



# CHEMISTRY

## BOOKS - V PUBLICATION

### The p-BLOCK ELEMENTS

#### Question Bank

1. Why are pentahalides more covalent than trihalides



**Watch Video Solution**

2. Why is ' $\text{BiH}_3$ ' the strongest reducing agent amongst all the hydrides of group 15 elements?



[Watch Video Solution](#)

3. Why is  $\text{N}_2$  less reactive at room temperature?



[Watch Video Solution](#)

4. Mention the conditions required to maximise the yield of ammonia.



[Watch Video Solution](#)

5. How does ammonia react with a solution of  $Cu^{2+}$  ?



[Watch Video Solution](#)

6. What is the covalence of nitrogen in  $N_2O_5$ ?





Watch Video Solution

7. Bond angle in is  $PH_4^+$  higher than that in  $PH_3$



Watch Video Solution

8. What happens when white phosphorus is heated with NaOH solution in an inert atmosphere of  $CO_2$  ?



Watch Video Solution

9. What happens when  $PCl_5$  is heated?



[Watch Video Solution](#)

10. Write balanced equation for the hydrolytic reaction of  $PCl_5$  with heavy water?



[Watch Video Solution](#)

11. What is the basicity of  $H_3PO_4$ ?



[Watch Video Solution](#)

12. What happens when  $H_3PO_3$  is heated?



Watch Video Solution

13. List the important sources of sulphur



Watch Video Solution

14. Write the order thermal stability of the hydrides of group-16 elements



[Watch Video Solution](#)

15. Why is ' $H_2O$ ' a liquid and ' $H_2S$ ' a gas?



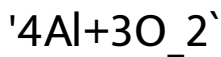
[Watch Video Solution](#)

16. Which of the following does not react with  $O_2$  directly Zn, Ti, Pt, Fe?



[Watch Video Solution](#)

17. Complete the following reactions?



[Watch Video Solution](#)

18. What happens when  $SO_2$  is passed through an aqueous solution of Fe (III) salt?



[Watch Video Solution](#)



**19.** Comment on the nature of two S-O bonds in  $SO_2$  molecule. Are the two S:O bonds in this molecule equal?



**Watch Video Solution**

**20.** How is the presence of  $SO_2$  detected?



**Watch Video Solution**

21. Why does ozone act as a powerful oxidising agent?



Watch Video Solution

22. How is 'O<sub>3</sub>' estimated quantitatively?



Watch Video Solution

23. Mention three areas in which  $H_2SO_4$  plays an important role.



Watch Video Solution

24. Write the conditions to maximise the yield of  $H_2SO_4$  in contact process.



Watch Video Solution

25. Why is  $Ka_2$  less than  $Ka_1$  for  $H_2SO_4$  in water.?



Watch Video Solution

**26.** Give the reason for the bleaching property of chlorine.



**Watch Video Solution**

**27.** Name two poisonous gases that can be prepared from chlorine gas



**Watch Video Solution**

**28.** Why is  $\text{ICl}$  more reactive than  $\text{I}_2$  ?





[Watch Video Solution](#)

29. Why is helium used in diving apparatus?



[Watch Video Solution](#)

30. Balance the following equation:  $\text{XeF}_6 + \text{H}_2\text{O} \rightarrow \text{XeO}_2\text{F}_2 + \text{HF}$



[Watch Video Solution](#)

**31.** Why has it been difficult to study the chemistry of radon?



**Watch Video Solution**

**32.** Discuss the general characteristics of Group 15 elements with reference to their electronic configuration, oxidation state, atomic size, ionisation, enthalpy, and electronegativity.



**Watch Video Solution**

**33.** Why does the reactivity of nitrogen differ from phosphorus?



**Watch Video Solution**

**34.** Discuss the trends in chemical reactivity of group 15 elements.



**Watch Video Solution**

**35.** Why does  $\text{NH}_3$  form hydrogen bond but  $\text{PH}_3$  does not?



**Watch Video Solution**

**36.** How is nitrogen prepared in the laboratory? Write the chemical equation of the reaction involved.



**Watch Video Solution**



**37.** How is ammonia manufactured industrially?



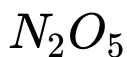
**Watch Video Solution**

**38.** Illustrate how copper metal can give different products on reaction with ' $\text{HNO}_3$ '



**Watch Video Solution**

**39.** Give the resonating structures of  $NO_2$  and



**Watch Video Solution**

**40.** The HNH angle value is higher than HPH,

HAsH and HSbH angles. Why?



