

Q1 JEE Main 2020 - 3 September (Morning)

An element with molar mass $2.7 \times 10^{-2} \text{kgmol}^{-1}$ forms a cubic unit cell with edge length 405 pm. If its density is $2.7 \times 10^3 \text{kgm}^{-3}$, the radius of the element is approximately $\times 10^{-12} \text{m}$ (to the nearest integer).

Q2 JEE Main 2020 - 5 September (Morning)

A diatomic molecule X_2 has a body-centred cubic (bcc) structure with a cell edge of 300 pm. The density of the molecule is 6.17g cm^{-3} . The number of molecules present in 200 g of X_2 is :

(Avogadro constant (N_A) = $6 \times 10^{23} \text{mol}^{-1}$)

- (A) $40N_A$
- (B) $4N_A$
- (C) $2N_A$
- (D) $8N_A$

Q3 JEE Main 2020 - 5 September (Evening)

An element crystallises in a face-centred cubic (fcc) unit cell with cell edge a . The distance between the centres of two nearest octahedral voids in the crystal lattice is

- (A) a
- (B) $\sqrt{2} a$
- (C) $\frac{a}{\sqrt{2}}$
- (D) $\frac{a}{2}$

Q4 JEE Main 2020 - 6 September (Evening)

A crystal is made up of metal ions ' M_1 ' and ' M_2 ' and oxide ions. Oxide ions form a ccp lattice structure. The cation ' M_1 ' occupies 50% of octahedral voids and the cation ' M_2 ' occupies 12.5% of tetrahedral voids of oxide lattice. The oxidation numbers of ' M_1 ' and ' M_2 ' are, respectively.

- (A) +3, +1
- (B) +4, +2
- (C) +1, +3
- (D) +2, +4

Solid State

JEE Main 2020 Chapterwise

Questions with Answer Keys

Chemistry

Q5 JEE Main 2020 - 8 January (Evening)

Which of the following compounds is likely to show both Frenkel and Schottky defects in its crystalline form?

- (A) $AgBr$
- (B) KCl
- (C) $CsCl$
- (D) ZnS

Solid State

JEE Main 2020 Chapterwise

Questions with Answer Keys

Chemistry

Answer Key

Q1 (143)

Q2 (B)

Q3 (C)

Q4 (D)

Q5 (A)

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