



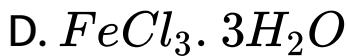
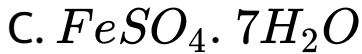
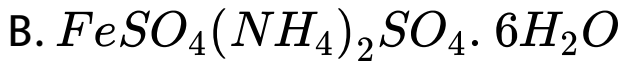
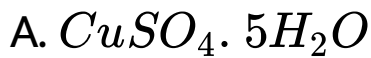
# CHEMISTRY

## BOOKS - MODERN PUBLICATION CHEMISTRY (KANNADA ENGLISH)

### APPENDIX A

#### Multiple Choice Questions Level I

1. Green vitriol is :



**Answer: C**



**Watch Video Solution**

2. Which of the following does not give test with dil. and conc.  $H_2SO_4$  ?



**Answer: D**



**Watch Video Solution**

**3. Nitrates on treating with conc  $H_2SO_4$  gives brown fumes due to :**

A.  $NO$

B.  $NO_3^-$

C.  $NO_2$

D.  $N_2O_5$

**Answer: C**



**Watch Video Solution**

4. Lead salts react with  $K_2CrO_4$  to give precipitates of :

A. white colour

B. yellow colour

C. red colour

D. blue colour

**Answer: B**



**Watch Video Solution**

**5. The colour of copper sulphide is :**

A. black

B. blue

C. brown

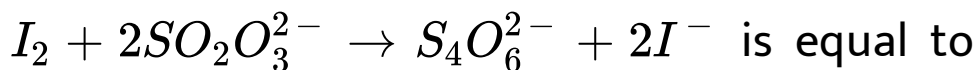
D. red.

**Answer: A**



**Watch Video Solution**

**6.** The equivalent weight of iodine in :



its :

A. mol. wt

B.  $\frac{\text{mol. wt}}{2}$

C.  $\frac{\text{mol. wt}}{4}$

D. *mol. wt*  $\times 2$

**Answer: B**



**Watch Video Solution**

7. One litre of 16 M  $H_2SO_4$  has been diluted to 100L. The normality of the resulting solution is

:

A. 0.16 N

B. 0.08 N

C. 0.32 N

D. 0.64 N .

**Answer: C**



**Watch Video Solution**

8. 0.45 g of an acid ( mol. Mass = 90 ) is neutralised by 20 ml of 0.5 N NaOH solution.

The basicity of the acid is :



A. 1

B. 2

C. 3

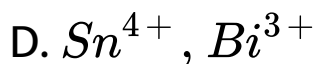
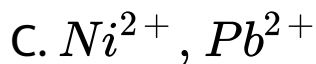
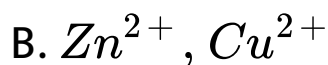
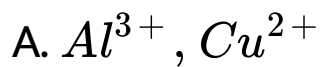
D. 4

**Answer: B**



**Watch Video Solution**

9. Which one among the following pairs of ions cannot be separated by  $H_2S$  in dilute HCl ?

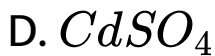
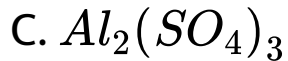
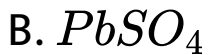


**Answer: D**



**Watch Video Solution**

**10.** Which of the following sulphate is insoluble in water ?

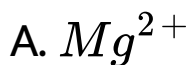


**Answer: B**



**Watch Video Solution**

**11. Flame test is not given by :**





**Answer: A**



**Watch Video Solution**

**12.** Blue coloured compound is obtained when

:

A.  $Fe^{2+}$  ions react with potassium

ferrocyanide

B.  $Fe^{3+}$  ions react with potassium

ferrocyanide

C.  $Fe^{3+0}$  ions react with potassium

ferrocyanide

D.  $Fe^{3+}$  ions react with potassium

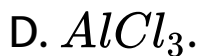
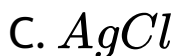
sulphocyanide .

**Answer: B**



**Watch Video Solution**

13. Which of the following has minimum solubility product ?



**Answer: C**



**Watch Video Solution**

14. Which of the following gas gives brown ppt. with Nessler's reagent ?

A.  $NO_2$

B.  $SO_2$

C.  $CO_2$

D.  $NH_3$  .

**Answer: D**



**Watch Video Solution**

15. Starch reacts with iodine to give :

A. blue black colour

B. black colour

C. red colour

D. yellow colour.

**Answer: A**



**Watch Video Solution**

16. Ring test is performed for :



A.  $NO_3^-$  ion

B.  $CO_3^{2-}$  ion

C.  $SO_3^{2-}$  ion

D.  $PO_4^{3-}$  ion.

**Answer: A**



**Watch Video Solution**

**17. The group reagent for group III is:**

A. dil HCl

B.  $NH_4OH$  in the presence of  $H_2S$

C.  $NH_4OH$  is the presence of  $NH_4Cl$

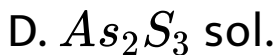
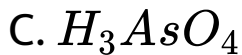
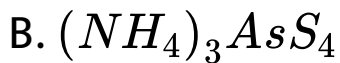
D.  $(NH_4)_2CO_3$  in the presence of  
 $NH_4OH$

