

COMPULSORY PROBLEM QUESTIONS BANK

70(A) HYDROXY DERIVATIVES

PTA BOOK EXERCISE PROBLEMS

1. An Organic compound 'A' has the formula C_2H_6O . It liberates hydrogen with metallic sodium. 'A' on oxidation with acidified dichromate gives 'B' (C_2H_4O). 'B' undergoes iodoform test 'B' on further oxidation gives 'C' ($C_2H_4O_2$). 'C' gives effervescence with sodium bicarbonate solution. Identify A, B and C explain the reactions. (June-2006)
2. An Organic compound 'A' has the formula C_3H_8O with sodium hypochlorite ($NaClO$) it gives 'B' (C_3H_6O). 'B' reacts with chlorine to give 'C' ($C_3H_6Cl_2O$). 'A' with anhydrous Zinc chloride and $Con.HCl$ gives turbidity after 5 to 10 minutes. What are A, B and C? Explain the reactions. (March-2006)
3. An Organic compound (A) (C_7H_8O) on oxidation with $Pb(NO_3)_2$ gives 'B' (C_7H_6O) 'B' has a bitter almond smell. 'A' when reduced with H_2/P gives the hydrocarbon 'C' what are A, B and C? Explain the reactions.
4. An Organic compound 'A' (C_6H_6O) gives violet colour with neutral $FeCl_3$ solution. When distilled with Zinc dust it gives the hydrocarbon 'B', 'A' with phthalic anhydride in the presence of $con.H_2SO_4$ gives 'C' ($C_{20}H_{14}O_4$) an indicator. What are A, B and C? Explain the reactions.
5. An aromatic hydrocarbon 'A' (C_9H_{12}) is obtained from benzene and propylene in the presence of anhydrous $AlCl_3$ 'A' on air oxidation gives 'B' ($C_9H_{12}O_2$) 'B' on acidification gives 'C' (C_6H_6O) and 'D' (C_3H_6O) and 'C' gives violet color with neutral $FeCl_3$ solution 'D' undergoes iodoform test. Identify A, B, C and D explain the reactions.
6. An organic compound 'A' (C_6H_6O) is a weak acid with NH_3 in the presence of anhydrous $ZnCl_2$ 'A' gives 'B' (C_6H_7N) 'A' with dimethyl sulphate gives 'C' (C_7H_8O). What are A, B and C? Explain the reaction?
7. An organic compounds 'A' ($C_2H_6O_2$) with PI_3 gives an alkene 'B'. 'A' with cone phosphoric acid gives a linear molecule 'C'. 'A' with $con.H_2SO_4$ gives a cyclic compound 'D'. What are A, B and C? Explain the reaction?
8. An organic compound 'A' $C_4H_{10}O$ liberates hydrogen with sodium. When heated with copper at 573K it gives 'B' (C_4H_8). 'A' with PCl_5 gives 'C'. What are A, B and C? Explain the reaction? An organic compound (A) of molecular formula C_3H_8O gives turbidity within 5-10 min on reaction with anhydrous $ZnCl_2/HCl$. Compound

