through the origin

B. **A straight line passing through the origin** ✓

C. A horizontal straight line

D. A vertical straight line

💡 **EXPLANATION**

Because F and x are directly proportional (F = kx), their graph is a straight line that passes through the origin (0,0).

Question 10 / 65

Hooke's Law & Spring Constant

A spring has a spring constant of 200 N/m. What force is required to stretch it by 0.1 meters?

A 2 N

B **20 N** ✓

C 200 N

D 2000 N

💡 **EXPLANATION**

Using F = kx, F = 200 N/m × 0.1 m = 20 N.

Question 11 / 65

Hooke's Law & Spring Constant

In the graph of F vs x, the slope of the straight line represents:

A The extension

B The applied force

C **The spring constant (k)** ✓

D The elastic limit

💡 **EXPLANATION**

Since F = kx, rearranging gives k = F/x. The slope of a F vs x graph is rise/run, which is Force/Extension, thus giving the spring constant.

Question 12 / 65

Hooke's Law & Spring Constant

A stiffer spring is one that has:

A. A lower value of k

B. **A higher value of k** ✓

C. A longer natural length

D. A shorter natural length

💡 **EXPLANATION**

The spring constant (k) is a measure of stiffness. A higher k means more force is needed to produce the same extension, indicating a stiffer spring.

Question 13 / 65

Hooke's Law & Spring Constant

If the applied force exceeds the elastic limit of a spring, the graph of F vs x will:

A Continue as a straight line

B Curve downwards

C **No longer be a straight line (become non-linear)** ✓

D Become horizontal

💡 **EXPLANATION**

Beyond the elastic limit, the material yields, and the relationship is no longer perfectly proportional, causing the graph to curve.

Question 14 / 65

Density

Density is defined as:

A The volume occupied by a unit mass

B **The mass per unit volume of a substance** ✓

C The weight per unit volume of a substance

D The force per unit area of a substance

💡 **EXPLANATION**

Density (ρ) is a fundamental property defined mathematically as mass divided by volume (ρ = m/V).

Question 15 / 65

Density

The SI unit of density is:

A g/cm^3

B **kg/m^3** ✓

C N/m^3

D kg/m^2

💡 **EXPLANATION**

In the International System of Units, mass is in kilograms (kg) and volume is in cubic meters (m^3), making the SI unit of density kg/m^3.

Question 16 / 65

Density

Which of the following substances has the highest density based on standard tables?

A Water

B Iron

C **Osmium** ✓

D Air

💡 **EXPLANATION**

Osmium is known as one of the densest naturally occurring elements, with a density of 22600 kg/m³, much higher than water, iron, or air.

Question 17 / 65

Density

Why does a block of wood float on water while an iron block of the same size sinks?

A Wood is heavier than iron

B **Wood has a lower density than water, while iron has a higher density** ✓

C Iron has a larger volume

D Wood has more molecules

💡 **EXPLANATION**

An object will float if its density is less than the density of the fluid it is placed in. Wood is less dense than water, while iron is denser.

Question 18 / 65

Density

If the mass of an object is 94 g and its volume is 12 cm³, what is its density in g/cm³?

A 7.0

B **7.8** ✓

C 8.2

D 9.4

💡 **EXPLANATION**

Density = Mass/Volume = 94 g / 12 cm³ = 7.83 g/cm³.

Question 19 / 65

Density

How does the density of a substance change if it is heated and expands?

A It increases

B **It decreases** ✓

C It remains the same

D It becomes zero

💡 **EXPLANATION**

When a substance is heated, its volume increases while its mass remains constant. Since density = mass/volume, an increase in volume results in a decrease in density.

Question 20 / 65

Density

The density of water in the SI system is approximately:

A 1 kg/m³

B **1000 kg/m³** ✓

C 100 kg/m³

D 10 kg/m³

💡 **EXPLANATION**

The density of water is 1 g/cm³, which converts to 1000 kg/m³ in SI units.

Question 21 / 65

Density

If two liquids of different densities are mixed and form layers, the liquid with the higher density will:

A Float on top

B **Settle at the bottom** ✓

C Dissolve completely

D Evaporate first

💡 **EXPLANATION**

Immiscible liquids separate based on density. The denser liquid will settle at the bottom, while the less dense liquid will float on top.

Question 22 / 65

Density

A piece of plastic has a density of 0.9 g/cm³. If it is placed in water, it will:

A Sink

B **Float** ✓

C Dissolve

D Remain suspended in the middle

💡 **EXPLANATION**

Since the density of the plastic (0.9 g/cm³) is less than the density of water (1.0 g/cm³), it will float.