**Answer: C**



**Watch Video Solution**

**18.**  $As_2S_3$  is soluble in yellow ammonium sulphide due to the formation of :



**Answer: B**



**Watch Video Solution**

**19.**  $Fe^{3+}$  ions react with potassium thiocyanide to give :

A. yellow ppt

B. blue colouration

C. blood red colouration

D. black ppt.

**Answer: C**



**Watch Video Solution**

**20.** Acidic solution of a salt produced deep blue colour with starch and potassium iodide is :

A. acetate

B. nitrite

C. chloride

D. bromide .

**Answer: B**



**Watch Video Solution**

**21.** On heating a metal chloride with  $K_2Cr_2O_7$  and conc.  $H_2SO_4$ , the gas evolved is :

A.  $O_2$

B.  $Cl_2$

C.  $CrO_2Cl_2$

D.  $CrOCl_2$

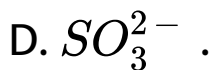
**Answer: C**



**Watch Video Solution**

**22.** The aqueous solution of a salt gives white ppt. with lead acetate solution which is

insoluble in hot water and nitric acid . The salt contains :



**Answer: C**



**Watch Video Solution**

23.  $Pb^{2+}$  belongs to :

A. Group I

B. Group II

C. Group IV

D. Both group II and I.

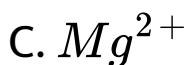
**Answer: D**



**Watch Video Solution**



24. Disodium hydrogen phosphate is used to test :

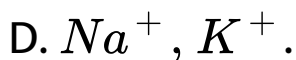
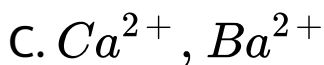
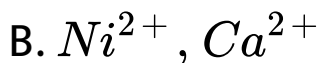
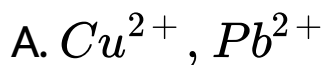


**Answer: C**



**Watch Video Solution**

25. Which of the following pair is precipitated with  $(NH_4)_2CO_3$  in the presence of basic medium ?

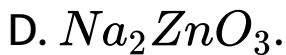
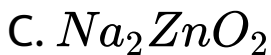
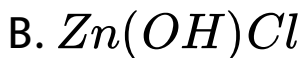
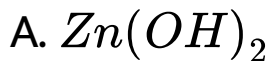


**Answer: C**



**Watch Video Solution**

26. Solution of ZnS in dil HCl , when treated with NaOH solution , a white ppt. is formed which dissolves in excess of NaOH due to the formation of :



**Answer: C**



**Watch Video Solution**

27. Which of the following sulphide is not soluble in dil.  $HNO_3$  ?

A.  $HgS$

B.  $CuS$

C.  $Bi_2S_3$

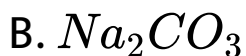
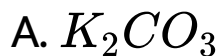
D.  $CdS$  .

**Answer: A**



**Watch Video Solution**

28. A colourless salt gives grassy green colour in bunsen flame, it may be :



**Answer: D**



**Watch Video Solution**

29. KCN is used for the separation of :

A.  $Na^+$  and  $K^+$

B.  $Cu^{2+}$  and  $Cd^{2+}$

C.  $Ba^{2+}$  and  $Ca^{2+}$

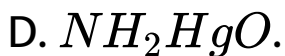
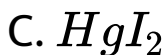
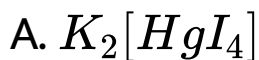
D.  $Zn^{2+}$  and  $Cd^{2+}$

