

PART 1 - CHEMISTRY

Topic : Solid state

SECTION-A : (Maximum Marks : 4)

This section contains **ONE** question.

Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is the correct answer.

For each question, choose the option corresponding to the correct answer.

Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 If **ONLY** the correct option is chosen;

Zero Marks : 0 If none of the options is chosen (i.e. the question is unanswered);

Negative Marks : -1 In all other cases.

1. In a metal deficient oxide sample, $M_xY_2O_4$ (M and Y are metals), M is present in both +2 and +3 oxidation states and Y is in +3 oxidation state. If the fraction of M^{2+} ions present in M is $\frac{1}{3}$, the value of X is _____. [JEE Advanced 2024 Paper 2]

(A) 0.25

(B) 0.33

(C) 0.67

(D) 0.75

Scan or tap for the
full solution



Space for Rough Work

SECTION-B : (Maximum Marks : 4)

This section contains **ONE** question.

The answer to each question is a **NUMERICAL VALUE**.

For each question, enter the correct numerical value of the answer (in decimal notation, truncated / rounded-off to the **SECOND DECIMAL PLACE**; e.g. 6.25, 7.00, -0.33, -.30, 30.27, -127.30) in the place designated to enter the answer.

Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 If **ONLY** the correct answer is entered;

Zero Marks : 0 In all other cases.

2. The density (in g cm^{-3}) of the metal which forms a cubic close packed (ccp) lattice with an axial distance (edge length) equal to 400 pm is _____.

Use: Atomic mass of metal = 105.6 amu and Avogadro's constant = $6 \times 10^{23} \text{ mol}^{-1}$

[JEE Advanced 2025 Paper 2]

Scan or tap for the
full solution



Space for Rough Work

JEE ADVANCED SOLID STATE — PYQS

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-A																												
Ques.	1																											
Ans.	D																											
SECTION-B																												
Ques.	2																											
Ans.	10.85 to 11.1																											