

JEE Mains 2023

Chemistry hacked

→ Most important
topics from
each chapter
on basis of
previous year
trend.

Inorganic Chemistry

① Chemical Bonding

→ shape and geometry

→ Molecular Orbital Theory
hybridization

② Periodic Table

→ Electron affinity exception of Group 16 and Group 17

→ Ionisation Energy

Orders
→ Periodic properties
trends.

③ Hydrogen

→ Hardness removal
reactions
→ Preparation of
hydrogen
→ Preparation of H_2O_2
acidic, basic reactions of
 H_2O_2

④ s block

→ Hydration Enthalpy
Order Lip ①

Order Gp 2

↳ Anomalous behaviour
of Li
and Be

(5) pblock (Gp 13, Gp 14)

- Boron compounds
(H_3BO_3 , $Na_2B_4O_7 \cdot 10H_2O$,
inorganic benzene)
- Gp 13. IE order
and size order
- Diamond and
Graphite

⑥

P block (Lip 15, 16, 17, 18)

- Oxides of nitrogen
- Oxyacids of phosphorus,
 PCl_3 , PCl_5 , HNO_3 , NH_3 reactions
- Disproportionation reactions of HNO_2 ,
 H_3PO_2 , Se_2O_2
- Ozone reactions
- All tropy of Sulphur, phosphorus
- H_2SO_4 preparation and reactions

→ Reactions of U
→ Reactions of Xe

⑦

D-F block

→ Reactions and preparation of KMnO_4 , $\text{K}_2\text{Cr}_2\text{O}_7$

→ Size, IE, colour and atomization energy d block

→ f block general physical properties

⑧ Metallurgy

- Ellingham diagram
- Froth floating
- Metallurgy of Au
- Fe, Cu Metallurgy
- Roasting and calcination
- Learn all ores

⑨

Coordination compounds

- shape, hybridization, magnetic nature of some compound
- Isomerism question (shape or structure)