**Answer: B**



**Watch Video Solution**

30. Ammonia gas when passed through Nessler's reagent, forms a brown precipitate which corresponds to :



**Answer: B**



**Watch Video Solution**

31. Chlorides react with conc.  $H_2SO_4$  and evolve :

A.  $HCl$  gas

B.  $Cl_2$  gas

C.  $HOCl$

D.  $ClO_2$  gas .

**Answer: A**



**Watch Video Solution**



32. Equivalent weight of an acid may be expressed as :

A.  $\text{Eq. wt} = \frac{\text{Mol. wt}}{\text{Acidity}}$

B.  $\text{Eq. wt} \times \text{Mol. wt} = \text{Basicity}$

C.  $\text{Eq. wt} \times \text{Basicity} = \text{Mol. wt}$

D.  $\text{Eq. wt} = \frac{\text{Basicity}}{\text{Mol. wt}}$

**Answer: C**



**Watch Video Solution**

**33.** Which of the following statement is not correct ?

A. Pipette should always be rinsed with the solution to be measured

B. Titration flask may be rinsed with solution to be used

C. Burette is rinsed with the solution to be used

D. Exact volumes may be measured with burette or pipette.

**Answer: B**



**Watch Video Solution**

**34.** Fe , Al and Cr are grouped together in qualitative analysis because :

A. these have three electrons in the valence shell

B. their valency is three

C. their hydroxides are insoluble in  $\text{NH}_3$

D. their sulphides are soluble in water .

**Answer: C**



**Watch Video Solution**

**35.** Fe drops of conc.  $\text{HNO}_3$  are added to group II filtrate before proceeding for group III in order to :

A. make acidic medium

B. convert  $Fe^{2+}$  to  $Fe^{3+}$

C. convert  $Fe^{3+}$  to  $Fe^{2+}$

D. boil off  $H_2S$  gas from the filtrate .

**Answer: B**



**Watch Video Solution**

**36.** An inorganic salt when heated evolves a colourless gas which bleaches moist litmus paper. The evolved gas is :

A.  $Br_2$

B.  $Cl_2$

C.  $NO_2$

D.  $I_2$ .

**Answer: B**



**Watch Video Solution**

**37.** Borax when heated on platinum wire forms a glass - like bead which is made up of :

A. Sodim tetraborate

B. Sodium metaborate

C. Sodium meta borate and boric  
anhydride

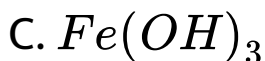
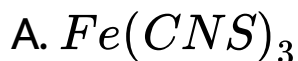
D. boric anhydride and sodium tetraborate.

**Answer: C**



**Watch Video Solution**

38. Aqueous solution of an acetate salt, when heated with  $FeCl_3$  solution gives a blood red solution due to the formation of :



**Answer: B**



**Watch Video Solution**



**39.** Nitric acid is generally not used for preparing original solution in analysis of basic radicals. This is because :

- A. it is oxidising agent
- B. it is reducing agent
- C. forms insoluble nitrates
- D. forms soluble nitrates.

**Answer: A**



**Watch Video Solution**

40. Acidified  $K_2Cr_2O_7$  solution turns green

by:

A.  $CO_2$  gas

B.  $SO_2$  gas

C. HCl gas

D.  $H_2S$  gas

**Answer: B**



**Watch Video Solution**

41. Which of the following statement is not correct ?

A. It is not necessary to use conc.  $HNO_3$  in group III analysis .

B.  $AgCl$  dissolves in  $NH_4OH$ .

C. Ammonium sulphate can be used in place of ammonium chloride in group III analysis.

D. Iodine is liberated when an iodide is heated with conc.  $H_2SO_4$ .

**Answer: C**



**Watch Video Solution**

**42.** Which of the following statement is not true ?

A. Gases do not form colloidal solution .

B. Sol. Of egg albumin can be prepared by simply stirring the albumin with water.

C. Aluminium hydroxide sol is hydrophobic and irreversible colloid

D. Ferric hydroxide sol can be prepared by dissolving it in hot water .

**Answer: D**



**Watch Video Solution**

**43.** The enthalpy of neutralisation of all strong acids with strong bases is same because :

A. they have same  $K_a$  values

B. they involve the reaction of formation of

1 mole of water by combination of

$H^+$  and  $OH^-$  ions during

neutralisation

C. they have same pH values

D. they do not ionise in solutions.

**Answer: B**



**Watch Video Solution**

**44.** Carboxylic acid group can be tested by all the following tests except

A. ferric chloride solution test

B. sodium bicarbonate test

C. dye formation test

D. ester formation test.

**Answer: C**



**Watch Video Solution**

45. 2, 4-Dinitrophenylhydrazine test is used for

:

A. carboxylic acid group

B. phenolic group

C. aldehyde group

D. ester group.

**Answer: C**



**Watch Video Solution**



**46.** Alcohols react with ceric ammonium nitrate reagent and give :

A. blue ppt

B. yellow colouration

C. pink red colouration

D. bluish green colouration

**Answer: C**



**Watch Video Solution**

47. Ferric chloride (neutral) reacts with catechol to give :

A. green colour

B. blue colour

C. black colour

D. violet colour.

**Answer: A**



**Watch Video Solution**

48. Tollen's reagent test can be performed to detect :

A.  $-CHO$  group

B.  $-OH$  group

C.  $>C=O$  group

D.  $-COOH$  group

**Answer: A**



**Watch Video Solution**

49. Iodoform test is characteristic of:

A.  $Ar - OH$  group

B.  $-CO - CH_3$  group

C.  $-CHO$  group

D.  $-COOH$  group

**Answer: B**



**Watch Video Solution**

50. Buff colour is produced by the reaction of neutral  $FeCl_3$  with:

- A. Oxalic acid
- B. Acetic acid
- C. Benzoic acid
- D. Salicylic acid.

**Answer: C**



**Watch Video Solution**

51. Which of the following organic compound gives carbylamine test ?

A.  $\beta$ -naphthol

B. Benzoic acid

C. Aniline

D. Dimethylamine.

**Answer: C**



**Watch Video Solution**

52. Azo dye test is used to distinguish between

:

- A. aldehydes and ketones
- B. saturated and unsaturated compounds
- C. aliphatic and aromatic primary amines
- D. carboxylic acid and alcohols.