Question 23 / 65

Pressure & Liquid Pressure

Pressure is defined as the force acting:

A Parallel to the surface

B **Normally (perpendicular) per unit area on a surface** ✓

C At an angle of 45 degrees to the surface

D Opposite to the surface

💡 **EXPLANATION**

Pressure is a scalar quantity defined as the magnitude of the normal force acting per unit area.

Question 24 / 65

Pressure & Liquid Pressure

The SI unit of pressure is the Pascal (Pa). One Pascal is equal to:

A 1 N·m

B **1 N/m²** ✓

C 1 N·m²

D 1 N/m

💡 **EXPLANATION**

Since P = F/A, the unit is Newtons (N) divided by square meters (m²), which is defined as one Pascal (Pa).

Question 25 / 65

Pressure & Liquid Pressure

Why is the edge of a knife made very sharp?

A To increase the force applied

B **To decrease the contact area and increase pressure** ✓

C To increase the contact area and decrease pressure

D To reduce friction

💡 **EXPLANATION**

A sharp edge has a very small area. Since P = F/A, a small area results in a very high pressure, making it easier to cut through objects.

Question 26 / 65

Pressure & Liquid Pressure

A wooden rod with a flat end is pushed into the ground. Why is it harder to push compared to a pointed end?

A The flat end has more mass

B The flat end requires more force

C **The force is spread over a larger area, resulting in less pressure** ✓

D The flat end experiences more friction

💡 **EXPLANATION**

A larger area reduces the pressure exerted for the same amount of force. Therefore, a flat end exerts less pressure and does not penetrate easily.

Question 27 / 65

Pressure & Liquid Pressure

The pressure at a certain depth in a liquid depends on:

A The shape of the container

B The total volume of the liquid

C **The depth, density of the liquid, and gravity** ✓

D The surface area of the liquid

💡 **EXPLANATION**

The formula for liquid pressure is $P = \rho gh$, where ρ is density, g is gravity, and h is depth. It does not depend on the shape or total volume of the container.

Question 28 / 65

Pressure & Liquid Pressure

According to the formula P = ρgh, the pressure in a liquid:

A Decreases with depth

B **Increases with depth** ✓

C Remains constant regardless of depth

D Depends only on the density

💡 **EXPLANATION**

The formula clearly shows that pressure (P) is directly proportional to the depth (h). As you go deeper, the weight of the liquid above increases, increasing the pressure.

Question 29 / 65

Pressure & Liquid Pressure

Liquid pressure acts:

A Only downwards

B Only upwards

C **Equally in all directions** ✓

D Only in the direction of the applied force

💡 **EXPLANATION**

Unlike solids, fluids exert pressure equally in all directions at a given depth, due to the random motion of their molecules.

Question 30 / 65

Pressure & Liquid Pressure

The pressure exerted by a liquid column of height 2 m and density 1000 kg/m³ (taking g = 10 m/s²) is:

A 2000 Pa

B 5000 Pa

C **20000 Pa** ✓

D 500 Pa

💡 **EXPLANATION**

Using P = ρgh, P = 1000 × 10 × 2 = 20,000 Pa.

Question 31 / 65

Pressure & Liquid Pressure

Why do heavy animals like elephants have large, flat feet?

A To run faster

B **To increase the contact area and reduce pressure on the ground** ✓

C To increase their weight

D To decrease friction

💡 **EXPLANATION**

Large feet distribute the elephant's massive weight over a larger area, reducing the pressure exerted on the ground so their bones don't tolerate excessive pressure.

Question 32 / 65

Pressure & Liquid Pressure

A thumb pin has a sharp end and a flat head. Why?

A The flat head increases pressure on the thumb

B **The sharp end decreases area to increase pressure, while the flat head increases area to decrease pressure on the thumb** ✓

C The sharp end is for decoration

D To make it easier to hold

💡 **EXPLANATION**

The sharp end concentrates force on a tiny area to create high pressure, piercing the wood. The flat head spreads the thumb's force over a larger area to reduce painful pressure on the thumb.

Question 33 / 65

Pressure & Liquid Pressure

Which of the following is a scalar quantity?

A Force

B **Pressure** ✓

C Velocity

D Acceleration

💡 **EXPLANATION**

Pressure is defined as the magnitude of the normal force per unit area. It does not have a specific direction associated with it, making it a scalar quantity.

