

2. At constant volume, 4 mol of an ideal gas when heated from 300 K to 500K changes its internal energy by 5000 J. The molar heat capacity at constant volume is _____ . (JEE Mains'20)

Ans: 6.25

Explanation:

$$\Delta U = nC_v\Delta T$$

$$5000 = 4 \times C_v(500 - 300)$$

$$C_v = 6.25 \text{ JK}^{-1}\text{mol}^{-1}$$