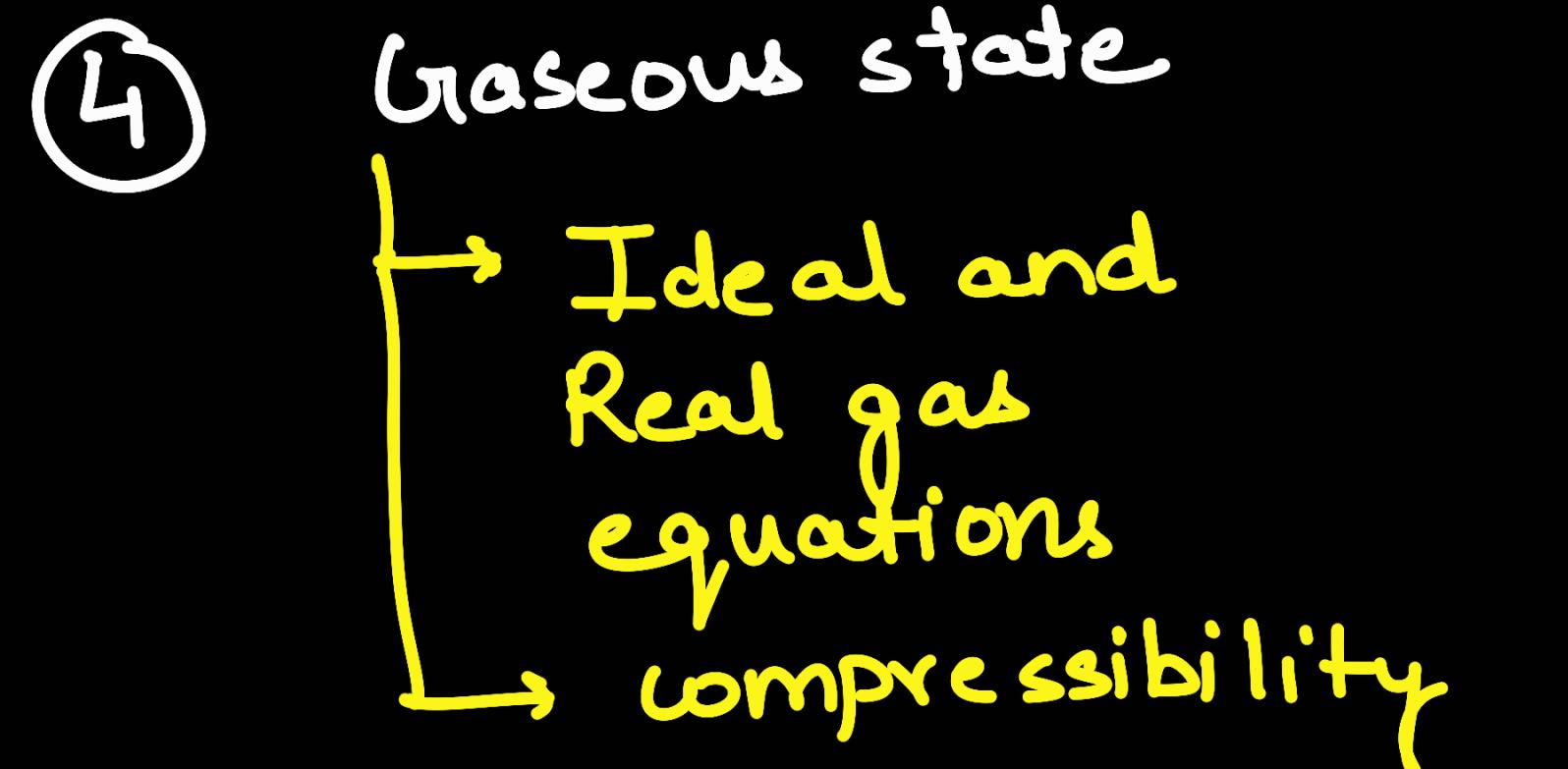
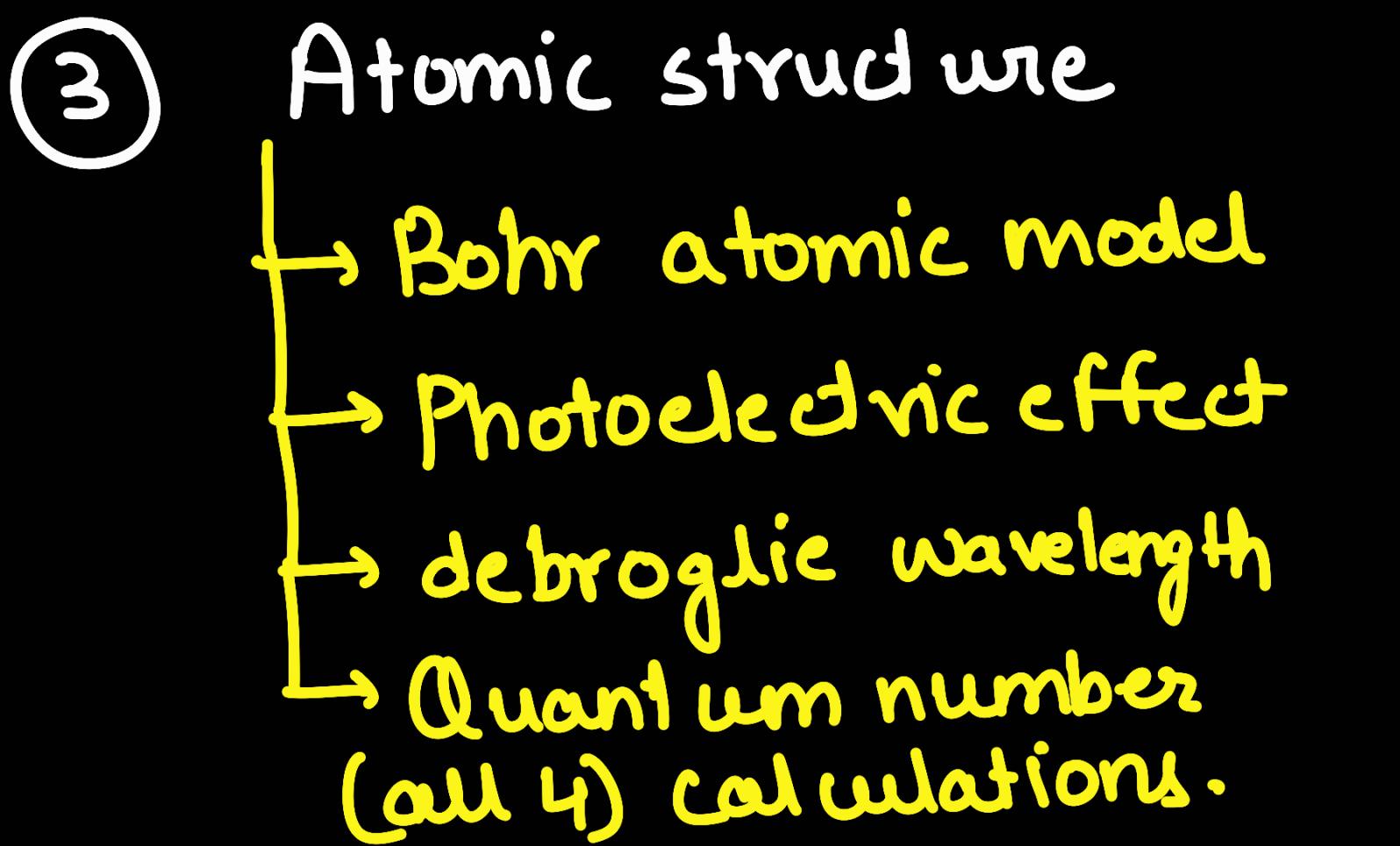
Physical chemistry

