



PHYSICS

BOOKS - MAXIMUM PUBLICATION

MODEL PAPER 3

Example

1. Identify the relation between the first pair and complete the second

Momentum : $m \times v$, Impulse: _____



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2. Find the odd one ... (a) F (b) $(m v - m u) / t$
(c) $m v - m u$ (d) ma

A. F

B. $\frac{mv - mu}{t}$

C. $mv - mu$

D. ma

Answer: C



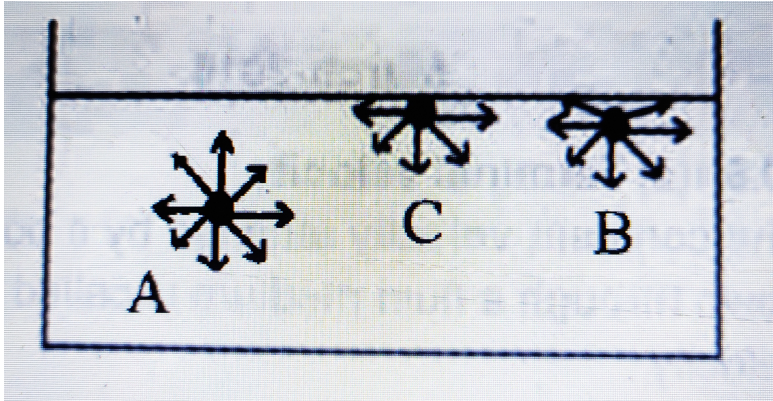
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3. The earth is not a perfect sphere, its radius is not the same everywhere. If so, will the value of g be the same everywhere on earth?



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4. What is the reason for surface tension?



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5. State Pascal's law

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6. What is the basis of Pascal's law?



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7. A car of 1000kg moves with a velocity $20\text{m} / \text{s}$. On applying brakes it comes to rest in 5s.

What is the initial momentum?



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8. A car of 1000kg moves with a velocity $20\text{m} / \text{s}$. On applying brakes it comes to rest in 5s.

What is the final momentum?



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9. When a stone of mass 50 kg and another of mass 5 kg fall down simultaneously from the top of a five storey building, which one will reach the ground first?





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10. Write the equation of motion. What does each letter indicate?



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11. We are familiar with Newton's laws of motion.

Using the Newton's second law, explain:

(i) impulse momentum principle.

(ii) Law of conservation of linear momentum.



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12. A ball thrown vertically upward reached a maximum height of $20m$.

What was the velocity of the stone at the instant of throwing up?



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13. A ball thrown vertically upward reached a maximum height of $20m$.

How much time did the ball take to reach the height $20m$?



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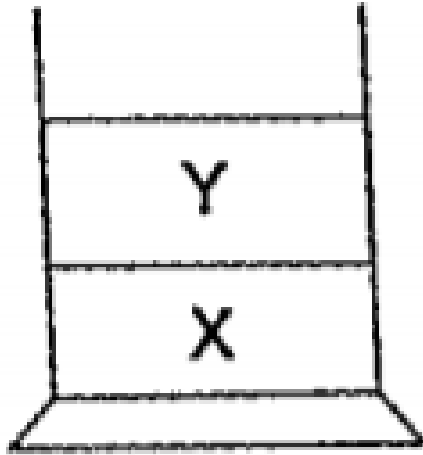
14. Name three devices constituted on the basis of Pascal's law



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15. The figure shows a jar containing honey and kerosene

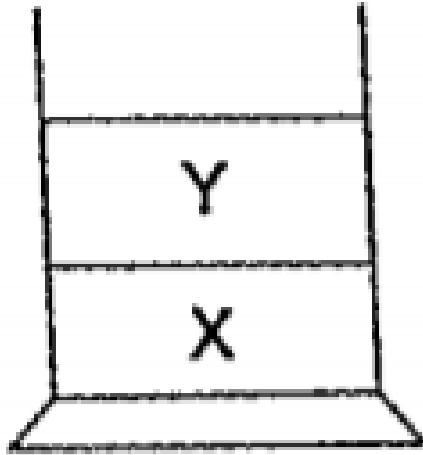
Which is the liquid labelled as X



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16. The figure shows a jar containing honey and kerosene and kerosene

