



Holiday Assignments

Section Name: A/L

Subject: Chemistry

Grade : 12 E Sci

Medium: English

Inorganic chemistry worksheet 2

Select the correct answer.

1. Aqueous sample of H_2S & SO_2 react and produce

- 1) S_8 2) SO_3 3) HSO_4^- 4) $\text{H}_2\text{S}_2\text{O}_3$ 5) None of the above

2. Which of the following would give a precipitate with BaCl_2 ?

- 1) NH_4I 2) CO_2 dissolved in water 3) $(\text{NH}_4)_2\text{CrO}_4$ 4) $\text{Br}_2(l)$ 5) none

3. When CaH_2 & D_2O reacts, which of the following can be produced

- 1) H_2 2) D_2 3) H_2 & D_2 4) $\text{Ca}(\text{OD})_2$ 5) $\text{Ca}(\text{OH})_2$ & $\text{Ca}(\text{OD})_2$

4. When NH_3 is passed over hot CuO ,

- 1) N_2 is produced 2) N_2O is produced 3) CuNO_3 is produced 4) Cu_3N_2 is produced
5) No reaction

5. Which of the following gives a clear observable chemical change when put in water?

- 1) CsCl 2) RbF 3) BiCl_3 4) SrCl_2 5) BaI_2

6. Which of the following do not react with H_2O_2 ?

- 1) $\text{NH}_4\text{MnO}_4/\text{dil. HCl}$ 2) $\text{NaMnO}_4/\text{dil. HNO}_3$ 3) $\text{MnO}_2/\text{dil. H}_2\text{SO}_4$ 4) MnO_2 5) HI

7. Which of the following is correct regarding anion of N?

- 1) All NO_3^- containing compounds on heating with HCl produce a brown fume.
2) All NO_2^- containing compounds on heating with HCl produce a brown fume.
3) All NO_3^- containing compounds on heating with $\text{dil. H}_2\text{SO}_4$ produce a brown fume.
4) All N_3^- containing compound produces N_2 with water.
5) All N_3^- containing compound produces N_2 and N_2O with water.

8. Which of the following set of compounds dissolve in water?

- 1) Na_2SO_4 , BaSO_4 , CaSO_4 2) NaOH , $\text{Ba}(\text{OH})_2$, Na_2O 3) NaOH , $\text{Be}(\text{OH})_2$, $\text{Ba}(\text{OH})_2$
4) BaCO_3 , Na_2CO_3 , ZnCO_3 5) Na_2O , MgO , Al_2O_3

9. To a solution labelled A, Ba^{2+} solution was added & precipitate obtained dissolved in dil. HCl. Then the salt is allowed to react with H_2O_2 & again Ba^{2+} solution added & precipitate obtained was insoluble in HCl. Anion in A can be

- 1) CO_3^{2-} 2) SO_3^{2-} 3) Cl^- 4) SO_4^{2-} 5) PO_4^{3-}

10. An inorganic compound P produces a colourless gas and colourless solution on addition of dil. HCl. The gas turned $\text{K}_2\text{Cr}_2\text{O}_7/\text{H}^+$ green and the solution produced a precipitate with H_2SO_4 . P can be

- 1) $\text{Sr}(\text{NO}_2)_2$ 2) MgS_2O_3 3) SrS 4) $\text{Ba}(\text{NO}_2)_2$ 5) NH_4HS

11. At 25°C the solubility of KNO_3 in water is 300g per kg of water. If 540g of KNO_3 was dissolved in 600g of water at a higher temperature, what's the mass of KNO_3 that would precipitate when water is cooled to 25°C ?

- 1)40g 2)180g 3)240g 4)360g 5)540g

12. 70 cm^3 of 0.10M HCl was mixed with 30 cm^3 of $X\text{ mol dm}^{-3}$ NaOH. pH of the mixture is 2(it means H^+ concentration is 10^{-2}). X in mol dm^{-3} can be

- 1)0.3 2)0.2 3)0.02 4)0.5 5)0.05

13. A student wants to titrate 25 cm^3 of solution Y with solution X. Regarding cleaning equipment which of the following option is correct.

Cleaning burette

Cleaning titrating flask

- | | |
|---|--|
| 1) Distilled water | Y solution |
| 2) X solution | Y solution |
| 3) X solution | Distilled water |
| 4) Y solution | Distilled water & then with X solution |
| 5) Distilled water & then with X solution | Distilled water |

14. When titrating 25 cm^3 portions of NaOH with HCl which of the following is a must to do?

- 1) Rinsing pipette with HCl
2) Rinsing titrating flask with NaOH
3) Measure temperature of solutions used
4) Fill HCl in burette up to zero mark
5) Rinse burette with HCl

15. 25.00 cm^3 of H_2SO_4 solution is needed to neutralise 30.00 cm^3 of 0.01M KOH completely. To precipitate out SO_4^{2-} in 100 cm^3 of above H_2SO_4 solution how much BaCl_2 is needed?

- 1)6mmol 2)0.125g 3)500mg 4) 1.2×10^{-4} mol 5)2.4mmol

Answer the following.

1. You are given 3 unlabelled samples of $(\text{NH}_4)_2\text{CO}_3$, $(\text{NH}_4)_2\text{SO}_4$ & $\text{Ba}(\text{OH})_2$. Explain how you would identify them separately by following only method given below.

Mixing in pair & using dil. HNO_3 as necessary.

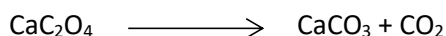
2. Solution A contains NaOH & solution B contains $\text{Al}(\text{NO}_3)_3$. Give the observation for the following experiments with reason.

a) B added to A drop wise

b) A is added to B drop wise

3. You are provided with a solution mixture containing SO_4^{2-} & SO_3^{2-} . Explain the practical procedure you would follow to find the concentration of both ions in a given volume.

4. Calcium oxalate on heating produces CaCO_3 as follows,



A pure sample of 2.00g of calcium oxalate was heated and obtained a product of 1.78g. The product contains CaCO_3 as well as undissociated CaC_2O_4 . Calculate the mass of undecomposed CaC_2O_4 in the final product mixture.

5. Predict the product in following redox reactions in acidic media and write balance chemical reactions.

a) $\text{H}_2\text{O}_2 + \text{SO}_3^{2-}$

b) $\text{H}_2\text{O}_2 + \text{Ag}_2\text{O}$

c) $\text{MnO}_2 + \text{H}_2\text{O}_2$