

CHEMISTRY

BOOKS - MODERN PUBLICATION

INORGANIC CHEMISTRY

Exercise

1. What happens when KI solution is added to acidified $K_2Cr_2O_7$ solution?



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2. What happens when yellow phosphorus is heated with dilute NaOH solution?



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3. Explain why HCl is a gas and HF is a liquid at room temperature.



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4. Write the IUPAC name of the following compounds .



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5. With an example, explain roasting.



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6. Use EAN rule and predict the molecular formula of nickel carbonyl?



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7. Why hydrogen sulphide cannot be dried by conc. H_2SO_4 ?



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8. Why do transitional elements form complex compounds ?



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9. What happens when SO_2 is passed through sulphuretted hydrogen dissolved in water?
Give equation.



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10. What type of hybridisation takes place in xenon during the formation of XeF_4 ? What is its shape?



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11. Why hydrofluoric acid is the weakest of all the halogen acids?



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12. What is the action of ozone on acidified ferrous sulphate? Give equation.



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13. Difference between double salt and complex salt.



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14. Explain why most of transition elements form coloured salts.



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15. Why hydrofluoric acid is the weakest of all the halogen acids ?



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16. What is the action of ozone with lead sulphide? Give equation.



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17. H_2S cannot be dried by passing over conc. H_2SO_4 because:



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18. What happens when SnCl_2 solution is added to CuCl_2 solution ?



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19. Why are most of the transition metal compounds are paramagnetic ?



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20. What happens when chlorine gas is passed through cold solution of NaOH?



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21. What happens when SO_2 gas is passed through H_2S dissolved in water ?



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22. Why ClF_3 exists, whereas FCl_3 does not exist explain?



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23. What is the function of limestone the extraction of iron? Give equation to explain its action.



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24. How does the bleaching action of chlorine differ from that of sulphur dioxide? Explain.



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25. Why HF cannot be stored in glass bottle?
Explain with equation.



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26. What is the action of chlorine with (i) cold and dilute NaOH and (ii) hot and concentrated NaOH ?



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27. Discuss the structure of $[Co(NH_3)_6]^{3+}$ ion on the basis of valence bond theory. Whether it is an inner orbital or outer orbital complex ion ?



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28. Answer any seven questions of the following

Discuss van Arkel Boer method for ultrapurification of zirconium.



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29. Answer any seven questions of the following:

What are bidentate ligands? Give an example.



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30. What are freons ? What are their harmful effects on the environment ?



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31. What is lanthanide contraction? Write any two of its consequences.



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32. $FeSO_4$, solution mixed with $(NH_4)_2SO_4$, solution in 1:1 molar ratio gives the test for Fe^{2+} ion but $CuSO_4$, solution mixed with aqueous ammonia in 1:4 molar ratio does not give the test for Cu^{2+} ion. Explain.



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33. Explain why transition metal ions are usually coloured.



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34. Give one method of preparation of XeF_4 .

Mention one reaction in which it acts as an oxidising agent Give its structure



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35. How does copper react with dilute and *conc.* HNO_3 ? Give reactions.



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36. The aqueous solution of which amongst the following is the most acidic and why? HF, HCl, HBr, HI



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37. Why hydrogen bromide cannot be prepared by reacting sodium bromide with concentrated H_2SO_4 ?



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38. What happens when SO_2 gas is passed through lime water first slowly and then in excess ?



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39. HF is a liquid whereas HCl is a gas. Explain.



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40. What are the interhalogen compounds?

Give examples.



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41. What type of hybridisation takes place in xenon during the formation of XeF_4 ? What is its shape?



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42. Give a brief account of Werner's coordination theory.



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43. Explain. Why fluorine exhibits an oxidation state of -1 only, while other elements of the family exhibit oxidation state of -1 +1, +3, +5 and +7.



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44. Difference between double salt and complex salt.



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45. Explain that bleaching action of CL_2 is permanent, while that of SO_2 is temporary.



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46. What happens when potassium iodide is added to $CuSO_4$ solution ?



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47. What is leaching ? Glve an example.



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48. What happens when NH_4OH solution is added dropwise to copper sulphate solution

till excess ?



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49. Answer the following:

Match the diseases of Group (A) with the vitamins of Group (B) correctly:

Group (A)		Group (B)	
(a)	Xerophthalmia	(i)	Vitamin-D
(b)	Scurvy	(ii)	Vitamin-K
(c)	Coagulation of blood	(iii)	Vitamin-A
(d)	Rickets	(iv)	Vitamin-C



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