**Watch Video Solution**

41. Why does  $R_3P = 0$  exist but  $R_3N = 0$  does not. [R = alkyl group]?



[Watch Video Solution](#)

42. Explain why 'NH<sub>3</sub>', is basic. while 'BiH<sub>3</sub>' is only feebly basic.



[Watch Video Solution](#)

**43.** Nitrogen exists as diatomic molecule and phosphorus as 'P<sub>4</sub>'. Why?



**Watch Video Solution**

**44.** Write main differences between the properties of white phosphorus and red phosphorus.



**Watch Video Solution**

**45.** Why does nitrogen show catenation properties less than phosphorus?



**Watch Video Solution**

**46.** Give the disproportionation reaction of 'H<sub>3</sub>PO<sub>3</sub>'



**Watch Video Solution**

**47.** Can ' $\text{PCl}_5$ ', act as oxidising as well as a reducing agent? Justify.



**Watch Video Solution**

**48.** Justify the placement of ' $\text{O}$ ,  $\text{S}$ ,  $\text{Se}$ ,  $\text{Te}$  and ' $\text{Po}$ ' in the same group of the periodic table in terms of electronic configuration, oxidation state and hydride formation.



**Watch Video Solution**

49. Why is dioxygen a gas, but sulphur a solid?



Watch Video Solution

50. Knowing the electron gain enthalpy values for  $O \rightarrow O^-$  and  $O \rightarrow O^{2-}$  as  $-141$  and  $702 \text{ kJ mol}^{-1}$  respectively, how can you account for the formation of a large number of oxides having  $O^{2-}$  species and not  $O^-$



Watch Video Solution

51. Which aerosols deplete ozone?



[Watch Video Solution](#)

52. Describe the manufacture of ' $H_2SO_4$ ' by contact process.



[Watch Video Solution](#)

53. How is  $SO_2$  an air pollutant?



[Watch Video Solution](#)



54. Why are halogens strong oxidizing agents?



[Watch Video Solution](#)

55. Explain why fluorine forms only one oxoacid HOF?



[Watch Video Solution](#)

56. Explain why inspite of nearly the same electronegativity, oxygen forms hydrogen

bonding while chlorine does not.



**Watch Video Solution**

**57.** Write two uses of  $\text{ClO}_2$



**Watch Video Solution**

**58.** Why are halogens coloured?



**Watch Video Solution**

59. Write the reactions of  $F_2$  and  $Cl_2$  with water.



[Watch Video Solution](#)

60. How can you prepare 'Cl', from 'HCl' and HCl' from ' $Cl_2$ ' ? Write reactions only.



[Watch Video Solution](#)

61. What Inspired N. Bartlett for carrying out reaction between 'Xe and ' $PtF_6$ ' ?



[Watch Video Solution](#)

**62.** What are the oxidation states of phosphorus in the following:  $\text{H}_3\text{PO}_3$ ,  $\text{PCl}_3$ ,  $\text{Ca}_3\text{P}_2$ ,  $\text{Na}_3\text{PO}_4$ ,  $\text{POF}_3$



[Watch Video Solution](#)

**63.** Write balanced equations for the following: i. 'NaCl is heated with sulphuric acid

in the presence of  $\text{MnO}_2$  ii. Chlorine gas is passed into a solution of  $\text{NaI}$  in water.



[Watch Video Solution](#)

**64.** How are xenon fluorides  $\text{XeF}_2$ ,  $\text{XeF}_4$  and  $\text{XeF}_6$  obtained?



[Watch Video Solution](#)

**65.** With what neutral molecule is  $\text{ClO}^-$  isoelectronic? Is that molecule a Lewis base?



[Watch Video Solution](#)

**66.** How are 'XeO<sub>3</sub>' and 'XeOF<sub>4</sub>' prepared?



[Watch Video Solution](#)

**67.** Arrange the following in the order of property indicated for each F<sub>2</sub>, Cl<sub>2</sub>, Br<sub>2</sub>, I<sub>2</sub>  
i. increasing bond dissociation enthalpy. ii. 'HF, HCl, HBr', HI - increasing acid strength. iii.

$\text{NH}_3, \text{PH}_3, \text{AsH}_3, \text{SbH}_3, \text{BiH}_3$  -increasing base strength.



