



2. Sodium metal crystallizes in a body centred cubic lattice with a unit cell edge of 4.29Å. The radius of sodium atom is approximately:

- (1) 1.86 Å⁰ (2) 3.22 Å⁰ (3) 5.72 Å⁰ (4) 0.93 Å⁰

Answer: In Body centred cubic lattice we know edge length(R) = $\frac{4}{\sqrt{3}}r$

Therefore $4.29 = \frac{4}{\sqrt{3}}r$ or $r = \frac{4.29 \times 1.732}{4} = 1.857 \sim 1.86$

Correct option is (1) 1.86 Å⁰