Question 34 / 65

Atmospheric Pressure & Measurement

The pressure exerted by the weight of the atmosphere on the Earth's surface is called:

A Liquid pressure

B **Atmospheric pressure** ✓

C Gauge pressure

D Absolute pressure

💡 **EXPLANATION**

The layer of air surrounding the Earth has weight, and the force it exerts per unit area on the Earth's surface is defined as atmospheric pressure.

Question 35 / 65

Atmospheric Pressure & Measurement

The standard atmospheric pressure at sea level is approximately:

A 1.013×10^3 Pa

B **1.013×10^5 Pa** ✓

C 1.013×10^7 Pa

D 1.013×10^2 Pa

💡 **EXPLANATION**

Standard atmospheric pressure is 101,300 Pascals, which is written in scientific notation as 1.013×10^5 Pa.

Question 36 / 65

Atmospheric Pressure & Measurement

How does atmospheric pressure change as we go to higher altitudes?

A. It increases

B. **It decreases** ✓

C. It remains constant

D. It fluctuates randomly

💡 **EXPLANATION**

As altitude increases, the density of the air decreases because the air molecules are spread further apart. Therefore, atmospheric pressure decreases with height.

Question 37 / 65

Atmospheric Pressure & Measurement

Which instrument is used to measure atmospheric pressure?

A Manometer

B **Barometer** ✓

C Hydrometer

D Thermometer

💡 **EXPLANATION**

A barometer is specifically designed to measure atmospheric pressure, commonly using a column of mercury.

Question 38 / 65

Atmospheric Pressure & Measurement

In a simple mercury barometer, the space above the mercury column in the glass tube is:

A Filled with air

B Filled with water vapor

C **A vacuum** ✓

D Filled with mercury vapor

💡 **EXPLANATION**

The glass tube is completely filled with mercury and inverted. The space that forms at the top is a vacuum because the mercury falls, leaving no air or gas in that space.

Question 39 / 65

Atmospheric Pressure & Measurement

If the atmospheric pressure is 1.013×10^5 Pa, what is the height of the mercury column in a barometer? (Density of mercury = 13.6×10^3 kg/m³)

A 76 cm

B **76 cm** ✓

C 100 cm

D 50 cm

💡 **EXPLANATION**

Using P = ρgh, rearranging for h gives h = P/(ρg).

Substituting the values gives h ≈ 0.76 m, which is 76 cm.

Question 40 / 65

Atmospheric Pressure & Measurement

A sudden fall in atmospheric pressure indicates:

A. Clear and dry weather

B. **Approaching rain or storm** ✓

C. Extremely hot weather

D. High wind speeds

💡 **EXPLANATION**

A fall in atmospheric pressure often means that moist air is rising, leading to cloud formation and precipitation. Meteorologists use this as a sign of coming rain.

Question 41 / 65

Atmospheric Pressure & Measurement

Why does a can filled with steam collapse when cold water is poured over it?

A The metal contracts due to cold

B **The steam inside condenses, creating a partial vacuum, and the outside atmospheric pressure crushes it** ✓

C The water is too heavy

D The can becomes brittle

💡 **EXPLANATION**

When steam condenses, it turns into water, drastically reducing the pressure inside the can. The higher atmospheric pressure outside then crushes the can inward.

Question 42 / 65

Atmospheric Pressure & Measurement

A manometer is used to measure:

A. Atmospheric pressure directly

B. **The pressure of a gas in a container** ✓

C. The density of a liquid

D. The humidity of the air

💡 **EXPLANATION**

A manometer is a U-shaped tube that measures the pressure of a gas relative to atmospheric pressure by comparing the height of the liquid in its two arms.

Question 43 / 65

Atmospheric Pressure & Measurement

In a U-tube manometer, if the liquid level in the arm connected to the gas cylinder is lower than the open arm, the gas pressure is:

A Less than atmospheric pressure

B **Greater than atmospheric pressure** ✓

C Equal to atmospheric pressure

D Zero

💡 **EXPLANATION**

The gas is pushing the liquid down more than the atmosphere is, indicating the gas pressure is greater than atmospheric pressure.

Question 44 / 65

Pascal's Law & Hydraulic Systems

Pascal's Law states that pressure applied to an enclosed fluid is transmitted:

A. Only in the direction of the applied force

B. **Equally in all directions without loss** ✓

C. With a significant loss of energy

D. Only to the bottom of the container

💡 **EXPLANATION**

Pascal's Law is the foundational principle of fluid mechanics. It states that a change in pressure at any point in an enclosed incompressible fluid is transmitted undiminished to all points in the fluid.

Question 45 / 65

Pascal's Law & Hydraulic Systems

Which of the following is a practical application of Pascal's Law?