[Watch Video Solution](#)

**68.** Which one of the following does not exist?

i 'XeOF<sub>4</sub>' ii NeF<sub>2</sub> iii XeF iv 'XeF<sub>6</sub>'



[Watch Video Solution](#)

**69.** Give the formula and describe the structure of A.noble gas species which is

isostructural with: a  $\text{ICl}_4^-$



**Watch Video Solution**

**70.** Why do noble gas have comparatively large atomic sizes?



**Watch Video Solution**

**71.** List the uses of neon and argon gases.



**Watch Video Solution**



**72.** Except  $\text{CO}_2$  all other dioxides of group 14 exist as solid at room temperature. A student says that this is related to bonding. Explain the reason:



**Watch Video Solution**

**73.** Nitrogen does not form pentahalides, while other group members form. Describe the reaction based on hybridization of the central atom.





[Watch Video Solution](#)

**74.** Complete the following table:

'(##VPS\_HSS\_CHE\_XII\_C07\_E03\_003\_Q01##)'



[View Text Solution](#)

**75.** Two allotropic forms of sulphur have same structure.

i. Identify the allotropes

ii. How they are prepared?



[Watch Video Solution](#)

76. Sulphur forms two chlorides,  $S\text{Cl}_2$  and  $S_2\text{Cl}_2$ . Write a note on their preparation and structure.



[Watch Video Solution](#)

77. The acidic strength of oxoacids of chlorine is in the order ' $\text{HClO}_4, \text{HClO}_3, \text{HClO}_2, \text{HClO}$ '. Briefly explain the reason for this.



[Watch Video Solution](#)

78. "Inter halogén compounds are. more reactive than the constituent halogen molecules" ' Do you agree with this' statement? Justify.



[Watch Video Solution](#)

79. In a role play, student  $A$  is named as Boron and student  $B$  is named as silicon. Both are presenting the diagonal relationship between the two.

a. Compare the comments of the students about the products of hydrolysis of their halides.

b. Both the students presented charts to show the nature of their oxides. Write the chemical equation they have written in each chart and give the nature of oxides.



[Watch Video Solution](#)

**80.** Carbon and Silicon are present in the same group. Their dioxides  $CO_2$  and  $SiO_2$ , show

some similarities. For example both are acidic oxides. a. But,  $CO_2$  is a gas while  $SiO_2$  is a solid. Account. b. The basic building blocks of silicates are  $(SiO_4)^{4-}$ -tetrahedra. Differentiate Orthosilicates and Pyrosilicates. c. Silica gel is used as-a drying agent. Justify.



[Watch Video Solution](#)

**81.** Phosphorus is an essential constituent of both the plants and animals.

Phosphorus is stored under water. Give reason.



[Watch Video Solution](#)

**82.** Account for the 'play of-colours' shown by sodium thiosulphate with-silver' nitrate.



[Watch Video Solution](#)

**83.** a, What are inter-halogen compounds? Give any two example. b. The number of electrons

'in the valence shell decides the oxidation state of an element What are the possible oxidation states of Pb? Atomic number of 'Pb=82' Which is more stable? Why?



[Watch Video Solution](#)

**84.**  $\text{PCl}_5$  is known but ' $\text{NCl}_5$ ' is unknown. Why?



[Watch Video Solution](#)

**85.**  $\text{N}_2$  is inert. Why?





[Watch Video Solution](#)

**86.** Urea is used as a fertilizer. Why?



[Watch Video Solution](#)

**87.** What is the reaction between ammonium and chloroplatinic acid?



[Watch Video Solution](#)

**88.** Which property is made use of in separating red phosphorus from white phosphorus?



**Watch Video Solution**

**89.** Which is more stable  $\text{PCl}_3$  or  $\text{PCl}_5$  Why?



**Watch Video Solution**

**90.** Group 16 elements are called chalcogens?

Why?



**Watch Video Solution**

**91.** Which has higher value for 1st ionisation enthalpy - oxygen or nitrogen. Why?



**Watch Video Solution**

**92.** Group 16 elements have higher values of electronegativity. Why?



**Watch Video Solution**

**93.** Oxygen is a diatomic gas. Why?



**Watch Video Solution**

**94.** Sulphur has a strong tendency for catenation than oxygen. Why?



[Watch Video Solution](#)

**95.** Hydrocarbons are used as fuels. Why?



[Watch Video Solution](#)

**96.** Name the anhydride of sulphurous acid.

Why is it called so?



[Watch Video Solution](#)

**97.** Sulphur dioxide 'SO<sub>2</sub>' is, a reducing agent.

Why?



