

EVERWIN MATRIC. HR. SEC. SCHOOL

Std: XII (A-E)

Revision-II Material

Chemistry

Ln-8 Ionic equilibrium

1. Arrhenius concept of acids and bases and its limitations (Pg 2,3)
2. Explain the bond formation between BF_3 and NH_3 (Pg 4)
3. What is ionic product of water? (Pg 7)
4. Define p^{H} and p^{OH} (Pg 9)
5. Relation between p^{H} and p^{OH} (Pg 9, 10)
6. Ostwald's dilution law (Pg 12, 13)
7. Common ion effect (Pg 15)
8. What are buffers? Give its types and example (Pg 16)
9. Henderson – Hasselbalch equation (Pg 18, 19)
10. Solubility product and its use (Pg 25)
11. Expression for the hydrolysis constant and degree of hydrolysis of salt of strong acid and weak base (Pg 22, 23)

Ln-9 Electro chemistry

12. Ohm's law (Pg 34)
13. Specific conductance (Pg 35)
14. Factors affecting electrolytic conductance (Pg 37, 38)
15. Measurement of conductivity of ionic solutions – Wheatstone Bridge (Pg 38)
16. Kohlraush's law (Pg 41)
17. Calculating the molar conductance of weak electrolyte (Pg 42)
18. Classification of Electrochemical cell (Pg 43)
19. Construction of Galvanic cell (Pg 44, 45, 46)
20. Galvanic cell notation (Pg 46)
21. Standard Hydrogen Electrode (Pg 48)
22. Relation between Emf and ΔG (Pg 50)
23. Derive Nernst equation (Pg 51)
24. Faraday's laws (Pg 54, 55)
25. Electrochemical equivalent (Pg 54)
26. Leclanche cell (Pg 56)
27. Mercury button cell (Pg 57)

28. Lead storage battery (Pg 58)
29. Hydrogen – oxygen fuel cell (Pg 60)
30. Electrochemical mechanism of corrosion (Pg 60, 61)
31. Methods of protection of metals from corrosion (Pg 61)
32. Molar conductance of the solution increases with increase in dilution. Why?
33. Why AC current is used instead of DC in measuring the electrolytic conductance? (Pg 38)

Ln-10 Surface Chemistry

34. What are colloids? Give examples (Pg 86)
35. What are promoters and catalyst poison? (Pg 79)
36. Active centres (Pg 82)
37. Distinguish chemisorption and physical adsorption (Pg 71, 72)
38. Factors affecting adsorption (Pg 72, 73)
39. Freundlich adsorption isotherm (Pg 74)
40. Homogeneous and heterogeneous catalysis with eg (Pg 77)
41. Intermediate compound formation theory (Pg 80)
42. Adsorption theory (Pg 81, 82)
43. Zeolite catalysis (Pg 84)
44. Nano catalysis (Pg 80)
45. Lyophilic and lyophobic colloids with example (Pg 87)
46. Dispersion methods of preparation of colloids (Pg 88, 89, 90)
47. Tyndall effect, Brownian movement (Pg 93)
48. Helmholtz double layer (Pg 94)
49. Electrophoresis (calculating charge of sol) (Pg 94, 95)
50. Electroosmosis (calculating charge of dispersion medium) (Pg 95)
51. Write a short note on emulsions (Pg 97)
52. Any 5 applications of colloids (Pg 98, 99)
53. Difference between Sol and Gel
54. Give the uses of emulsions.
55. Why does bleeding stop by rubbing moist alum?

Ln-11 Hydroxy Derivatives

56. Hydroboration (Pg 109)
57. Saponification (Pg 110)
58. Lucas test (Pg 110, 111)
59. Saytzeff's rule (Pg 116)
60. Role of ADH in biological oxidation (Pg 118)
61. Convert Glycol → acetaldehyde (Pg 119)
62. Uses of methanol, ethanol, glycol, glycerol (Pg 122)
63. Explain the acidic nature of alcohol with example (Pg 123)
64. Dows process (Pg 126)
65. Preparation of phenol from Cumene (isopropyl benzene) (Pg 126, 127)
66. Schotten – Baumann reaction (Pg 127)
67. Williamson ether synthesis (Pg 127, 128)
68. Kolbe's schmit reaction, Rieme-Tieman Reaction (Pg 130)
69. Preparation of Phenolphthalein, coupling reaction (Pg 131)
70. Test to differentiate alcohol and phenol (Pg 131)
71. Friedel craft's reaction (Pg 138)
72. Uses of Diethyl ether (Pg 138)
73. Electrophilic substitution reactions of anisole (Pg 138)

