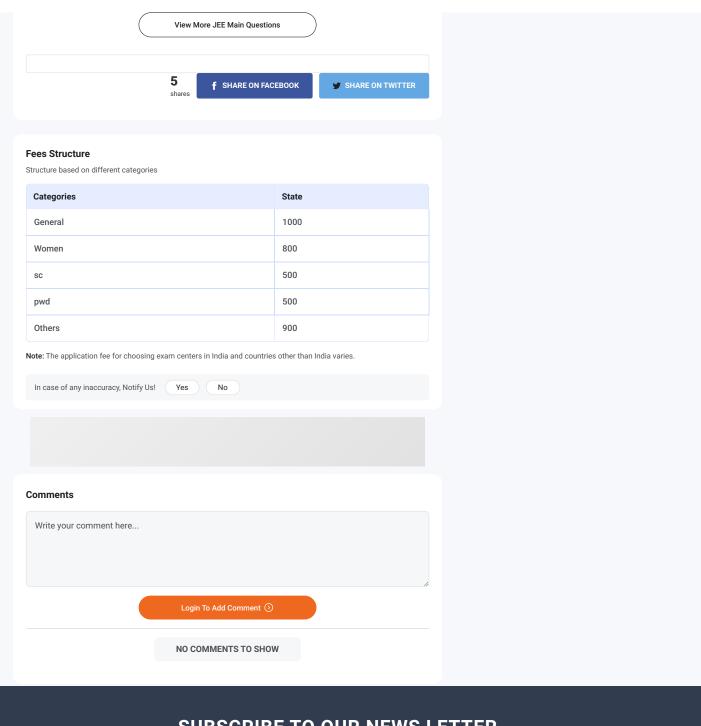


A compressive force, F is applied at the two ends of a long thin steel rod. It is heated, simultaneously, such that its temperature increases by $\Delta T$ . The net change in its length is zero. Let L be the length of the rod, A is its area of cross-section. Y is Young's modulus, and $\alpha$ is its coefficient of linear	JEE Main PYQ
expansion. Then, F is equal to ${\sf A}  {\sf (A)} \ L^2 Y a \Delta T$	You can also check
<b>A</b> ( <b>A</b> ) L <sup>-</sup> ΥαΔΤ	JEE Main Overview
B (B) $\frac{AY}{a\Delta T}$	JEE Main Question Paper
с <b>(С)</b> АУаДТ	JEE Main Cutoff
	JEE Main Registration
D (D) LAYa $\Delta$ T	JEE Main Exam Pattern
View Solution	JEE Main Preparation
At what temperature a gold ring of diameter 6.230 cm be heated so that it can be fitted on a wooden bangle of diameter 6.241 cm? Both the diameters have been measured at room temperature (27°C). (Given: coefficient of linear thermal expansion of gold $\alpha_L = 1.4 \times 10^{-5}  \text{K}^{-1}$ )	JEE Main Mock Test
	JEE Main Result
A 125.7°C	JEE Main College Predictor
	JEE Main News
B 91.7°C	JEE Main Q&A
c 425.7°C	JEE Main Participating College
D 152.7°C	
neat supplied to the material is $8.1 \times 10^2$ J, then the change in area of the rectangular sheet is: ${\rm A} = 2.0 \times 10^{-6}  {\rm m}^2$	
$_{ m B}$ $3.0 \times 10^{-7}{ m m}^2$	
$c = 6.0 \times 10^{-7} \mathrm{m}^2$	
$_{D}$ $4.0 \times 10^{-7}  \mathrm{m}^{2}$	
View Solution	
View Solution Each side of a box made of metal sheet in cubic shape is 'a' at room temperature 'T', the coefficient of inear expansion of the metal sheet is ' $\alpha'$ . The metal sheet is heated uniformly, by a small temperature $\Delta T$ , so that its new temperature is $T + \Delta T$ . Calculate the increase in the volume of the metal box.	
Each side of a box made of metal sheet in cubic shape is 'a' at room temperature 'T', the coefficient of inear expansion of the metal sheet is ' $lpha'$ . The metal sheet is heated uniformly, by a small temperature $\Delta T$ , so that its new temperature is $T + \Delta T$ . Calculate the increase in the volume of the	
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