**Answer: C**



**Watch Video Solution**

53. Reaction of ferrous salts with  $KMnO_4$  is a:

A. neutralisation reaction

B. redox reaction

C. auto-oxidation reaction

D. thermal reaction.

**Answer: B**



**Watch Video Solution**



54. For a  $\frac{N}{10}$  solution of  $KMnO_4$ , its molarity will be:

A. 2M

B.  $\frac{M}{50}$

C.  $\frac{M}{20}$

D.  $\frac{M}{40}$

**Answer: B**



**Watch Video Solution**

55.  $KMnO_4$  acts as an oxidising agent in the presence of dil  $H_2SO_4$ . Its equivalent weight is (M is molecular weight)

A.  $\frac{M}{2}$

B.  $M$

C.  $\frac{M}{5}$

D.  $\frac{M}{3}$

**Answer: C**



**Watch Video Solution**

56. A solution of impure  $KMnO_4$  is prepared by dissolving 2g of it in 1L of the solution. 20 ml of this solution required 24.2 ml of  $\frac{N}{20}$  sodium oxalate solution. The percentage purity of  $KMnO_4$  sample is :

A. 95.6 %

B. 92.2 %

C. 98.0 %

D. 84 %

**Answer: A**



Watch Video Solution

57. Aniline yellow is prepared by coupling of benzene diazonium chloride with:

- A.  $\beta$  -naphthol
- B. Benzylamine
- C. Aniline
- D. Benzaldehyde.

**Answer: C**



Watch Video Solution

58. Ortho-nitro acetanilide is removed from p-nitro acetanilide by crystallisation from:

- A. hot water
- B. benzene
- C. rectified spirit
- D. acetone.

**Answer: C**



**Watch Video Solution**

59. Melting point of pure acetanilide is about :

A.  $82^{\circ} C$

B.  $114^{\circ} C$

C.  $212^{\circ} C$

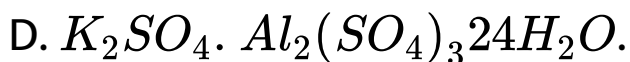
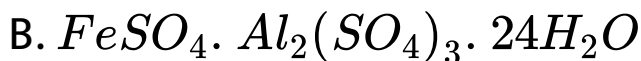
D.  $160^{\circ} C$

**Answer: B**



**Watch Video Solution**

60. Mohr's salt is :



**Answer: A**



**Watch Video Solution**

61. Which type of variation is inherited ?

- A. Lyophilic colloids
- B. Lyophobic colloids
- C. Protective colloids
- D. None of these.

**Answer: B**



**Watch Video Solution**



62.  $Fe(OH)_3$  and  $Cr(OH)_3$  ppts. are separated by :

A. Aqueous  $NH_3$

B.  $H_2SO_4$

C.  $NaOH / H_2O_2$

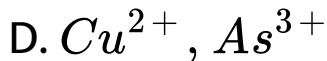
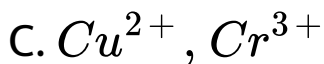
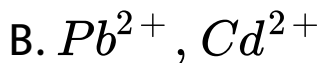
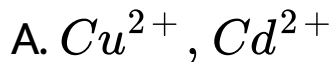
D.  $HCl$

**Answer: C**



**Watch Video Solution**

63.  $H_2S$  would separate the following at  $pH < 7$

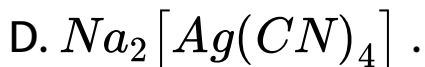
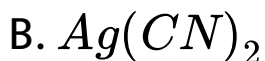
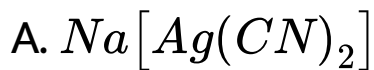


**Answer: C**



**Watch Video Solution**

64.  $Ag_2S$  is soluble in NaCN due to the formation of :

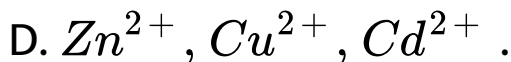
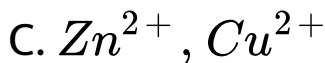
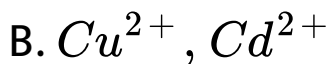
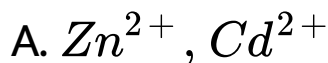


**Answer: A**



**Watch Video Solution**

65. A solution contains  $Cu(CH_3COO)_2$ ,  $Cd(CH_3COO)_2$  and  $Zn(CH_3COO)_2$ . On passing  $H_2S$  gas, there is precipitation of sulphide of:



**Answer: D**



**Watch Video Solution**

**66.** In Lassaigne's test, when both N and S are present, blood red colour is obtained. This is due to the formation of :

A. Ferric ferrocyanide

B. Ferric cyanide

C. Ferric thiocyanate

D. Ferric hydroxide.

**Answer: C**



**Watch Video Solution**

67. Lassaigne's solution gives violet colouration with sodium nitroprusside. It indicates the presence of :

A. Nitrogen

B. Sulphur

C. Halogens

D. Both N and S

**Answer: B**



**Watch Video Solution**

**68.** Belstein's test is used for the detection of :

A. Nitrogen

B. Sulphur

C. Halogens

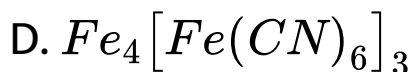
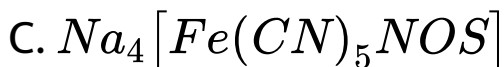
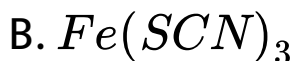
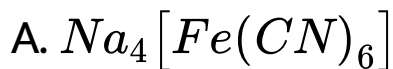
D. Phosphorus.

