Chemistry Formula Sheet

Chapter by chapter, topic by topic. Written by the PadhoNa team for quick revision.

Unlock the full PadhoNa Test Series
Every chapter-wise JEE Main test on the real exam screen, with full solutions and automatic analysis. Plans from ₹99 a month.
padhona.com/go/test-series →

CHAPTER 24

Coordination Compounds

Werner's theory and nomenclature

$$\text{primary valency}=\text{oxidation state}; \qquad \text{secondary valency}=\text{coordination number}$$

EAN

$$\text{EAN}= Z-\text{oxidation state}+2\times\text{CN}$$

Isomerism

GEOMETRICAL ISOMERS

$$[\text{MA}_2\text{B}_2]\text{ sq. planar: 2}; \qquad [\text{MA}_4\text{B}_2]\text{ oct: 2}; \qquad [\text{MA}_3\text{B}_3]\text{ oct: 2 } (fac, mer)$$

$$\text{structural: ionisation, linkage } (\text{NO}_2^-/\text{ONO}^-), \text{ coordination, hydrate}$$

VBT and crystal field theory

OCTAHEDRAL SPLITTING

$$\text{CFSE}= \left(-0.4\, n_{t_{2g}} + 0.6\, n_{e_g}\right)\Delta_o + nP$$

$$\Delta_t = \tfrac{4}{9}\Delta_o$$

SPECTROCHEMICAL SERIES

$$\text{I}^- < \text{Br}^- < \text{Cl}^- < \text{F}^- < \text{OH}^- < \text{H}_2\text{O} < \text{NH}_3 < \text{en} < \text{CN}^- < \text{CO}$$

$$\Delta_o > P \text{ low spin}; \qquad \Delta_o < P \text{ high spin}$$

Stability

$$\beta_n = K_1K_2\cdots K_n; \qquad \text{chelates are more stable (chelate effect)}$$

Unlock the full PadhoNa Test Series

Every chapter-wise JEE Main test on the real exam screen, with full solutions and automatic analysis. Plans from ₹99 a month.

padhona.com/go/test-series →

Keep going with PadhoNa

Unlock the full PadhoNa Test Series

Every chapter-wise JEE Main test on the real exam screen, with full solutions and automatic analysis. Plans from ₹99 a month.

padhona.com/go/test-series →

PadhoNa Pro Chemistry notes

Complete, exam-focused Chemistry notes by the PadhoNa team: ₹99 for a year.

padhona.com/go/notes/chemistry →

Physics, Chemistry and Maths notes together

PadhoNa Pro · JEE: all three subjects for ₹249 a year, for JEE Main and Advanced.

padhona.com/go/pro →

© PadhoNa · padhona.com · This sheet is for personal study.