- (A) on treatment with sodium hypochlorite gives a carbonyl compound (B) which on further chlorination gives compound (C) of molecular formula $C_3H_3OCl_3$. Identify (A), (B) and (C). Explain the reactions. [M-06]
9. An organic compound (A) of molecular formula C_2H_6O on treatment with PCl_5 gives compound (B). Compound (B) reacts with KCN to give a compound (C) of molecular formula C_3H_5N which undergoes acid hydrolysis to give compound (D) which on treatment with soda lime gives a hydrocarbon. Identify (A), (B), (C) and (D) and explain the reactions. [J-06]
10. An organic compound A of molecular formula C_6H_6O gives violet colouration with neutral $FeCl_3$. Compound A on treatment with metallic Na gives compound B. compound B on treatment with CO_2 at 400K under pressure gives C. This product on acidification gives compound D ($C_7H_6O_3$) which is used in medicine. Identify A, B, C and D and explain the reactions. [Oct-06]
11. An organic compound A of molecular formula C_3H_6O on reduction with $LiAlH_4$ gives B. Compound B gives blue colour in Victor Meyer's test and also forms a chloride C with $SOCl_2$. The chloride on treatment with alcoholic KOH gives D. Identify A, B, C and D and explain the reactions.
12. An organic compound (A) C_3H_8O answers Lucas test-within 5-10 minutes and on oxidation forms B(C_3H_6O). This on further oxidation forms C($C_2H_4O_2$) which gives effervescence with $Na_2CO_3 / NaHCO_3$. B also undergoes Iodoform reaction. Identify A, B and C. Explain the conversion of A to B and C. [J-07, J-09]
13. An organic compound (A) of molecular formula C_6H_6O gives violet colour with neutral $FeCl_3$. (A) gives maximum of two isomers (B) and (C). when an alkaline solution of (A) is refluxed with CCl_4 . (A) also reacts with $C_6H_5N_2Cl$ to give the compound (D) which is red orange dye. Identify (A), (B), (C) and (D). Explain with suitable chemical reactions. [S-07]
14. Compound A with molecular formula C_3H_6 is obtained from petroleum. When A is treated with chlorine at 773K compound B of molecular formula C_3H_5Cl is obtained. When B is treated with Na_2CO_3 solution at 773K/12 atm. it gives the compound C with molecular formula C_3H_6O , C on treatment with HOCl followed by hydrolysis NaOH gives D having molecular formula $C_3H_8O_3$. find A, B, C and D. Explain the reaction. [M-08]
15. Compound A of molecular formula C_7H_8 is treated with chlorine and then with NaOH to get compound B of molecular formula C_7H_8O . B on oxidation by acidified $K_2Cr_2O_7$ gives compound C of molecular formula C_7H_6O . compound C on treatment

- with 50% caustic soda gives the compound B and also D. Find A, B, C and D. Explain the reaction. **[J-08]**
16. An organic compound (A) C_7H_8O liberates hydrogen with metal sodium. (A) on treatment with acidic potassium dichromate gives (B) (C_7H_6O). Compound (B) when treated with conc. N_2H_4 & NaOH/KOH gives (A). (B) with acetic anhydride in the presence of sodium acetate gives (C) of molecular formula ($C_9H_8O_2$). Identify (A), (B) and (C). Explain the reactions involved. **[S-08]**
17. Two isomers (A) and (B) have the same molecular formula $C_4H_{10}O$. (A) when heated with copper at 573K gives an alkene (C) of molecular formula C_4H_8 . (B) on heating with copper at 573K gives (D) of molecular formula C_4H_8O which does not reduce Tollen's reagent but answers iodoform test. Identify (A), (B), (C) and (D) and explain the reactions. **[M-09]**
18. Compound (A) of molecular formula C_3H_8O liberates hydrogen with sodium metal. (A) With p/I_2 gives (B). Compound (B) on treatment with silver nitrite gives (C) which gives blue colour with nitrous acid. Identify (A), (B), (C) and explain the reaction. **[S-09]**
19. An organic compound X (C_6H_6O) gives maximum of two isomers Y and Z when an alkaline solution of X is refluxed with chloroform at 333K. Identify the compounds X, Y and Z and explain with proper chemical reactions. **[M.Q.Paper-I]**
20. An aromatic compound 'A' with molecular formula C_7H_8O gives hydrogen with metallic Na. 'A' on oxidation gives B C_7H_6O which does not reduce fehling's solution. When heat with concentrated NaOH 'B' gives two compounds 'A' and 'C' with molecular formula $C_7H_6O_2$. Identify A, B and C. Explain the reactions. **[M.Q.Paper-II]**
21. A simplest alkene 'A' with Bayer's reagent gives 'B'. With PI_3 B gives Back 'A' B with Con. Phosphoric acid gives a linear molecule 'C'. Where as with Con. H_2SO_4 gives a cyclic molecule 'D'. What are A, B, C and D. Explain the reactions. **[M.Q.Paper-III]**
- Two organic compound A and B have the same molecular formula C_2H_6O . A react with metallic sodium to give hydrogen where 'B' does not. A on strong oxidation gives C. 'C' gives effervescence with $NaHCO_3$. Identify A, B and C. explain the reactions. **[M.Q.Paper-IV]**
22. An aromatic compound 'A' has the molecular formula C_2H_6O . 'A' when heated with Al_2O_3 at 623K gives 'B' C_2H_4 . 'B' when treated with alkaline $Kmno_4$ gives 'C' ($C_2H_6O_2$). What are alkaline gives 'C' ($C_2H_6O_2$). What are A, B and C. Explain the reactions. **[M.Q.Paper-V, Mar-2011].**