**Watch Video Solution**

**98.** Hot concentrated sulphuric acid is a strong oxidising agent. Why?



**Watch Video Solution**

**99.** Fluorine does not show higher positive oxidation states. Why?



**Watch Video Solution**

**100.** Arrange HF, HCl, HBr and HI in the order of their i dipole moments. ii bond length



**Watch Video Solution**

**101.** In presence of moisture, ' $\text{Cl}_2$ ' acts as a powerful oxidising agent. Why?



**Watch Video Solution**

**102.** Does the hydrolysis of ' $\text{XeF}_6$ ' lead to a redox reaction?



**Watch Video Solution**



**103.** Explain i) Sulphur vapours, exhibits some paramagnetism ii)  $ClF$ , exists but  $FCl_3$  does not. iii)  $N(CH_3)_3$ , is pyramidal but  $N(SiH_3)_3$  is planar. iv) Interhalogen compounds are more reactive than the corresponding, elemental halogens?



**Watch Video Solution**

**104.** Explain i Helium is used in inflating aeroplane tyres? ii. Solubility of noble gases in

water increases as we move down the group.



[Watch Video Solution](#)

**105.** In the reaction  $A + 2B + H_2O \text{ gives } C + 2D$ . draw the structures of A, B, C, D , where A is  $HNO_2$  B is  $H_2SO_3$  and C is  $NH_2OH$  .



[Watch Video Solution](#)

**106.** Element A burns, in nitrogen to give an ionic compound B. The compound B reacts

with 'H<sub>2</sub>O' to give 'C' and 'D'. A solution of 'C' becomes milky on bubbling 'CO<sub>2</sub>'. Identify 'A, B, C, D'.



[Watch Video Solution](#)

**107.** An orange solid. 'X' on heating gives a green residue 'Y', water vapours and a colourless gas Z. The gas 'Z' in dry conditions is passed over heated 'Mg' to give a solid 'W' which further reacts, with water to produce

gas E which gives dense white fumes with HCl.

Identify 'X, Y\_ Z W. E



[Watch Video Solution](#)

**108.** i Why HF acid is stored in wax coated glass bottles? ii Iodine is more soluble in KI than in 'H<sub>2</sub>O'. Why?



[Watch Video Solution](#)

**109.** Bleaching of flowers by chlorine permanent while that by 'SO<sub>2</sub>', is temporary. Explain.



**Watch Video Solution**

**110.** A translucent white waxy solid A on heating in an inert atmosphere is converted into its allotropic form B. Allotrope 'A' on reaction with very dilute aqueous KOH liberates a highly poisonous gas C having

rotten fish smell. With excess of chlorine C form. D which hydrolyses to compound E: Identify 'A' to E.



[Watch Video Solution](#)

**111.** Explain i. Oxides of nitrogen have open chain structures while those of phosphorus have closed chain or cage structure. Why is it so? Illustrate with one structural example for each type of oxides or The oxides of phosphorus have cage structures but not

open ones. ii. Elemental phosphorus does not exist as  $P_2$  as  $N_2$



[Watch Video Solution](#)

**112.** Explain i. It is advisable to grow a leguminous crop on a soil every three or four years



[Watch Video Solution](#)

**113.** Explain i) ozone layer acts as an umbrella for the earth against the harmful radiation from sun. ii) The wooden shelf under the reagent bottle containing conc.  $H_2SO_4$  blackens after sometime. iii) Precipitation of second group sulphides in qualitative analysis is carried out with  $H_2S$  in presence of  $HCl$  and not nitric acid.



**Watch Video Solution**



**114.** Name the catalysts used in contact process. Write the optimum temperature for their efficient working



**Watch Video Solution**

**115.** Explain i For the dilution of ' $\text{H}_2\text{SO}_4$ ', water should not be added to conc. ' $\text{H}_2\text{SO}_4$ ?' ii Conc. ' $\text{H}_2\text{SO}_4$ ', cannot be used for drying ' $\text{H}_2\text{S}$



**Watch Video Solution**

**116.** i. HF exists as a dimeric molecule i.e.  $HF$  has higher viscosity or high boiling point. Explain.

ii. Anhydrous  $HCl$  is a bad conductor of electricity but aqueous  $HCl$  is a good conductor.

iii. Fluorine gives fumes with moist air?



**Watch Video Solution**

**117.** i. Neon is used in warning signal illuminations.

ii. Neon is used in safety devices for protecting electrical instrument. Explain.



