



PHYSICS

AAKASH INSTITUTE ENGLISH

MOCK TEST 15

Example

1. If 5 small spherical droplet coalesce to form a bigger drop then temperature of bigger drop in comparison to smaller drops will

A. Decrease

B. Remain same

C. May increase or decrease

D. Increase

Answer: D



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2. Viscous drag force depends on

A. Surface area of contact of fluid layers

B. Normal reaction between the two layers
of the fluid

C. The relative velocity between the two
layers in contact

D. Both (1) & (3)

Answer: D



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3. For laminar flow the value of reynolds number is

A. Greater than 1000 but less than 2000

B. Less than 1000

C. Greater than 2000 but less than 3000

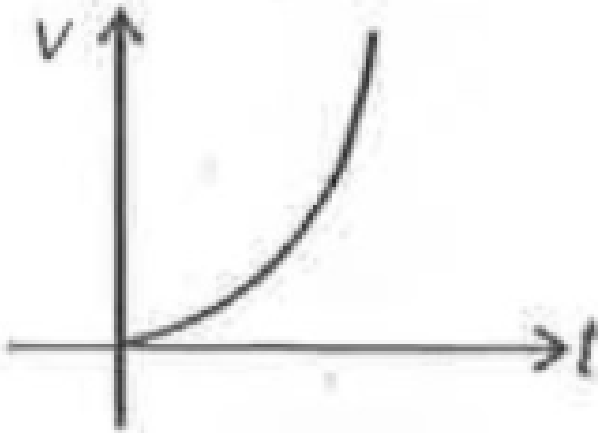
D. Greater than 3000

Answer: B

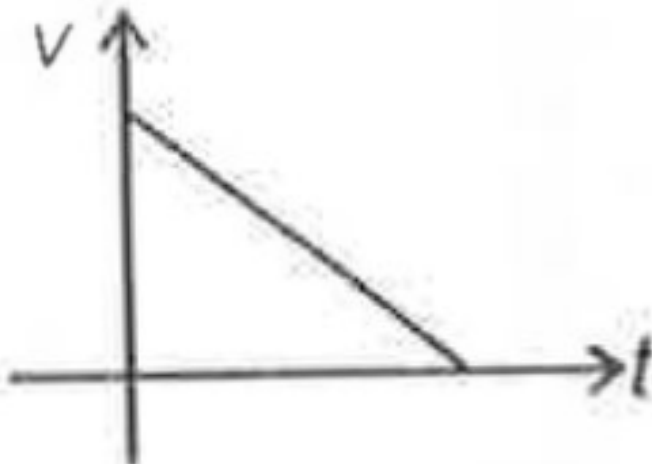


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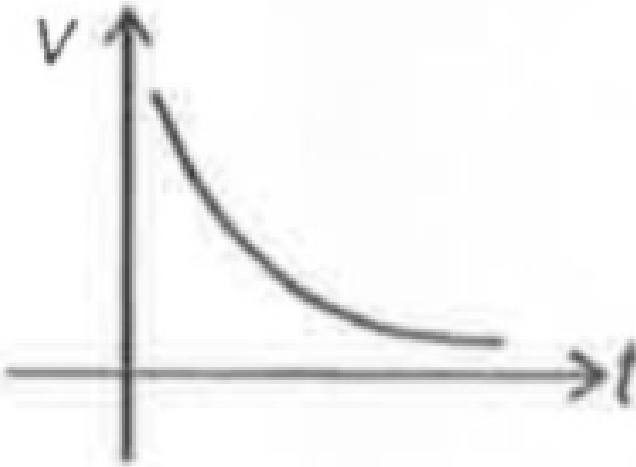
4. A lead sphere is dropped into a medium. As the sphere falls, the velocity of lead sphere



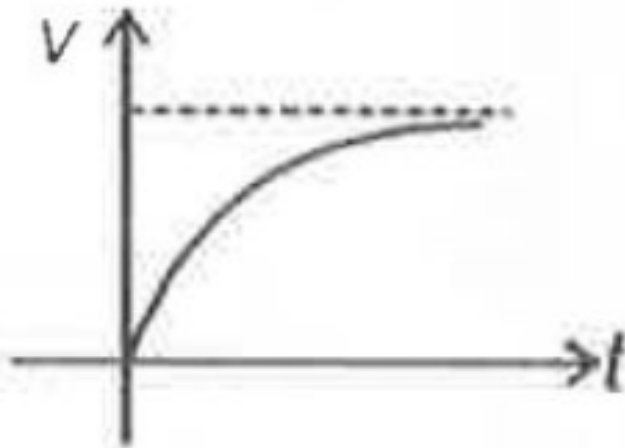
A.



