

**Class: 11**  
**Subject: Chemistry**  
**Topic: p-block elements**  
**No. of Questions: 25**

- Q1. Though nitrogen exhibits +5 oxidation state, it does not form pent halide.  
Give reason.
- Q2. Why do  $\text{PH}_3$  has lower boiling point than  $\text{NH}_3$ ?
- Q3. Why are pent halides more covalent than trihalides?
- Q4. Why is  $\text{BiH}_3$  the strongest reducing agent amongst all the hydrides of Group 15 Elements?
- Q5. Write the reaction of thermal decomposition of sodium azide.
- Q6. Why is  $\text{N}_2$  less reactive at room temperature?
- Q7. Why does  $\text{NH}_3$  act as a Lewis base?
- Q8. Mention the conditions required to maximize the yield of ammonia
- Q9. How does ammonia react with a solution of  $\text{Cu}^{2+}$ ?
- Q10. Why does  $\text{NO}_2$  dimerise?
- Q11. What is the covalence of nitrogen in  $\text{N}_2\text{O}_5$ ?
- Q12. In what way can it be proved that  $\text{PH}_3$  is basic in nature?
- Q13. Bond angle in  $\text{PH}_4^+$  is higher than that in  $\text{PH}_3$ . Why?

- Q14. Why does  $\text{PCl}_3$  fume in moisture?
- Q15. Which of the following are metalloids?  
(A) Si  
(B) Ge  
(C) As  
(D) All of the above
- Q16. Are all the five bonds in  $\text{PCl}_5$  molecule equivalent? Justify your answer.
- Q17. Why does boron trifluoride behave as a Lewis acid?
- Q18. Write a balanced equation for the hydrolytic reaction of  $\text{PCl}_5$  in heavy water.
- Q19. How do you account for the reducing behaviour of  $\text{H}_3\text{PO}_2$  on the basis of its Structure?
- Q20. What is the basicity of  $\text{H}_3\text{PO}_4$ ?
- Q21. Phosphorous in solid state is ionic, why?
- Q22. Elements of Group 16 generally show lower value of first ionization enthalpy Compared to the corresponding periods of group 15. Why?
- Q23.  $\text{H}_2\text{S}$  is less acidic than  $\text{H}_2\text{Te}$ . Why?
- Q24. List the important sources of sulphur.
- Q25. Which of the following does not react with oxygen directly?  
(A) Zn  
(B) Ti  
(C) Pt  
(D) Fe