A. A barometer

B. **A hydraulic press** ✓

C. A thermometer

D. A spring scale

💡 **EXPLANATION**

Hydraulic presses, car lifts, and hydraulic brakes all rely on Pascal's Law to multiply force by transmitting pressure through an enclosed fluid.

Question 46 / 65

Pascal's Law & Hydraulic Systems

In a hydraulic press, a small force applied to a small piston results in a large force on a large piston. This system acts as a:

A Force reducer

B **Force multiplier** ✓

C Speed multiplier

D Pressure reducer

💡 **EXPLANATION**

The hydraulic press uses the principle of equal pressure over different areas ($F_1/A_1 = F_2/A_2$). Since A_2 is larger, F_2 becomes proportionally larger, multiplying the applied force.

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Pascal's Law & Hydraulic Systems

In a hydraulic system, the pressure applied to the smaller piston is:

A Greater than the pressure on the larger piston

B Less than the pressure on the larger piston

C **Equal to the pressure on the larger piston** ✓

D Dependent on the length of the pipe

💡 **EXPLANATION**

According to Pascal's Law, the pressure is transmitted equally throughout the enclosed fluid. Therefore, the pressure at the small piston equals the pressure at the large piston.

Question 48 / 65

Pascal's Law & Hydraulic Systems

If the area of the small piston in a hydraulic press is 5 cm² and the large piston is 25 cm², and a force of 100 N is applied on the small piston, what is the force lifted by the large piston?

A 20 N

B 100 N

C **500 N** ✓

D 2500 N

💡 **EXPLANATION**

Using $F_2 = F_1 \times (A_2/A_1)$, $F_2 = 100 \times (25/5) = 100 \times 5 = 500$ N.

Question 49 / 65

Pascal's Law & Hydraulic Systems

Which of the following is NOT an advantage of hydraulic systems?

A They can move heavy loads

B They provide great forces due to incompressibility

C **Liquids absorb any of the supplied energy** ✓

D They are highly efficient for lifting

💡 **EXPLANATION**

Liquids do not absorb the supplied energy (they are incompressible); they transmit it. This lack of absorption is an advantage, not a disadvantage.

Question 50 / 65

Pascal's Law & Hydraulic Systems

In a hydraulic brake system, when the brake pedal is pushed, the pressure is transmitted through:

A Air

B **Brake fluid (oil)** ✓

C Water

D Steam

💡 **EXPLANATION**

Hydraulic brakes use a special type of oil (brake fluid) because it is incompressible and transmits pressure instantly without significant loss.

Question 51 / 65

Pascal's Law & Hydraulic Systems

Why are liquids used in hydraulic machines instead of gases?

A Liquids are lighter than gases

B Liquids are practically incompressible, whereas gases are highly compressible ✓

C Liquids are cheaper

D Liquids have lower density

💡 **EXPLANATION**

If a gas were used, a large portion of the applied force would be used to compress the gas itself rather than transmitting the pressure to do work. Liquids are incompressible, making them ideal for force transmission.

Question 52 / 65

Pascal's Law & Hydraulic Systems

In a hydraulic brake system, the force of friction between the brake pads and the disc:

A Speeds up the vehicle

B **Slows down the vehicle** ✓

C Has no effect on the vehicle

D Turns the vehicle

💡 **EXPLANATION**

When the brake pads press against the rotating disc, the resulting friction opposes the motion, converting kinetic energy into heat and slowing the vehicle.

Question 53 / 65

Pascal's Law & Hydraulic Systems

A hydraulic press has a small piston of radius 2 cm and a large piston of radius 10 cm. If a force of 50 N is applied to the small piston, what is the force on the large piston?

A 250 N

B **1250 N** ✓

C 2500 N

D 500 N

💡 **EXPLANATION**

The ratio of areas is $(r_2/r_1)^2 = (10/2)^2 = 25$. Therefore, $F_2 = 50\ N \times 25 = 1250\ N$.

Question 54 / 65

Pascal's Law & Hydraulic Systems

The principle of Pascal's law is based on the fact that:

A Fluids are compressible

B **Fluids are incompressible and transmit pressure equally** ✓

C Fluids have high viscosity

D Fluids exert pressure only downwards

💡 **EXPLANATION**

The equal transmission of pressure relies entirely on the fluid being incompressible. If it compressed, the pressure would not be transmitted uniformly.