B.



C.

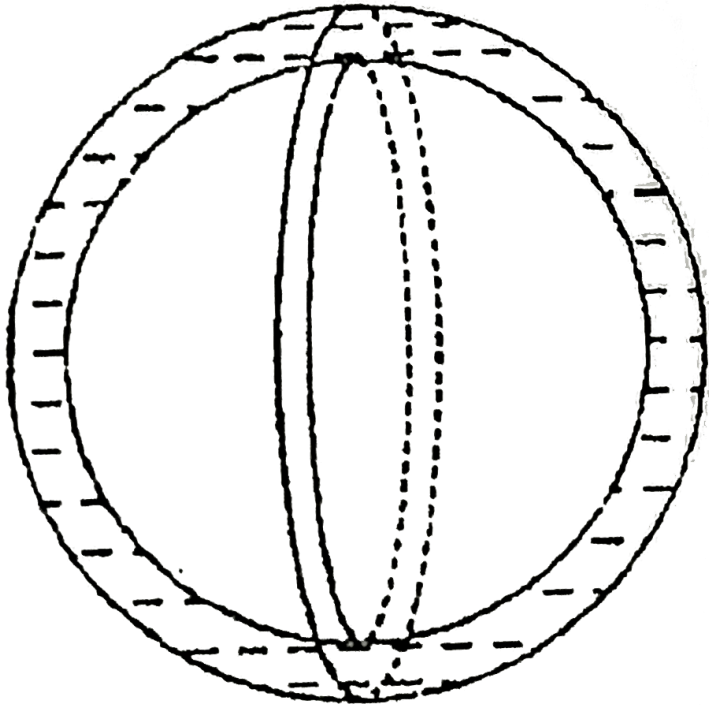


D.

Answer: D



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5.

Consider a bubble of soap solution. Find the surface tension force between the left half surface and right half surface

A. $2T\pi R$

B. TR

C. $T\pi R$

D. $T\frac{R}{2}$

Answer: A



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6. The surface tension the surface tension of a liquid is 10 N/m . If a film is held on a ring of

area 0.01 m^2 , its surface energy is about

Newton

A. $2 \cdot 10^{-3} \text{ J}$

B. $2 \cdot 10^{-1} \text{ J}$

C. $2 \cdot 10^{-2} \text{ J}$

D. $2 \cdot 10^{-4} \text{ J}$

Answer: B



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7. Two drops of equal radius r coalesce to form a single drop under isothermal conditions .

The radius of such a drop would be

A. r

B. $2^{1/3} r$

C. $\frac{r}{2}$

D. $3\sqrt{3}$

Answer: B



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8. If R is the radius of a soap bubble and S its surface tension, then the excess pressure inside is

A. r^{-1}

B. r^{-3}

C. r^2

D. r^{-2}

Answer: D



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9. Units of coefficient of viscosity are

A. poiseuille

B. pascal second

C. poise

D. All of these

Answer: D



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10. Surface tension is due to

A. Intermolecular adhesive forces

B. Intermolecular cohesive forces

C. Diffusion of two liquids

D. Both (1) and (2)

Answer: B



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11. Liquids tend to rise or fall in capillary because of

A. Zero

B. $\frac{\pi}{2}$

C. $\frac{\pi}{3}$

D. $\frac{\pi}{6}$

Answer: A



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12. If ρ is density of falling body and σ is the density of fluid then the terminal velocity of the falling body is proportional to

A. $(\rho - \sigma)$

B. $\frac{\rho}{\sigma}$

C. $\rho\sigma$

D. $(\rho + \sigma)$

Answer: A



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13. SHAPE OF LIQUID MENISCUS

- A. Plane in shape
- B. Convex in shape
- C. Concave in shape
- D. Cylindrical in shape

Answer: C



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14. the correct form of Stoke's law is (symbols have their usual meanings)

A. $\vec{F} = -6\pi\eta a \vec{v}$

B. $\vec{F} = 6\pi\eta a \vec{v}$

C. $\vec{F} = -4\pi\eta a \vec{v}$

D. $\vec{F} = 4\pi\eta a \vec{v}$

Answer: A



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15. The excess pressure inside a soap bubble of radius R is (S is the surface tension)

A. $2\frac{S}{R}$

B. $4\frac{S}{R}$

C. $\frac{S}{R}$

D. $\frac{S}{2}R$

Answer: B



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