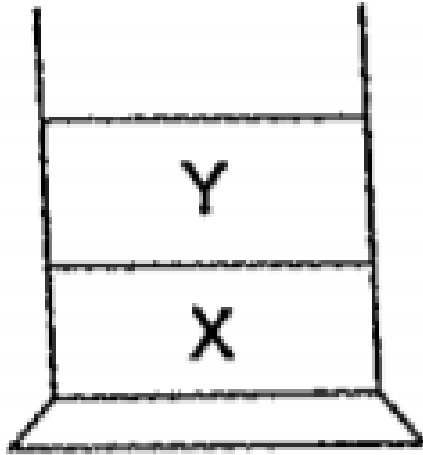
Which liquid is the mobile liquid?



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17. The figure shows a jar containing honey and kerosene

Which liquid has higher buoyancy?

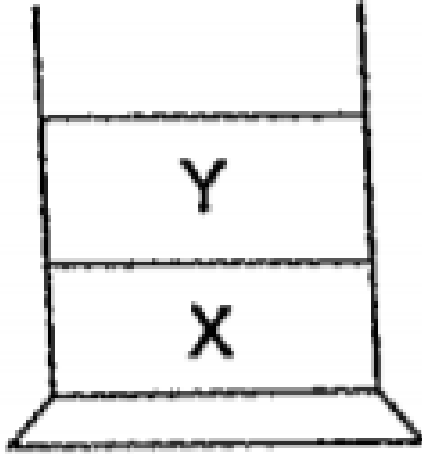


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18. The figure shows a jar containing honey and kerosene and kerosene

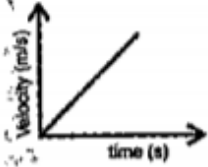
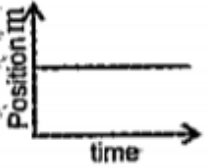
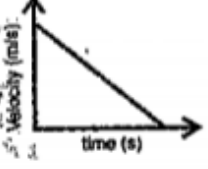
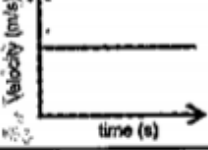
Suggest a method to reduce the viscosity of a

liquid



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19. Match the following

A	B
State of rest	 <p>A velocity-time graph with 'Velocity (m/s)' on the vertical axis and 'time (s)' on the horizontal axis. A straight line starts at the origin (0,0) and extends upwards and to the right at a constant positive slope.</p>
uniform velocity	 <p>A position-time graph with 'Position (m)' on the vertical axis and 'time' on the horizontal axis. A horizontal line is drawn at a constant positive value on the vertical axis, extending to the right.</p>
uniform acceleration	 <p>A velocity-time graph with 'Velocity (m/s)' on the vertical axis and 'time (s)' on the horizontal axis. A straight line starts at a positive value on the vertical axis and extends downwards and to the right until it reaches the horizontal axis.</p>
uniform retardation	 <p>A velocity-time graph with 'Velocity (m/s)' on the vertical axis and 'time (s)' on the horizontal axis. A horizontal line is drawn at a constant positive value on the vertical axis, extending to the right.</p>



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20. Complete the table

m_1 (kg)	m_2 (kg)	d (m)	F (N)
10	10	1	F
5	10	1	(a)
5	5	1	(b)
10	10	2	(c)
10	10	$\frac{1}{2}$	(d)



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21. Write down situation related to each

Inertia of rest



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22. Write down situation related to each
inertia of motion



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23. Write down situation related to each
Newton's third law of motion



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24. Write down situation related to each
Newton's second law of motion



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