**Answer: C**



**Watch Video Solution**

69. The prussian blue colour in the test of nitrogen by Lassaigne's solution is due to :



**Answer: D**



**Watch Video Solution**



70. Leibig method is used for the estimation of

A. Nitrogen

B. Carbon and hydrogen

C. Sulphur

D. Halogens.

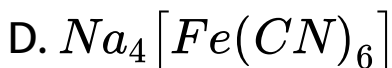
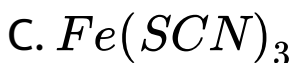
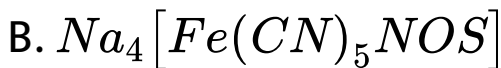
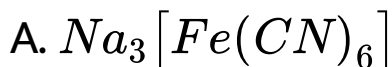
**Answer: B**



**Watch Video Solution**

71. For the detection of sulphur by Lassaigne's test, the addition of sodium nitroprusside to the sodium extract gives purple colouration.

This is due to the formation of :



**Answer: B**



Watch Video Solution

72. In Lassaigne's test for N, the blue colour is due to the formation of :

- A. Potassium ferricyanide
- B. Sodium cyanide
- C. Sodium ferrocyanide
- D. Ferri-ferrocyanide.

**Answer: D**



**Watch Video Solution**

73. In the detection of halogen, nitric acid is added to the Lassaigne's extract. Its main function is to :

A. oxidise the solution

B. destroy  $\text{NaCN}$  and  $\text{Na}_2\text{S}$  which otherwise interfere in the test

C. make the reaction fast

D. provide a medium for the precipitation.

**Answer: B**



Watch Video Solution

74. Sodalime test for detection of nitrogen cannot be used for :

A. acetamide

B. urea

C. diazo compounds

D. thiourea.

**Answer: C**



**75.** In case N and S are also present along with halogen in the organic compound, the Lassaigne's solution is heated with :

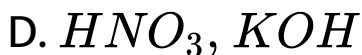
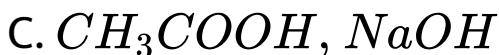
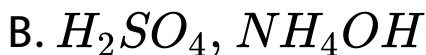
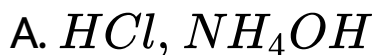
- A. Sodium hydroxide
- B. Nitric acid
- C. Sulphuric acid
- D. Soda lime.

**Answer: B**



Watch Video Solution

76. Which of the following pairs has heat of neutralisation equal to  $-57.1 \text{ kJ mol}^{-1}$ ?

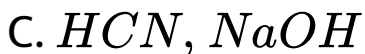
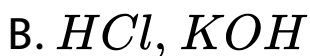


**Answer: D**



Watch Video Solution

77. Which of the following neutralisation reaction is most exothermic ?



**Answer: B**



**Watch Video Solution**



78. The heat of neutralisation of strong acid and strong base is 57.0 kJ. The heat released when 0.5 mol of  $HNO_3$  is added to 0.2 mol of NaOH solution is:

A. 57.0kJ

B. 11.40kJ

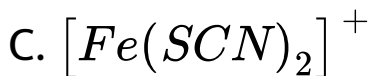
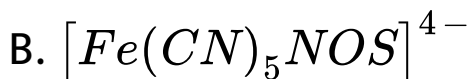
C. 28.5kJ

D. 34.9kJ

**Answer: B**



79. During the test of N in an organic compound by Lassaigne's extract, prussian blue colour is obtained. This is due to :



**Answer: A**



Watch Video Solution

80. Equal volumes of 1M HCl and 1M  $H_2SO_4$  are neutralised by dilute NaOH solution and  $x$  kJ and  $y$  kJ of heat are liberated respectively .

Which of the following is correct ?

A.  $x = y$

B.  $x = \frac{1}{2}y$

C.  $x = 2y$

D.  $x = 4y$

**Answer: B**



**Watch Video Solution**

**81.** The heat of neutralisation of HCl and NaOH is  $57.3 \text{ kJ mol}^{-1}$ . The amount of heat liberated when 0.25 mol of HCl reacts with 1 mol of NaOH is :

A. 57.3 kJ

B. 14.325 kJ

C. 28.65kJ

D. 114.6 kJ

**Answer: C**



**Watch Video Solution**

**82.** Which of the following is a lyophobic colloid?

A. Starch

B. Gelatin

C. Sulphur

D. Gum arabic.

**Answer: C**



**Watch Video Solution**

**83.** Which of the following is a hydrophilic colloidal solution?

A. Barium sulphate sol

B. Arsenious sulphide sol

C. Silver iodide sol

D. Starch sol

**Answer: D**



**Watch Video Solution**

**84.** Borax bead test is not given by :

A. Copper salts

B. Nickel salts

C. Aluminium salts

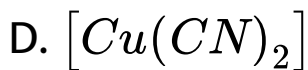
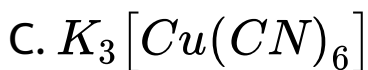
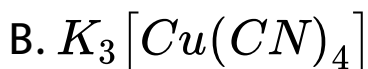
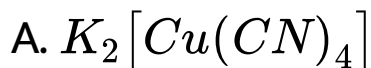
D. Cobalt salts.

