QUES 01:-

The ratio of work done by an ideal monoatomic gas to the heat supplied to it in an isobaric process is :

[Main Online April 9, 2016]

(a) $\frac{2}{5}$ (b) $\frac{3}{2}$ (c) $\frac{3}{5}$ (d) $\frac{2}{3}$

**(a)** Efficiency of heat engine is given by

$$\eta = \frac{w}{Q} = 1 - \frac{C_V}{C_P} = \frac{R}{C_p} = \frac{R}{\frac{5R}{2}} = \frac{2}{5}$$

$(\because C_p - C_v = R)$

For monoatomic gas $C_P = \frac{5}{2}R$ .