Watch Video Solution

**118.** The reddish brown gas formed when nitric oxide is oxidised by air is

A.  $\text{N}_2\text{O}_5$

B.  $\text{N}_2\text{O}_4$

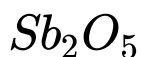
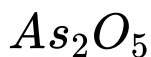
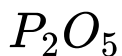
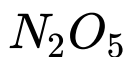
C.  $\text{NO}_2$

D.  $\text{N}_2\text{O}_3$

**Answer: C**



119. Which of the following oxides is most acidic



A.  $N_2O_5$

B.  $P_2O_5$

C.  $As_2O_5$

D. Sb<sub>2</sub>O<sub>5</sub>

**Answer: A**



**Watch Video Solution**

**120.** In 'NO<sub>3</sub>' ion, the number of bond pairs and lone pairs of electrons on nitrogen atom are

A. 2, 2

B. 3, 1

C. 1, 3

D. 4, 0

**Answer: D**



**Watch Video Solution**

**121.** The true statement for the acids of phosphorus, ' $\text{H}_3\text{PO}_2$ ,  $\text{H}_3\text{PO}_3$  and  $\text{H}_3\text{PO}_4$ ' is

A. The order of their acidity is



B. All of them are reducing in nature

C. All of them are tribasic acids

D. The geometry of P is tetrahedral in all  
the three

**Answer: A**



**Watch Video Solution**

**122.** For  $H_3PO_3$  and  $H_3PO_4$  the correct choice is.

$H_3PO_3$  is dibasic and reducing.

$H_3PO_3$  is dibasic and non reducing

$H_3PO_4$  is tribasic and reducing

$H_3PO_3$  is tribasic acid non-reducing

- A.  $H_3PO_3$  is dibasic and reducing.
- B.  $H_3PO_3$  is dibasic and non reducing
- C.  $H_3PO_4$  is tribasic and reducing
- D.  $H_3PO_3$  is tribasic acid non-reducing

**Answer: A**



**Watch Video Solution**



**123.** The element which forms oxides in all oxidation states +1 to +5 is

A. N

B. P

C. As

D. Sb

**Answer: A**



**Watch Video Solution**

124. Which of the following is the increasing order of enthalpy of vapourisation

A.  $\text{NH}_3$ ,  $\text{PH}_3$ ,  $\text{AsH}_3$

B.  $\text{AsH}_3$ ,  $\text{PH}_3$ ,  $\text{NH}_3$

C.  $\text{NH}_3$ ,  $\text{AsH}_3$ ,  $\text{PH}_3$

D.  $\text{PH}_3$ ,  $\text{AsH}_3$ ,  $\text{NH}_3$

**Answer: D**



**Watch Video Solution**

**125.** The number of hydrogen atoms attached to phosphorus atom in hypophosphorus acid is

A. zero

B. two

C. one

D. three

**Answer: B**



**Watch Video Solution**

**126.** The number of P -O- P bonds in the structure of phosphorus pentoxide and phosphorus trioxide are respectively

A. 6, 6

B. 5, 5

C. 5, 6

D. 6, 5

**Answer: A**



**Watch Video Solution**

127. Which of the following is not hydrolysed

A.  $\text{AsCl}_3$

B.  $\text{PF}_3$

C.  $\text{SbCl}_3$

D.  $\text{NF}_3$

**Answer: D**



**Watch Video Solution**

**128.** The gases produced in the reactions  $\text{Pb}(\text{NO}_3)_2 \xrightarrow{\Delta}$  and  $\text{NH}_4\text{NO}_3 \xrightarrow{\Delta}$  are respectively,

A.  $\text{N}_2\text{O}$ ,  $\text{NO}$

B.  $\text{N}_2\text{O}$ ,  $\text{NO}_2$

C.  $\text{NO}$ ,  $\text{N}_2\text{O}$

D.  $\text{NO}_2$ ,  $\text{N}_2\text{O}$

**Answer: D**



**Watch Video Solution**

129. The number of sigma -bonds in ' P4O10' is

A. 6

B. 16

C. 20

D. 7

**Answer: B**



**Watch Video Solution**

**130.** Nitrogen does not form pentahalide because

- A. it is small in size
- B. its ionisation energy is high
- C. no d - orbital is available
- D. its electronegativity is high