70. (B) d - BLOCK ELEMENTS

PTA EXERCISE PROBLEM

- Compound (A) also known as Blue vitriol can be prepared dissolving cupric oxide in dil H_2SO_4 . 'A' on heating to 230°C gives compound 'B' which is white in color. 'A' reacts with excess of NH_4OH and gives C which is complex salt. 'B' also reacts with H_2S and gives compound 'D' which is black in color. Find out A, B, C and D. Explain the reaction.
- Compound 'A' is a powerful oxidizing agent and also it is a red orange crystal which melts at 396°C . A reacts with chloride salt and conc H_2SO_4 to give 'B' which is reddish brown in colour. 'A' also reacts with an alkali to give 'C' which is yellow in colour. Find out 'A', 'B' and 'C'. Explain the reaction.
 - An Element 'A' is obtained from the telluride Ore and is unaffected by dry (or) moist air. 'A' reacts with aqua regia to give 'B' and 'C'. A also reacts with Cl_2 to give compound 'B'. Find A, B and C. Explain the reaction. Give any one of the uses of 'A'.
- An Element 'A' Occupies group number II and Period number 4. This metal is extracted from its mixed sulphide ore B. A reacts with dil. H_2SO_4 in presence of air to form 'C' which is blue in colour identify A, B, and 'C'. (March -2007).
- An Element 'A' is obtained from argentite ore. 'A' reacts with conc. H_2SO_4 to give cpd 'B'. 'A' also reacts with Cl_2 to give compound 'C' Find out A, B and C. Explain the reactions involved. Write any two uses of the element 'A'.
- An Element 'A' in group number 12, period number 4 is extracted from its sulphide ore 'A' reacts with O_2 at 773K to give philosophers wool. A reacts with hot NaOH to give Compound 'C'. A also reacts with dil. HNO_3 and forms compound 'D' with a liberation of N_2O Find out A, B, C and 'D' Explain the reactions.
- An Element 'A' belongs to group number II and period number 4 is extracted from the ore copper pyrite. A reacts with oxygen at two different temperature forming compound B and C. A also reacts with conc. HNO_3 to give compound 'D' with the evolution of NO_2 Find out A, B, C and 'D' Explain the reactions. (Sep-2007, March-2010)
- Silver reacts with dil. HNO_3 and gives compound 'A' which on heating at 723K gives 'B'. 'B' on Further heating gives 'C' Further heating gives 'C' further 'A' reacts with

KBr to give compound 'D'. Which is highly useful in photography. Identify A, B, C and D. explain the reactions. (June-2006, March- 2009)

TPTA MODEL QUESTION PAPERS :-

1. Chief ore of chromium (A) on roasting with sodium carbonate gives compound (B) and (C). (B) an acidification gave compound (D) which on treatment with KCl gave compound (E). Identify the compounds A, B, C, D and E. Explain with proper chemical reaction. [Model Q Paper – I, March-2011]
2. A reddish brown metal 'A' on heating to redness gives 'B' which is Black in colour. 'B' dissolves in dil.H₂SO₄ to give 'C' which is blue crystal. On heating to 720⁰ C gives back 'B'. What are A, B, C, D. [Model Q Paper-II] (March-10)
3. A sulphate compound of a metal in group II, is also called as blue Vitriol. The Compound undergoes deaxmposition at Various temperatures A $\xrightarrow{373K}$ B $\xrightarrow{503K}$ C $\xrightarrow{993K}$ D Identify the compound A, B, C and D. Explain the reaction. (June -09, Model Q paper – II)
4. An Element 'A' belongs to group number II period number 5 is a lustrous white metal 'A' reacts with dil.HNO₃ give 'B' 'B' with KI gives 'C' which is bright yellow in colour. Identify A, B, and C. Explain the Reaction. (Model Q Paper – IV)
5. A bluish white metal when treated with dil.HNO₃ give 'A' along with Zinc Nitrate and water. With very dilute HNO₃, it gives 'B' along with Zinc nitrate and water. The metal heated with air gives 'C'. (Model Q. Paper V)
6. An element (A) belong to group number II and period 4. (A) is a reddish brown metal. (A) reacts with HCl in the presence of air and gives compound (B). (A) also reacts with con.HNO₃ to give compound (C) with the liberation of NO₂. Identify (A), (B), (C). Explain the reaction. [M-06]
7. The sulphide ore of an element of group 12 when roasted gave compound A which on reduction with carbon gave the element B. The carbonate C of this element is used for skin disease. Identify A, B and C write the required reaction. [O-06]
8. An element A occupies group number 11 and period number 4. This metal is extracted from its mixed sulphide ore B. A reacts with dil.H₂SO₄ in presence of air and forms C which is colourless. With water C gives a blue compound D. Identify A, B, C and D and explain the reactions. [M-07]
9. The metal B is extracted from the ore A. On treatment with dil.nitric acid metal B gives a compound C, which is also known as Lunar Caustics. The compound C on

