

## p-BLOCK ELEMENTS

Std. XII  
CHEMISTRY

Time : 1½ Hrs  
Max. Marks: 75

## PART - I

Choose the correct answer

(25 × 1 = 25)

- Hydrogen halides are called as  
a hydrocarbons      b hydracids      c halides      d oxy acids
- The element exists as liquid at room temperature is  
a Thallium      b Indium      c Aluminium      d Gallium
- The element used for making thermistors is  
a Indium      b Thallium      c Gallium      d Boran
- Which of the following is extremely toxic  
a Thallium      b Gallium      c Indium      d Boran
- The shape of  $\text{PCl}_5$  is  
a pyramidal      b trigonal bipyramidal  
c linear      d tetrahedral
- The compound used as smoke screen is  
a  $\text{PH}_3$       b  $\text{PCl}_3$       c  $\text{PCl}_5$       d  $\text{H}_3\text{PO}_3$
- Oxygen exhibits positive oxidation state with  
a fluorine      b bromine      c chlorine      d iodine
- One can draw the map of building on a glass plate by  
a HI      b HF      c HBr      d HCl
- Among the halogen acids, the weakest acid is  
a HF      b HCl      c HBr      d HI
- Halogens belong to the group number  
a 14      b 15      c 17      d 18
- The shape of  $\text{XeF}_4$  is  
a tetrahedral      b octahedral  
c square planar      d pyramidal
- The lightest gas which is not-inflammable is  
a He      b  $\text{H}_2$       c  $\text{N}_2$       d Ar
- Which of the following has highest first ionisation energy?  
a He      b Ne      c Ar      d Kr
- Which is an element of boron group?  
a Al      b Ge      c Te      d Pb
- From Boron to Thallium  
a boiling point decreases      b ionisation energy increases  
c atomic radius decreases      d metallic character decreases
- Which of the following is more stable?  
a  $\text{Tl}^+$       b  $\text{In}^+$       c  $\text{Ga}^+$       d  $\text{Al}^+$
- The most and the least stable species among the following is  
a  $\text{Al}^{3+}$  and  $\text{Tl}^{+1}$       b  $\text{Tl}^{+3}$  and  $\text{In}^{+3}$       c  $\text{Al}^{3+}$  and  $\text{Tl}^{3+}$       d  $\text{Al}^+$  and  $\text{Tl}^{+3}$

18. Among the members of the boron group which has mostly non-metallic character  
 a Al                      b Ga                      c In                      d B
19. An aqueous solution of potash alum is  
 a acidic                      b neutral                      c amphoteric                      d basic
20. The one which does not exist in +1 oxidation state is  
 a Ga                      b In                      c B                      d Tl
21. Which one of the following has reducing property  
 a  $\text{H}_3\text{PO}_4$                       b  $\text{HPO}_3$                       c  $\text{H}_4\text{P}_2\text{O}_7$                       d  $\text{H}_3\text{PO}_3$
22. General outermost electronic configuration of p-block element  
 a  $ns^2 np^6$                       b  $ns^2$   
 c  $ns^2 np^{1-6}$                       d  $(n-1)d^{1-10} ns^2 np^6$
23. Which of the following properties of silicones is wrong?  
 a silicones are excellent lubricators  
 b silicones are resistance to chemical attack  
 c silicones oils are highly volatile on heating  
 d silicones are mixed with paints to make them damp resistant
24. Red lead is  
 a PbO                      b  $\text{Pb}_3\text{O}_4$                       c  $\text{PbO}_2$                       d  $\text{PbO} \cdot \text{PbO}_2$
25. Galena is  
 a sulphide ore of lead                      b carbonate ore of lead  
 c oxide ore of lead                      d sulphate ore of lead

### PART - II

Answer All

(10 × 2 = 20)

26. Why thallium shows an oxidation state of +1 while other elements of its group show an oxidation state of +3.
27. Write a note on plumbo solvency.
28. Write a short notes on Holmes signal.
29. Prove that  $\text{P}_2\text{O}_5$  a powerful dehydrating agent.
30. Why  $\text{H}_2\text{O}$  is a liquid while  $\text{H}_2\text{S}$  is a gas?
31. Discuss the oxidising power of fluorine.
32. Draw the electron dot structure of  $\text{PCl}_5$  and  $\text{H}_4\text{P}_2\text{O}_7$ .
33. How is  $\text{XeF}_6$  prepared?
34. Write the uses of Neon.
35.  $\text{PCl}_5$  is known, but  $\text{NCl}_5$  is not known. Give reason.

### PART - III

Answer All

(6 × 5 = 30)

36. What are silicones? Mention its uses.
37. Give an account of extraction of lead.
38. Explain the formation of  $\text{IF}_5$  and  $\text{IF}_7$  with their structures.
39. Describe in detail how noble gases are isolated from air.
40. How are the following compounds prepared from phosphorus?  
 a  $\text{P}_2\text{O}_5$  b  $\text{PH}_3$
41. How are compounds of xenon prepared?