Ln-12 Carbonyl compounds and carboxylic acids

74. Rosenmund reduction (Pg 151)
75. Stephen's reaction (Pg 151)
76. Reaction (DIBAL – H) (Pg 151)
77. Etard reaction (Pg 151)
78. Gattermann-Koch reaction (Pg 152)
79. Friedel crafts acylation (Pg 152)

80. Write a short note of nucleophilic addition reactions of aldehydes and ketones (Pg 154). Give one example (Pg 155)
81. Give the structure of urotropine (Pg 158)
82. Discuss Popoff's rule (Pg 159)
83. Clemmensen reduction (Pg 160)
84. Wolf Kishner reduction (Pg 161)
85. Formation of Pinacol (Pg 161)
86. Aldol condensation (Mechanism) (Pg 161, 162)
87. Claisen-Schmidt condensation (Pg 163)
88. Cannizaro reaction (Pg 163)
89. Benzoin condensation (Pg 164)
90. Perkin reaction (Pg 165)
91. Knoevenagal reaction (Pg 165)
92. Preparation of Schiff's base (Pg 165)
93. Test for Aldehydes (Pg 166)
94. Esterification (Pg 173)
95. Kolbes electrolytic decarboxylation (Pg 175)
96. Reducing action of Formic Acid (Pg 177)
97. Tests for carboxylic acid group (Pg 177)
98. Effects of substituents on the acidity of carboxylic acids (Pg 178, 179)
99. Alcoholysis and Ammonolysis (Pg 183)
100. Transesterification (Pg 185)
101. Hoffmann's degradation (Pg 188)

Ln-13 Organic Nitrogen compounds

102. Acidic nature of nitroalkanes (Pg 200)
103. Electrophilic substitution reaction (Pg 204)

104. Mendius reaction (Pg 208)
105. Hoffmann's degradation reaction (Pg 209)
106. Gabriel phthalimide synthesis (Pg 209)
107. Hoffmann's ammonolysis (Pg 209)
108. Discuss Solvation effect of amine (Pg 213)
109. Schotten-Baumann reaction (Pg 214)
110. Diazotization (Pg 215)
111. Libermann's nitroso test (Pg 215)
112. Carbylamine reaction (Pg 216)
113. Mustard oil reaction (Pg 216)
114. Sandmeyer reaction (Pg 220)
115. Gattermann reaction (Pg 220)
116. Baltz-Schiemann reaction (Pg 221)
117. Gomberg reaction (Pg 221)
118. Coupling reaction (Pg 222)
119. Thorpe nitrile condensation (Pg 225)
120. Uses of organic nitrogen compounds (Pg 228)

Ln-14 Biomolecules

121. What are carbohydrates? (Pg 238)
122. Explain structure of Glucose (Pg 240-243)
123. Explain structure of Fructose (Pg 244-246)
124. Draw the cyclic structure of glucose and fructose (Pg 243 & 246)
125. Draw the structures of Sucrose, Lactose and Maltose (Pg 247 & 248)
126. Importance of Carbohydrates (Pg 250), Proteins (Pg 256), & Lipids (Pg 258)
127. What is isoelectric point? (Pg 252)
128. What is peptide bond? (Pg 252)
129. Discuss the structure of proteins. (Pg 254)
130. Explain Mechanism of enzyme action (Pg 257)

131. Discuss composition and structure of nucleic acid (Pg 261-262)
132. Discuss double strand helix structure of DNA (Pg 262)
133. Difference between DNA & RNA (Pg 264)
134. Classification of hormones (Pg 267)
135. Write types of RNA molecules (Pg 264)

Ln-15 Chemistry in Everyday life

136. Structures of penicillin (Pg 273)
137. Cleansing action of soap (Pg 284)
138. Write a note on Free radical polymerization (Pg 287)
139. Preparation of Bakelite (Pg 290)
140. Differences between disinfectants and Antiseptics (Pg 282)
141. What are Analgesics? Give examples. (Pg 278)
142. What are antihistamines? Give examples (Pg 280)
143. What are antifertility drugs? Give examples (Pg 282)
144. What is Teflon? Give the preparation of Teflon and write its uses. (Pg 288)
145. Write the preparation of Nylon-6,6.
146. Give the preparation of Buna-N and Buna-S (Pg 292)
147. What are biodegradable polymers? Give examples.
148. What are antihistamines? Give examples. (Pg 280)
149. What are anaesthetics? Give examples.
150. Write a note on Vulcanization of rubber. (Pg 292)
151. How the tranquilizers work in the body? (Pg 277)
152. What are allosteric inhibitors? (Pg 275)
153. What are antagonists and agonists? (Pg 276)