PHYSICS

BOOKS - SAI PHYSICS (TELUGU ENGLISH)

EAMCET -2016 (TS)

Physics

1. An elastic spring of unstretched length L and force constant k is stretched by a small

length x. It is further stretched by another small length y. Work done during the second stretching is

A. $\frac{ky}{2}(x+2y)$

B. $\frac{k}{2}(2x+y)$

C. $ky(x+2y)$

D. $\frac{ky}{2}(2x+y)$

Answer: D

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2. A soap bubble of radius 1.0 cm is formed inside another soap bubble of radius 2.0 cm The radius of an another soap bubble which has the same pressure difference as that between the inside of the smallar and outside of large snap bubble, in metres is

A. 6.67×10^{-3}

B. 3.34×10^{-3}

C. 2.23×10^{-30}

D. 4.5×10^{-3}

Answer: A

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3. A slab of stone of area 3600 cm^2 and thickness 10 cm is exposed on the lower surface to steam at $100^\circ C$. A block of ice at $0^\circ C$ rests on upper surface of the slab. In one hour 4.8 kg of ice is melted. The thermal conductivity of the stone In $js^{-1}m^{-1}k^{-1}$ is (latent heat of ice $= 3.36 \times 10^5 j/kg$)

A. 12

B. 10.5

C. 1.02

D. 1.24

Answer: D

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4. The surface of a black body is at a temperature $727^\circ C$ and its cross-section is $1m^2$. Heat radiated from this surface in one

minute in joules is (Stefan's constant = $5.7 \times 10^{-8} W / m^2 / k^4$)

A. 34.2×10^5

B. 2.5×10^5

C. 3.42×10^5

D. 2.5×10^6

Answer: A

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5. Two moles of a gas is expanded to double its volume by two different processes. One is isobaric and the other is isothermal. If W_1 and W_2 are the works done respectively them

A. $w_2 = \frac{w_1}{\ln 2}$

B. $w_2 = w_1$

C. $w_2 = w_2 \ln 2$

D. $w_1^2 = w_2 \ln 2$

Answer: C

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6. Three unequal resistor in parallel are equivalent to a resistance 1Ω If two of them are in the ratio 1:2 and if no resistance value is fractional the largest of the three resistance in ohm is

A. 10Ω

B. 8Ω

C. 15Ω

D. 6Ω

Answer: D

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7. The change in current through a junction diode is 12mA when the forward bias voltage is changed by 0.6 V. The dynamic resistance is

A. 500Ω

B. 300Ω

C. 150Ω

D. 250Ω

Answer: A

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