

TEST PAPER NO. 07

TOPIC : P BLOCK ELEMENTS

M.M. 50

TIME: 3 HRS.

Name of Student _____ Roll No. _____

Q.NO. 1-10 carries 1 mark, 11-20 2 marks, 21-25 carries 3 marks, 26 carries 5 marks.

- Why are pentahalides more covalent than trihalides?
- Why is BiH_3 the strongest reducing agent amongst all the hydrides of Group 15.
- Write the reaction of thermal decomposition of sodium azide?
- Why is N_2 less reactive at room temperature?
- Why does NH_3 act as lewis base?
- Why does NO_2 dimerises?
- Write the chemical reaction involved in Brown Ring Test of Nitrate ion?
- Bond angle in PH_4^+ is greater than that in PH_3 . Why?
- Why does PCl_3 fumes in moisture?
- How do you account for the reducing behaviour of H_3PO_2 on the basis of its structure?
- Why:
 - H_2S is less acidic than H_2Te .
 - H_2O is liquid and H_2S is a gas.
- Complete the following reaction:
 - $\text{P}_4 + \text{NaOH}$
 - $\text{C}_2\text{H}_4 + \text{O}_2$
- Explain why
 - O_3 act as a powerful oxidising agent
 - Sulphur show paramagnetic behaviour in gaseous state.
- What happens when:
 - Concentrated H_2SO_4 is added to CaF_2
 - SO_3 is passed through water.
- Write the conditions to maximize the yield of H_2SO_4 by contact process.
- Halogens have maximum negative electron gain enthalpy in the respective period of periods of periodic table.
 - Although electron gain enthalpy of fluorine is less negative than chlorine. Fluorine is a stronger oxidising agent than chlorine.
- What are interhalogen compounds explain with example.
- Give two examples to show anomalous behaviour of fluorine
Fluorine exhibits only -1 oxidation state.
- Why is ICl more reactive than I_2
 - Balanced chemical reaction of Cl_2 with hot and concentrated NaOH and justify whether it is a disproportionation reaction
- Explain the :
 - Noble gases have very low boiling points
 - Helium is used in diving apparatus

21. Explain:
- Dioxygen is a gas sulfur is solid
 - Halogens are strong oxidising agent
 - Halogens are coloured.
22. Write down the structure and hybridization of following:
- XeF_2
 - XeF_6
 - BrF_3
23. Explain hydrides of group 15 under following head:
- Bond Angle
 - Boiling point
 - Stability
24. Explain group 16 element under following head:
- Oxidation state
 - Hydrides
 - Halides.
25. How are xenon fluorides obtained, XeF_2 , XeF_4 and XeF_6 . Explain with chemical equations involved.
- 26.
- Explain the oxyacids of group 16 elements
 - List the uses of Neon and Argon
 - Explain why:
 - H_3PO_3 is diacidic whereas H_3PO_4 is tribasic
 - All the bonds in PCl_5 are not equivalent.
 - How are XeO_3 and XeOF_4 prepared?