Question 55 / 65

Pascal's Law & Hydraulic Systems

A car lift at a service station operates using:

A. A lever system

B. **Pascal's Law (Hydraulic system)** ✓

C. A pulley system

D. An electric motor directly

💡 **EXPLANATION**

Car lifts use hydraulic cylinders filled with oil. A small pump applies pressure, which is transmitted to a large piston to lift the heavy car.

Question 56 / 65

Pascal's Law & Hydraulic Systems

If the pressure on the smaller piston of a hydraulic press is 1000 Pa, what is the pressure on the larger piston?

A 100 Pa

B 500 Pa

C **1000 Pa** ✓

D 2000 Pa

💡 **EXPLANATION**

Pascal's law dictates that pressure is transmitted equally throughout the fluid. Therefore, the pressure on the larger piston is exactly the same, 1000 Pa.

Question 57 / 65

Comprehensive Review

Which of the following statements about atmospheric pressure is FALSE?

A. It decreases with altitude

B. It is measured using a barometer

C. **It acts only downwards on objects** ✓

D. It is caused by the weight of air molecules

💡 **EXPLANATION**

Atmospheric pressure acts equally in all directions (upwards, downwards, sideways) on an object, not just downwards.

Question 58 / 65

Comprehensive Review

The density of a substance is 2.5 g/cm³. What is its density in kg/m³?

A 25 kg/m³

B 250 kg/m³

C **2500 kg/m³** ✓

D 25000 kg/m³

💡 **EXPLANATION**

To convert from g/cm³ to kg/m³, multiply by 1000. 2.5 × 1000 = 2500 kg/m³.

Question 59 / 65

Comprehensive Review

A body weighs 500 N. If it is placed on a surface with an area of 0.5 m², what is the pressure exerted?

A 1000 Pa

B **1000 Pa** ✓

C 250 Pa

D 2500 Pa

💡 **EXPLANATION**

P = F/A = 500 N / 0.5 m² = 1000 Pa.

Question 60 / 65

Comprehensive Review

The atmospheric pressure at sea level supports a mercury column of 76 cm. If water were used instead of mercury, how high would the water column be? (Density of water = 1000 kg/m³, Density of mercury = 13600 kg/m³)

A 76 cm

B 1.03 m

C **10.3 m** ✓

D 103 m

💡 **EXPLANATION**

The pressure is equal: ρ_mercury × g × h_mercury = ρ_water × g × h_water. Since mercury is 13.6 times denser than water, the water column must be 13.6 times taller. 0.76 m × 13.6 = 10.336 m (approx 10.3 m).

Question 61 / 65

Comprehensive Review

Which of the following is NOT a unit of pressure?

A Pascal

B N/m^2

C **N/m** ✓

D Atmosphere

💡 **EXPLANATION**

N/m is the unit of surface tension or spring constant, not pressure. Pressure is force per unit area, so N/m^2 (Pascal) is correct.

Question 62 / 65

Comprehensive Review

The density of air is approximately 1.3 kg/m³. Why does atmospheric pressure decrease with height?

A The temperature decreases

B **The density of air decreases with height** ✓

C The wind blows faster

D Gravity increases

💡 **EXPLANATION**

As we go higher, the air molecules are less densely packed. Since pressure depends on the density of the fluid above, a decrease in density leads to a decrease in pressure.

Question 63 / 65

Comprehensive Review

A spring scale measures weight based on:

A Pascal's Law

B **Hooke's Law** ✓

C Archimedes' Principle

D Newton's First Law

💡 **EXPLANATION**

Spring scales work by measuring the extension of a spring when a weight is attached. This extension is directly proportional to the applied force (weight), as per Hooke's Law.

Question 64 / 65

Comprehensive Review

If the elastic limit of a material is exceeded, it undergoes:

A Elastic deformation

B **Plastic deformation** ✓

C Reversible deformation

D Zero deformation

💡 **EXPLANATION**

Once the elastic limit is crossed, the material cannot return to its original shape after the force is removed. This permanent change is called plastic deformation.

Question 65 / 65

Comprehensive Review

The pressure exerted by a liquid at a given depth is independent of:

A The density of the liquid

B The acceleration due to gravity

C The depth of the liquid

D **The shape of the container** ✓

💡 **EXPLANATION**

The formula P = ρgh shows that pressure depends only on density, gravity, and depth. It does not matter what shape the container is; the pressure at a specific depth is the same.

You've Completed the Chapter!

You've worked through all 65 MCQs on **Mechanical Properties of Matter** — covering elasticity, Hooke's Law, density, pressure, atmospheric pressure, and Pascal's Law. Keep revising the highlighted concepts and explanations to lock them into long-term memory.

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QUESTIONS SOLVED