**Answer: C**



**Watch Video Solution**

**85.** Which compound is formed when excess of KCN is added to an aqueous solution of copper sulphate



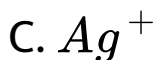
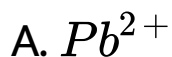


**Answer: B**



**Watch Video Solution**

**86.** The ion that cannot be precipitated by both HCl and  $H_2S$  is:



**Answer: D**



**Watch Video Solution**

**87.** An aqueous solution of a substance 'X' gives a white ppt. on treatment with dil. HCl, which dissolves on heating. When hydrogen sulphide is passed through the hot acidic solution, a black ppt. is obtained. 'X' is:

A.  $Cu^{2+}$  salt

B.  $Hg_2^{2+}$  salt

C.  $Pb^{2+}$  salt

D.  $Ag^+$  salt .

**Answer: C**



**Watch Video Solution**

**88.** The compound which gives white ppt. with aqueous  $AgNO_3$  and a green flame test is :

A.  $BaCl_2$

B.  $KCl$

C.  $NaCl$

D.  $CaCl_2$ .

**Answer: A**



**Watch Video Solution**

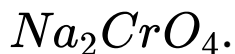
**89.** Which of the following statement is not correct when a mixture of  $NaCl$  and  $K_2Cr_2O_7$  is warmed with conc.  $H_2SO_4$  ?

A. Deep red vapours are evolved

B. Chlorine gas is evolved

C. The vapours when passed through NaOH

solution gives a yellow solution of



D. Chromyl chloride is formed.

**Answer: B**



**Watch Video Solution**

90. Solution of a chemical compound 'X' reacts with  $AgNO_3$  solution to form a white ppt. 'Y' which dissolves in excess of  $NH_4OH$  to give complex 'Z'. When 'Z' is treated with dil  $HNO_3$ , 'Y' reappears. The chemical compound 'X' may be :

A. NaBr

B. NaI

C. KCl

D.  $CH_3Cl$

**Answer: C**



**Watch Video Solution**

**91.** A mixture when heated with dil.  $H_2SO_4$  does not evolve brown vapours but when heated with conc.  $H_2SO_4$  brown vapours are obtained. The vapours when brought in contact with aqueous  $AgNO_3$  solution do not give any precipitate. The mixture contains :

A.  $NO_2^-$



**Answer: D**



**Watch Video Solution**

**92.** Which of the following dissolves in both KCN and  $NH_3$  to form a complex ?





B.  $AgCl$

C.  $Fe(OH)_3$

D.  $PbCl_2$ .

**Answer: B**



**Watch Video Solution**

**93.** When a bromide is heated with conc.

$H_2SO_4$ , the gas liberated is :

A. HBr

B.  $Br_2$

C.  $HBr + Br_2$

D.  $H_2$  and  $Br_2$  .

**Answer: C**



**Watch Video Solution**

**94.** Which of the following cation gives white precipitate with  $H_2S$  in alkaline medium ?

A.  $Mg^{2+}$



**Answer: D**



**Watch Video Solution**

**95.** Which of the following reagents form a precipitate with a solution containing  $Pb^{2+}$  ion?

A. dil HCl

B. KI solution

C. aq  $K_2CrO_4$  solution

D. All these .

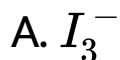
**Answer: D**



**Watch Video Solution**

96. When  $CS_2$  layer containing both  $Br_2$  and  $I_2$  is shaken with excess of  $Cl_2$  water, the violet colour due to  $I_2$  disappears and

orange colour due to  $Br_2$  appears . The disappearance of violet colour is due to the formation of :

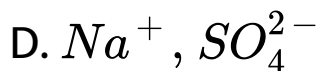
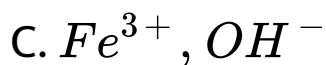
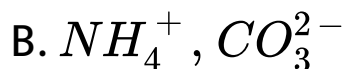
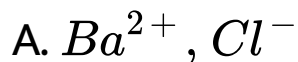


**Answer: B**



**Watch Video Solution**

97. Which of the following pairs of ions would be expected to form precipitate when dilute solutions are mixed ?



**Answer: C**



**Watch Video Solution**

98. In the precipitation of group III in qualitative analysis ammonium chloride is added before adding  $NH_4OH$  to :

A. decrease the concentration of  $OH^-$

B. increase concentration of  $Cl^-$

C. prevent interference of  $PO_4^{3-}$

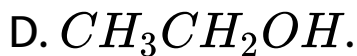
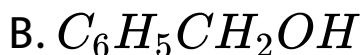
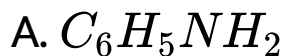
D. increase the concentration of  $NH_4^+$  .