① Mole concept

- Limiting Reagent
- Calculation of stoichiometry
- Molarity, molality calculations.

② Redox Reactions

- Normality questions
- KMnO_4 , $\text{Na}_2\text{S}_2\text{O}_3$ reactions
- Simple ON calculation



(Temperature, Pressure)

⑥

Ionic Equilibrium

- Solubility product
(Most important)
- pH calculation
(especially buffer)
- Salt hydrolysis
- K_c, K_p relation

⑦

Thermodynamics and Thermochimistry

- Isothermal,
Adiabatic
processes
- Hess Law

↳ First Law of Thermodynamics

⑧

Solid state

- ↳ Unit cell
(Types, No of atoms, relations between edge and radius)
- ↳ Density calculation
- ↳ defects

⑨

Dilute solutions

- ↳ Van't Hoff factor calculation in colligative properties)

10 Electrochemistry

- Nernst Equation calculations
- Faraday's first Law

11 Chemical Kinetics

- First order equations and half life calculation
- Arrhenius equation

12 Surface chemistry

- colloidal solution properties

→ Adsorption equation
 $\frac{x}{m} = KP^{1/n}$

+ Adsorption effect
due to temp., pressure
etc

↳ Preparation,
properties
of colloids

Organic chemistry.

GOC

Acidity, Basicity

orders (Most
important)

Stability of
Carbocation

Isomerism

↳ Geometrical
and optical
isomerism

Practical Organic Chem.
and Nomenclature

↳ whole chapter

Alkane, Alkene, Alkyne

- Wurtz Reaction ,
Kolbe Electrolysis
- Addition of halogen
in Alkane, Alkene,
Alkyne
- addition of Br_2
Ozonolysis reaction
bromine water
on alkene , alkyne
- addition of HBr

Haloalkanes and
Halocarbenes

→ S_N1, S_N2, E1, E2
(on NCERT Level)

→ Frankland,
Swartz

Finkstein
reactions

[Learn by heart]

Alcohol, Phenol Ether

→ Addition of HI, H₂SO₄, HBr

→ Preparation (at NCERT
level)

Williamson
synthesis

Aldehyde Ketone

- All tests
- Oxidation
- Reduction reactions
- Nucleophilic addition Reactions
- Tollen's Reagant
- All condensation (ALDOL and Cannizzaro most imp)

Carboxylic acid

- HVZ
- Heating of carboxylic acid
- Kolbe electrolysis and decarboxylation
- Rossmund Reaction
- Gabriel phthalimide

Amines

- Reduction of Nitroalkanes
- Hoff man bromide degradation

- Carbylamine reaction
- Hinsberg test
- coupling Reaction

Aromatic compound

- EAS reaction
- Reimer Teimann reaction

Polymer

↳ Read full NCERT

Biomolecules

- ↳ carbohydrates

Chemistry in Everyday life
and Environmental
chemistry

→ Read full NCERT