



Revision Chemistry

A complete Revision material for class XII as per new syllabus of NCERT



Revision Booket-2

1. Surface Chemistry : 4 marks
2. General Principles and Processes of Isolation of Elements : 3 marks

As per the previous CBSE papers from the above two chapters questions are generally very easy.

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Unit: 5:- Surface Chemistry (4 marks)

1. Define the terms Adsorption, desorption & Sorption.
2. Why is adsorption always Exothermic?
3. Why does Physisorption decrease with the increase of temperature?[2008C]
4. What is the difference between Physisorption and Chemisorption?[2010C]
5. Of Physisorption and Chemisorption which type has more enthalpy of adsorption? [2008]
6. Why finely divided substance is more effective as an adsorbent.[2011C]
7. What is an adsorption isotherm? Describe Freundlich adsorption isotherm.[2010C]
8. Adsorption of a gas on the surface of solid is generally accompanied by a decrease in entropy. Still it is spontaneous process. Explain [CBSE SAMPLE PAPER]
9. Name the catalyst and the promoter used in Haber's process for Manufacture of ammonia.[CBSE SAMPLE PAPER]
10. Distinguish between Homogenous and Heterogeneous Catalysis Giving examples.[CBSE SAMPLE PAPER]
11. Write a short note on: (a) Activity and Selectivity of catalyst (b) Shape selective catalyst [2007,2010,2011]
12. How the following colloids different with respect to dispersed phase & dispersion medium .Give one example of each. (i)Gel (ii)aerosol(iii)Hydrosol [2009,2010]
13. What are the physical states of dispersed phase and dispersion medium of froth? [CBSE SAMPLE PAPER]
14. Classify colloids where the dispersion medium is water.State their characteristics and write an example of each of these classes.[2011]
15. What are Lyophilic and Lyophobic sols? Give one example of each type.[2011]
16. What is the difference between multimolecular and macromolecular colloids? Give one example of each. How are associated colloids different from these two types of colloids?[2007,2008]
17. Explain the terms (a) Dialysis.[2007, 2011C] (b) Colloidion [CBSE SAMPLE PAPER]
18. Explain the terms (a) Tyndall effect[2010,2011, 2011C](b)coagulation?[2009,2010] (c) Electrophoresis[2011C] (d) Peptization [2010] (e) reversible sols[2010] (f) Brownian movement (g) Hardy Schulze rule
19. Explain what is observed:[2008,2009,2011]
 - (i) When a beam of light is passed through a colloidal sol.
 - (ii) An electrolyte, NaCl is added to hydrated ferric oxide sol
 - (iii) Electric current is passed through a colloidal sol.
20. Name any method by which coagulation of lyophobic sols can be carried out.[2010]
21. Why is ferric chloride preferred over potassium chloride in case of a cut Leading to bleeding?[CBSE SAMPLE PAPER]
22. why sky looks blue to us.[CBSE SAMPLE PAPER]
23. Explain the Formation of delta.
24. What are emulsions? What are their different types?[2009,2010]

25. Explain a freshly formed precipitate of ferric oxide can be converted to a colloidal sol by shaking it with a small quantity of ferric chloride. [CBSE SAMPLE PAPER]
26. Name the potential difference between the fixed layer and the diffused layer of opposite charge. [CBSE SAMPLE PAPER]
27. A colloidal solution of AgI is prepared by two different methods. (A) AgNO₃ solution is added to excess KI solution. (B) KI solution is added to excess AgNO₃ solution. What is the charge on the Ag I colloidal particles in the two cases. Explain. [CBSE SAMPLE PAPER]
28. Most effective electrolyte causing the coagulation of Fe₂O₃.H₂O/Fe³⁺ is a) MgCl₂ b) KCl c) K₄[Fe(CN)₄] d) AlCl₃ [CBSE SAMPLE PAPER]

Unit: 6:- General Principles and Processes of Isolation of Elements (3 marks)

- Differentiate between “minerals” and “ores”.
- Describe the Principle involved in each of the following processes of Metallurgy: (a) Hydraulic washing (b) **Magnetic separation** (c) **Froth floatation method used for concentration of ore** (d) Leaching (preparation) of pure alumina from bauxite ore (e) **Leaching (Recovery) of Silver/Gold from Silver/Gold Ore.**
- Explain the role of: (i) Pine oil (Collectors) in froth floatation method (ii) Stabilizers (e.g., cresols, aniline) in froth floatation method (iii) **Depressant in froth floatation method** (iii) **NaCN in purification of ZnS & PbS ore** (v) **NaCN in the extraction of Silver/Gold from Silver/Gold Ore** (vi) **zinc in the extraction of Silver/Gold**
- Giving examples differentiate between **Calcination and Roasting.**
- What is **Pyrometallurgy**?
- How can you separate the alumina from silica in a bauxite ore associated with silica. Give chemical reactions.
- An ore sample of galena (PbS) is contaminated with zinc blende (ZnS). Name one Chemical which can be used to concentrate galena selectively by froth floatation method.
- a) Write down **the reactions taking place in different zones in the Blast furnace** during the extraction of iron.
b) What is **the role of limestone in the extraction of iron**?
c) Write a non exothermic reaction taking place in Blast furnace during the extraction of iron?
d) Which type of iron is obtained from Blast furnace during the extraction of iron?
e) Describe the principle controlling preparation of cast iron from pig iron.
- a) Explain Hall-Heroult electrolysis process of the extraction of aluminium.
b) What is **the role of cryolite in the metallurgy of aluminium**?
c) What is the **role of the graphite rod in the metallurgy of aluminium**?
d) **Why Graphite is used as an anode but not diamond.**
a) Explain the Extraction of copper from cuprous oxide with chemical reactions
b) State the **role of silica in the metallurgy of copper.**
- Describe the Principle involved in each of the following processes:

- a) Liquation
- b) Distillation
- c) Electrolytic refining
- d) Zone refining
- e) Vapour phase refining
- f) Mond process for refining Nickel
- g) Van arkel method for refining zirconium
- h) Van arkel method for refining Titanium
- i) Chromatography
- j) Column Chromatography

11. Which method is used for refining Zr and Ti? Explain with equation.
12. How are metals used as semiconductors refined? What is the principle of the method used?
13. Name the common elements present in the anode mud in electrolytic refining of copper. Why are they so present?
14. What is flux. What is the role of flux in the metallurgy of Iron & Copper.
15. What principle is involved in choosing a reducing agent for getting the metal from its oxide ore?
16. (a) Explain the Extraction of Zinc with chemical reactions
 b) Out of C and CO, which is a better reducing agent for ZnO and Why.
 c) Why is zinc not extracted from zinc oxide through reduction using CO?
17. Consider the metal oxides Al_2O_3 and Fe_2O_3 and justify the choice of reducing agent in each case.
18. Predict conditions under which Al might be expected to reduce MgO.
19. Why the reduction of a metal oxide is easier if the metal formed is in liquid state at the temperature of reduction?

नन्हीं चींटी जब दाना लेकर चलती है, चढ़ती दीवारों पर, सौ बार फिसलती है।
 मन का विश्वास रगों में साहस भरता है, चढ़कर गिरना, गिरकर चढ़ना न अखरता है।
 आखिर उसकी मेहनत बेकार नहीं होती, कोशिश करने वालों की कभी हार नहीं होती।