**Answer: C**



**Watch Video Solution**



**131.** Which of the following is a cyclic oxoacid

A.  $H_4 P_2 O_6$

B.  $H_4 P_2 O_7$

C.  $H_3 P_3 O_9$

D.  $H_5 P_3 O_{15}$

**Answer: C**



**Watch Video Solution**

132. The number of P -O- P bonds in cyclic metaphosphoric acid is zero two three four

A. zero

B. two

C. three

D. four

**Answer: C**



**Watch Video Solution**

133. Which of the following has.  $p\pi - d\pi$

bonding :  $NO_3^-$  ,  $SO_3^{2-}$  ,  $BO_3^{3-}$  ,  $CO_3^{2-}$

A.  $NO_3$

B.  $SO_3^{2-}$

C.  $BO_3^{3-}$

D.  $CO_3^{2-}$

**Answer: B**



**Watch Video Solution**

**134.** Which of the following oxides of nitrogen

is solid  $\text{NO}_2$   $\text{N}_2\text{O}$   $\text{N}_2\text{O}_3$   $\text{N}_2\text{O}_5$

A.  $\text{NO}_2$

B.  $\text{H}_2\text{O}$

C.  $\text{N}_2\text{O}_3$

D.  $\text{N}_2\text{O}_5$

**Answer: D**



**Watch Video Solution**

**135.** On boiling phosphorus with KOH solution, product formed is

- A. Potassium sulphate
- B. Phosphrous pentoxide
- C. Phosphorus hydroxide
- D. Phosphene

**Answer: D**



**Watch Video Solution**

**136.** Which of the following isomers of phosphorus is thermodynamically most stable : red, white, black, yellow

A. red

B. white

C. black

D. yellow

**Answer: C**



**Watch Video Solution**

137. Which of the following when heated gives nitrogen gas

A.  $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$

B.  $\text{Ba}(\text{N}_3)_2$

C.  $\text{NH}_4 \text{NO}_3$

D. both a and b

**Answer: D**



**Watch Video Solution**

**138.** Excess of ' $\text{PCl}_5$ ' reacts with conc. ' $\text{H}_2\text{SO}_4$ '  
giving

- A. Sulphuryl chloride
- B. Sulphurous acid
- C. Chlorosulphonic acid
- D. Thionyl chloride

**Answer: A**



**Watch Video Solution**



139. The reaction between  $\text{NH}_2^-$  and  $\text{N}_2\text{O}$  gives

A.  $\text{NO}$

B.  $\text{N}_3^-$

C.  $\text{N}_2\text{O}_5$

D.  $\text{NH}_2\text{NH}_2$

**Answer: B**



**Watch Video Solution**

140. Reaction of 'PCl<sub>3</sub>' and Ph Mg Br would give

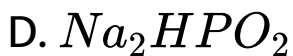
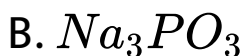
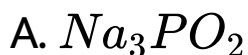
- A. bromobenzene
- B. chlorobenzene
- C. triphenyl phosphine
- D. dichlorobenzene

**Answer: C**



**Watch Video Solution**

**141.** The correct formula of salt formed by the neutralisation of hypophosphorus acid with NaOH is



**Answer: C**



**Watch Video Solution**

**142.** The correct order of the acidic nature of oxides is in the order : (1)NO

A. NO

B. N<sub>2</sub>O,NO

C. N<sub>2</sub>O<sub>5</sub>

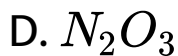
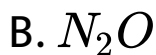
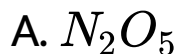
D. N<sub>2</sub>O<sub>5</sub>

**Answer: B**



**Watch Video Solution**

**143.** Which of the following oxides of nitrogen is the anhydride of nitrous acid?



**Answer: C**



**Watch Video Solution**

**144.** The brown ring test for nitrogen depends upon

A. the reduction of nitrate to nitric oxide

B. oxidation of nitric oxide to nitrogen dioxide

C. reduction of ferrous sulphate to iron

D. oxidising action of sulphuric acid

**Answer: A**



**Watch Video Solution**

145. The reaction  $P_4 + 3NaOH + 3H_2O \rightarrow 3NaH_2PO_2 + PH_3$  is an example of

- A. disproportionation reaction
- B. neutralisation reaction
- C. double decomposition reaction
- D. Pyrolytic reaction

**Answer: A**



**Watch Video Solution**

146. The percentage of 'p character in the orbitals forming P-P bonds in 'P<sub>4</sub>' is'

A. 25

B. 33

C. 50

D. 75

**Answer: D**



**Watch Video Solution**



**147.** In the brown ring test, the brown colour of the ring is due to

A. a mixture of NO and NO<sub>2</sub>

B. nitrosoferrous sulphate

C. ferrous nitrate

D. ferric nitrate

**Answer: B**



**Watch Video Solution**