**Answer: A**



**Watch Video Solution**

99. Which of the following give azo dye test ?



**Answer: A**



**Watch Video Solution**



100. Which of the following statements is not correct regarding  $CH_3CH_2CHO$  and  $CH_3COCH_3$ .

A.  $CH_3CH_2CHO$  gives sodium bisulphite test .

B. Both  $CH_3CH_2CHO$  and  $CH_3COCH_3$  give nitroprusside solution test .

C. Both  $CH_3CH_2CHO$  and  $CH_3COCH_3$  give 2,4-DNP test .

D. Only  $CH_3CH_2CHO$  gives Fehling solution test .

**Answer: B**



**Watch Video Solution**

**101.** Which of the following statement about  $KMnO_4$  acting as oxidising agent is not true ?

- A. It can be used as an oxidising agent in the presence of dil  $H_2SO_4$
- B. In the titration of  $KMnO_4$  with Mohr's salt, the equivalent weight of Mohr's salt is same as its molecular weight.
- C. It is necessary to warm the solution to  $60 - 70^\circ C$  for all  $KMnO_4$  titrations.
- D. It acts as a self-indicator.

**Answer: C**



**Watch Video Solution**

**102.** When  $H_2S$  is passed through the HCl solution containing  $CuCl_2$ ,  $HgCl_2$ ,  $BiCl_3$  and  $CoCl_2$ . It does not precipitate out :

A.  $CuS$

B.  $HgS$

C.  $Bi_2S_3$

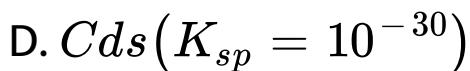
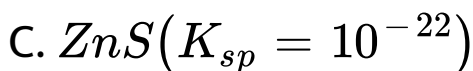
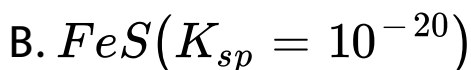
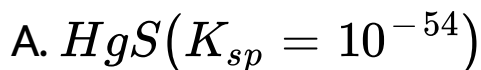
D.  $CoS$

**Answer: D**



Watch Video Solution

103. Which of the following metal sulphides has maximum solubility in water ?



**Answer: B**



**104.** The gas which turns lime water milky is :

A.  $NO_2$

B.  $CO_2$

C.  $SO_2$

D. Both (B) and (C).

**Answer: D**



**105.** Which of the following is not precipitated as sulphide by passing  $H_2S$  gas in the presence of conc. HCl ?

A. Copper

B. Arsenic

C. Lead

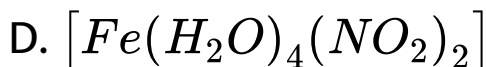
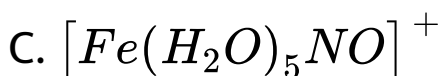
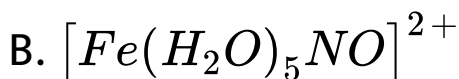
D. Cadmium.

**Answer: D**



**Watch Video Solution**

106. Correct formula of the complex formed in the brown ring test for  $NO_3^-$  is :



**Answer: B**



**Watch Video Solution**



**107.** Iodine reacts with sodium thiosulphate to form sodium iodide and :

- A. sodium sulphide
- B. sodium tetrathionate
- C. sodium sulphate
- D. sodium sulphate + Sulphur.

**Answer: B**



**Watch Video Solution**

**108.** During the study of rate of reaction between  $H_2O_2$ , and iodide ion, the reaction involves :

A. oxidation of  $I^-$  by  $H_2O_2$

B. oxidation of  $H_2O_2$  by  $I^-$  ion

C. reduction of  $I^-$  by  $H_2O_2$  to  $I^+$  ion

D. oxidation of  $I^-$  to  $I^+$

**Answer: A**



**Watch Video Solution**

109. AgCl is soluble in :

A. aqua regia

B.  $H_2SO_4$

C.  $NH_4OH$  is the presence of  $NH_4Cl$

D.  $HCl$ .

**Answer: C**



**Watch Video Solution**

110. During Lassaigne's test, N and S present in an organic compound changes into

A.  $Na_2S$  and  $NaCN$

B.  $NaSCN$

C.  $Na_2SO_4$  and  $NaCN$

D.  $Na_2S$  and  $NaCN$ .

**Answer: A**



**Watch Video Solution**

111. When  $H_2S$  is passed through the HCl solution containing  $CuCl_2$ ,  $HgCl_2$ ,  $BiCl_3$  and  $CoCl_2$ . It does not precipitate out :

A.  $CuS$

B.  $HgS$

C.  $Bi_2S_3$

D.  $CoS$ .

**Answer: D**



**Watch Video Solution**

112. With  $K_4[Fe(CN)_6]$ ,  $Cu^{2+}$  ions give :

- A. a blue ppt .
- B. a bluish green ppt.
- C. a blood red ppt.
- D. a reddish brown ppt.