- treatment with KI gives a yellow precipitate D. Find A, B, C and D. Explain the reactions of the formation of A and D. [M-08]
10. A bluish white metal A present in 4th period and 12th group on heating in air gives a white cloud B. Metal A on treatment with conc. H₂SO₄ gives the compound C and SO₂ gas. Find A, B and C. Explain the reactions. [J-08]
11. An element belonging to group 12 and period 4 is bluish white in colour. (A) reacts with hot conc. H₂SO₄ forming (B) with liberation of N₂O. Identify (A) also reacts with dil.HNO₃ forming (C) with liberation of N₂O. Identify (A), (B) and (C). Explain the reactions involved. [S-08]
12. Compound A is a sulphate compound of group II element. This compound is also called Blue Vitriol. The compound undergoes decomposition at various temperatures. [J-09]
13. A bluish white metal when treated with dilute nitric acid gives (A) along with zinc nitrate and water. With very dilute acid it gives (B) along with zinc nitrate and water. The metal when heated with air gives (C). What are (A), (B) and (C)? Explain the reaction. [S-09]

70 (c) CARBONYL COMPOUNDS

1. An organic compound (A) of molecular formula C₇H₆O is not reduced by Fehling's solution but will undergo Cannizzaro reaction. Compound (A) reacts with aniline to give compound (B). Compound (A) also reacts with Cl₂ in the presence of catalyst to give compound (C). Identify (A), (B) and (C) and explain the reactions. [M-06]
2. An organic compound (A) C₂H₆O liberates hydrogen on treatment on with metallic sodium. (A) on mild oxidation gives (B) C₂H₄O which answers iodoform test. (B) when treated with conc. H₂SO₄ undergoes polymerisation to give (C), a cyclic compound. Identify (A), (B) and (C) and explain the reactions. [J-06]
3. An organic compound A (C₇H₆O) reduces Tollen's reagent. On treating with an alkali compound A forms B and C. B on treating with sodalime forms benzene and C(C₇H₈O) is an antiseptic. Identify compounds A, B and C. Explain the reactions. [O-06]
4. An organic compound A (C₆H₆O) gives maximum of two isomers B and C when an alkaline solution of A is refluxed with chloroform at 333K. B on oxidation gives an acid D. The acid D is also obtained by treating sodium salt of A with CO₂ under pressure. Identify A,B,C and explain the reactions. [M-07]

5. An organic compound A (C_7H_6O) forms a bisulphite. A when treated with alcoholic KCN forms B ($C_{14}H_{12}O_2$) and A on refluxing with sodium acetate and acetic anhydride forms an acid C ($C_9H_8O_2$). Identify A, B and C. explain the conversion of A to B and C. (or) An aromatic aldehyde (A) of molecular formula C_7H_6O which has the smell of bitter almonds on treatment with $(CH_3CO)_2$ and CH_3COONa to give compound (B) which is an aromatic unsaturated acid. (A) also reacts with (A) in the presence of alc. KCN to give dimer (C). Identify (A), (B) and (C). Explain the reactions. [J-07, S-07]
6. Compound A with molecular formula C_7H_6O reduces Tollen's reagent and also gives cannizzaro reaction. A on oxidation gives the compound B with molecular formula $C_7H_6O_2$. Calcium salt of B on dry distillation gives the compound C with molecular formula $C_{13}H_{10}O$. Find A, B and C. Explain the reaction. [M-08]
- i) Compound (A) reduces Tollen's reagent and so it must contain an aldehyde group. Then it undergoes cannizzaro reaction and it is an aldehyde without H atom. From the molecular formula (A) is identified as Benzaldehyde C_6H_5CHO .
7. Compound A having the molecular formula C_3H_4O reduces Tollen's reagent. A on treatment with HCN followed by hydrolysis gives the compound B with molecular formula $C_3H_6O_3$. Compound B on oxidation by Fenton's reagent gives the compound C with the molecular formula $C_3H_4O_3$. Find A, B and C. Explain the reaction. [J-08]
8. An aromatic compound (A) with molecular formula C_7H_6O has the smell of bitter almonds. (A) reacts with Cl_2 in the absence of catalyst to give (B) and in the presence of catalyst compound (A) reacts with chlorine to give (C). Identify (A), (B) and (C). Explain the reactions. [M-09]
9. An organic compound (A) of molecular formula C_2H_6O liberates hydrogen with metallic sodium. Compound (A) on heating with excess of conc. H_2SO_4 at 440K gives an alkene (B). Compound (B) when oxidised by Baeyer's reagent gives compound (C). Identify (A), (B) and (C). Write the reactions involved. [J-09]
10. An organic compound (A) C_2H_3OCl on treatment with Pd and $BaSO_4$ gives (B) C_2H_4O which answers iodoform test. (B) When treated with conc. H_2SO_4 undergoes polymerisation to give (C) a cyclic compound. Identify (A), (B) and (C). Write the reactions involved. [S-09]
11. An organic compound (A) (C_7H_6O) does not reduce fehling's solution on warming with NaOH it forms two compounds B and 'C'. 'B' can be oxidised to 'A' the compound 'C' on treatment with HCl forms acid 'D' which on treating with soda lime gives 'benzene'. Identify A to D. (Model. Q. P-I)

