

PART 1 - CHEMISTRY

Topic : Solid state

SECTION-1 : (Maximum Marks : 3)

- 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 : +3 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-2 : (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-1																									
Ques.	1																								
Ans.	D																								

SECTION-2											
Ques.	2										
Ans.	10.85 to 11.1										