**Answer: D**



**Watch Video Solution**

**113.** The number of moles of  $KMnO_4$  that will be needed to react with one mole of sulphite ion in acidic solution is :

A. 1

B.  $\frac{3}{5}$

C.  $\frac{4}{5}$

D.  $\frac{2}{5}$

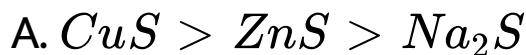
**Answer: D**



**Watch Video Solution**

114. Identify the correct order of solubility of

$Na_2S$ ,  $CuS$  and  $ZnS$  in aqueous medium :



**Answer: D**

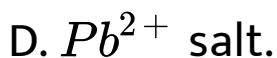
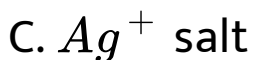
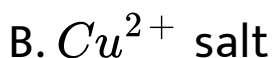


**Watch Video Solution**



**115.** An aqueous solution of a substance gives a white precipitate on treatment with dilute HCl, which dissolves on heating. When hydrogen sulphide is passed through the hot acidic solution, a black precipitate is obtained.

The substance is a:



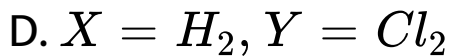
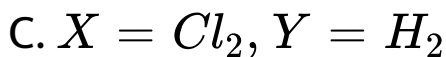
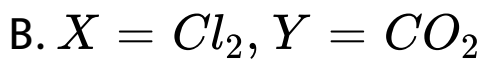
**Answer: D**



**Watch Video Solution**

**116.** A gas 'X' is passed through water to form a saturated solution. The aqueous solution on treatment with silver nitrate gives a white precipitate. The saturated aqueous solution also dissolves magnesium ribbon with evolution of colourless gas Y, X and Y are :





**Answer: C**



**Watch Video Solution**

**117.** How do you differentiate between  $Fe^{3+}$  and  $Cr^{3+}$  in qualitative analysis group III ?

A. By taking excess of  $NH_4OH$

B. By increasing  $NH_4^+$  ion concentration

C. By decreasing  $OH^-$  ion concentration

D. Both (B) and (C).

**Answer: D**



**Watch Video Solution**

**118. Which statement is correct ?**

A.  $Fe^{3+}$  ion give deep green precipitate

with  $K_4[Fe(CN)_6]$  solution

B. On heating  $K^+$ ,  $Ca^{2+}$  and  $HCO_3^-$

ions, we get a precipitate of

$K_2Ca(CO_3)_2$ .

C. Manganese salts give a violet borax bead

test in reducing flame

D. From a mixed precipitate of AgI and

AgCl, ammonia solution dissolves AgCl

only.

**Answer: D**

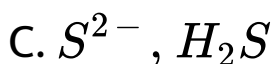
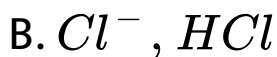
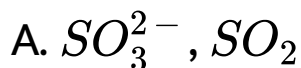


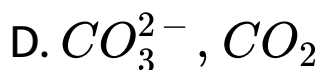
**Watch Video Solution**

**119.**  $[X] + H_2SO_4 \rightarrow [Y]$  a colourless gas with irritating smell.

$[Y] + K_2Cr_2O_7 + H_2SO_4 \rightarrow$  Green solution

[X] and [Y] are :





**Answer: A**



**Watch Video Solution**

**120.** A sodium salt on treatment with  $MgCl_2$  gives white precipitate only on heating. The anion of sodium salt is:





**Answer: A**



**Watch Video Solution**

**121.** To neutralise completely 20 ml of 0.1 M aqueous solution of phosphorous acid ( $H_3PO_3$ ), the volume of 0.1 M aqueous KOH solution required is :



A. 40 ml

B. 20 ml

C. 10 ml

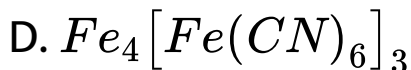
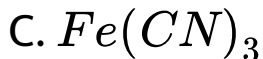
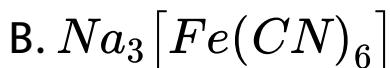
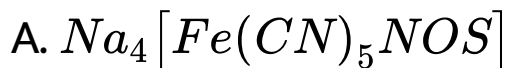
D. 60 ml

**Answer: A**



**Watch Video Solution**

**122.** The compound formed in the positive test for nitrogen with Lassaigne's solution of an organic compound is



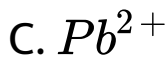
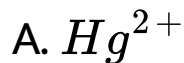
**Answer: D**



**Watch Video Solution**

**123.** A metal nitrate reacts with KI to give a black precipitate, which on addition of excess

of KI converts to orange colour solution. The cation of metal nitrate is :



**Answer: B**



**Watch Video Solution**

**124.** Consider a titration of potassium dichromate solution with acidified Mohr's salt solution using diphenylamine as indicator .  
The number of moles of Mohr 's salt required per mole of dichromate

A. 3

B. 4

C. 5

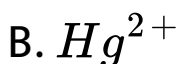
D. 6

**Answer: D**



Watch Video Solution

**125.** A solution of a metal ion when treated with KI gives a red precipitate which dissolves in excess KI to give a colourless solution. Moreover, the solution of metal ion on treatment with a solution of cobalt (II) thiocyanate gives rise to a deep blue crystalline precipitate. The metal ion is :





**Answer: B**



**Watch Video Solution**