12. An aromatic compound 'A' with molecular formula C_3H_8O on oxidation gives 'B' C_3H_6O which undergoes iodoform reaction when 'B' is saturated iodoform reaction when 'B' is saturated with dry HCl gives two different compounds C, $C_6HO O$ and D C_9H_4O identify A,B,C and D. Explain the reaction. (M.Q.Paper-II, Oct-10)
13. An aromatic hydrocarbon 'A' on benzaolation gives 'B' of molecular formula $C_{13}H_{10}$ 'B' on reduction with Zn-Hg/con.HCl gives 'C' of molecular formula $C_{13}H_{12}$. What are A, B, and C. Explain the reactions. (M.Q.Paper-III)
14. An aromatic aldehyde 'A' with molecular formula C_7H_6O has the smell of bitter almond a react with Cl_2 in the absence of catalyst gives 'B' and in the presence of catalyst gives 'C'. Identify A, B and C. explain the reactions. (M. Q. Paper-IV, Mar-09)
15. Two organic compounds 'A' and 'B' have the same molecular formula C_3H_6O 'A' reduce Tollens reagent whereas 'B' doesnot. 'B' undergoes Iodoform test whereas 'A' does not. What are 'A' and 'B' explain the reactions. (M.Q.Paper-V)

PTA EXCERCISE PROBLEMS

1. An Organic compound A (C_2H_4O) undergoes iodoform test with hydrazine and sodium ethoxide 'A' gives 'B' (C_2H_6), a hydro carbon. 'A' with H_2SO_4 gives 'C' ($C_6H_{12}O_3$). What are A, B and C? Explain the reactions?
2. An Organic compound A (C_7H_6O) has a bitter almond smell with ammonia 'A' gives 'B' ($C_{21}H_{18}N_2$) with aqueous alcoholic KCN 'A' gives 'C' ($C_{14}H_{12}O_2$) with aromatic tertiary amine. A gives D ($C_{23}H_{26}N_2$) what are A, B, C and D. Explain the reactions?
3. An Organic compound A (C_8H_8O) undergoes iodoform test. When reduced with Zinc amalgam and HCl it gives 'B' (C_8H_{10}) 'A' with Br_2 in ether at 273K gives 'C' (C_8H_7OBr). Identify A, B and C? Explain the reactions?
4. An Organic compound A (C_2H_4O) with HCN gives 'B' (C_3H_5ON) 'B' on hydrolysis gives 'C' ($C_3H_6O_3$). 'C' is an optically active compound. 'A' also undergoes Iodoform test. What are A, B and C? Explain the reactions?
- a. An Organic compound A ($C_5H_{10}O$) does not reduce Tollen's reagent. It is a linear compound and undergoes Iodoform Test. On oxidation 'A' gives 'B' ($C_2H_4O_2$) and 'C' ($C_3H_6O_2$) as the Major product Identify A, B and C? Explain the reactions?
5. An Organic compound 'A' (C_7H_6O) reduce Tollen's reagent with acetic anhydride in the presence of Sodium acetate. 'A' gives an α, β unsaturated acid 'B' ($C_9H_8O_2$). With

acetone in the presence of alkali 'A' gives 'C' ($C_{10}H_{10}O$) what are A, B and C? Explain the reactions?

70 (d) ELECTRO CHEMISTRY-I

BOOK EXAMPLE PROBLEMS

1. Find the P^H of a buffer solution containing 0.20 mole per litre CH_3COONa and 0.15 mole per litre CH_3COOH , K_a for acetic acid is 1.8×10^{-5} . (Sep-2007, Oct-06, Jun-06, Model Q Paper -V)
2. The K_a of propionic acid is 1.34×10^{-5} . What is the pH of a solution containing 0.5M Propionic acid and 0.5M sodium propionate? What happens to the pH of the solution when volume is doubled by adding water? (March-2006)
3. Calculate the pH of 0.1M CH_3COOH solution. Dissociation constant of acetic acid is 1.8×10^{-5} M. (Model Q Paper-I, Mar-11, Jun-09)
4. 0.04N solution of a weak acid has a specific conductance 4.23×10^{-4} mho cm^{-1} . The degree of dissociation of acid at this dilution is 0.0612 calculate the equivalent conductance of weak acid at infinite solution. (March-07)
5. Equivalent conducting of acetic acid at infinite dilution is 390.7 and for 0.1M acetic acid the equivalent conductance is 5.2 mho cm^2 . gm. equiv $^{-1}$. (Model Q paper-IV, June-07)
6. The resistance of a 0.01 N solution of an electrolyte was found to 210 ohm at $25^\circ C$ using a conductance cell with a cell constant $0.88 cm^{-1}$. Calculate the specific conductance and equivalent conductance of the solution.
6. 0.1978 g of copper is deposited by a current of 0.2 ampere in 50 minutes. What is the electrochemical equivalent of copper? $t=50min,=50 \times 60 \text{ sec} = 3000 \text{ sec}$.
7. An electric current is passed through three cells in series containing respectively solutions of copper sulphate, silver nitrate and potassium iodide. What weight of silver and iodine will be liberated while 1.25 g of copper is being deposited.
8. If 50 milli ampere of current is passed through copper control meter for 60 min, Calculate the amount of copper deposited.
9. Ionic conductance's at infinite dilution of Al^{3+} and So_4^{2-} are $189 \text{ ohm}^{-1} \text{ cm}^2 \text{ gm. equiv}^{-1}$. and $160 \text{ ohm}^{-1} \text{ cm}^2 \text{ gm. equiv}^{-1}$. Calculate equivalent and molar conductance of the electrolyte at infinite dilution.

EXCERCISE PROBLEMS

1. What is the electro chemical equivalent of a substance when 150gm of it deposited by 10 ampere of current passed for 1 sec?
2. The electrochemical equivalent of an electrolyte is $2.35 \text{ gm amp}^{-1} \text{ sec}^{-1}$. Calculate the amount of the substance deposited when 5 ampere is passed for 10 sec.
3. To 1 M solution of AgNO_3 , 0.75 F quantity of current is passed. What is the concentration of the electrolyte, AgNO_3 remaining in the solution?
4. 0.5 F of electric current was passed through 5 molar solution of AgNO_3 , CuSO_4 and AlCl_3 connected in series. Find out the concentrations of each of the electrolyte after the electrolysis. **(Model Q Paper-III)**
5. To one molar solution of a trivalent metal salt, electrolysis was carried out and 0.667 M was the concentration remaining after electrolysis. Calculate the quantity of electricity passed.
6. A conductance cell has platinum electrodes, each with 5 cm^2 area and separated by 0.5 cm distance. What is the cell constant?
7. Using a conductivity cell with 0.9 cm^{-1} cell constant, the conductance was observed to be $2.5 \times 10^{-3} \text{ mho}$ for 0.07 M KCl solution. What is the specific conductance of the solution?
8. Specific conductance of 1 M KNO_3 solution is observed to be $5.55 \times 10^{-3} \text{ mho cm}^{-1}$. What is the equivalent conductance of KNO_3 when one litre of the solution is used?
9. Explain why on dilution the conductivity decreases whereas molar conductivity increases for an electrolytic solution.

The equivalent conductance's at infinite dilution of HCl, CH_3COONa and NaCl are 426.16, 91.0 and $126.45 \text{ ohm}^{-1} \text{ cm}^2 \text{ gm equivalent}^{-1}$ respectively. Calculate the λ_∞ of acetic acid. **(Model Q paper-II)**

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