

Single Correct Answer Type

- Which of the following is correct order with respect to the property mentioned against each ?
 - $\text{Cl}_2 > \text{Br}_2 > \text{I}_2$ (solubility in water)
 - $\text{HClO}_4 > \text{HClO}_3 > \text{HClO}_2 > \text{HOCl}$ (acidic character)
 - $\text{ClO}^- > \text{ClO}_2^- > \text{ClO}_3^- > \text{ClO}_4^-$ (oxidising power)
 - All of these
- Dry bleaching is done by
 - Cl_2
 - SO_2
 - O_3
 - H_2O_2
- HBr and HI reduces conc. H_2SO_4 . HCl can reduce KMnO_4 and HF can reduce.
 - H_2SO_4
 - KMnO_4
 - $\text{K}_2\text{Cr}_2\text{O}_7$
 - none of the above
- The correct order among the following is
 - $\text{ClO}_4^- > \text{BrO}_4^- > \text{IO}_4^-$ (basicity)
 - $\text{ClO}^- > \text{ClO}_2^- > \text{ClO}_3^- > \text{ClO}_4^-$ (delocalization of negative charge)
 - $\text{ClO}^- > \text{ClO}_2^- > \text{ClO}_3^- > \text{ClO}_4^-$ (charge density)
 - $\text{NH}_3 > \text{PH}_3 > \text{AsH}_3$ (delocalization of lone pair electron)
- T-shape molecule are -
 - ClF_3
 - ICl_3
 - BrF_3
 - All of these
- Of the following statements -
 - Cl_2 gas is dried by using conc. H_2SO_4
 - Fluorine have highest oxidising power
 - Oxidising power of halogens follow the order $\text{I}_2 > \text{Br}_2 > \text{Cl}_2$
 - HI is the strongest acid among HI, HBr, HCl
 - a, b and d are corrects
 - a, c are corrects
 - b, c are corrects
 - c, d are corrects
- Hydrogen fluoride is a liquid unlike other hydrogen halides because -
 - F atom is small in size
 - HF is a weakest acid
 - HF molecule are hydrogen bonded
 - Fluorine is highly reactive
- Hybridisation involved in the structure of XeF_2 -
 - sp^3d^2
 - dsp^2
 - sp^3d
 - sp^3
- Molecular shapes of SF_4 , CF_4 and XeF_4 are -
 - The same, with 2, 0 and 1 lone pairs of electrons respectively
 - The same, with 1, 1 and 1 lone pairs of electrons respectively
 - Different, with 0, 1 and 2 lone pairs of electrons respectively
 - Different, with 1, 0 and 2 lone pairs of electrons respectively
- Helium oxygen mixture is used by deep sea divers in preference to nitrogen oxygen mixture because-
 - Helium is much less soluble in blood than nitrogen
 - Nitrogen is much less soluble in blood than helium
 - Due to high pressure deep under sea nitrogen and oxygen react to give poisonous nitric oxide
 - Nitrogen is highly soluble in water

11. The ease of liquefaction of noble gases decreases in the order -
 (A) He > Ne > Ar > Kr > Xe (B) Xe > Kr > Ar > Ne > He
 (C) Kr > Xe > He > Ar > Xe (D) Ar > Kr > Xe > He > Ne
12. Which of the following trihalides is not hydrolysed -
 (A) PF₃ (B) PCl₃ (C) AsCl₃ (D) SbCl₃
13. XeF₄ on partial hydrolysis produces -
 (A) XeF₂ (B) XeOF₂ (C) XeOF₄ (D) XeO₃
14. The first compound of noble gases prepared by N-Bartlett was -
 (A) Xe⁺[Pt F₆]⁻ (B) XeF₄ (C) XeF₆ (D) XeOF₄
15. Tincture of iodine is -
 (A) I₂, KI and rectified spirit (B) I₂ and rectified spirit
 (C) KI and rectified spirit (D) I₂ and water
16. Compounds (A) and (B) are -

$$\text{Cl}_2 \begin{cases} \xrightarrow{\text{Cold and dilute NaOH}} (\text{A}) + \text{NaCl} + \text{H}_2\text{O} \\ \xrightarrow{\text{Hot and conc. NaOH}} (\text{B}) + \text{NaCl} + \text{H}_2\text{O} \end{cases}$$
 (A) NaClO₃, NaClO (B) NaOCl₂, NaOCl (C) NaClO₄, NaClO₃ (D) NaOCl, NaClO₃
17. Iodine is placed between two liquids C₆H₆ and water then -
 (A) It dissolves more in C₆H₆ (B) It dissolves more in water
 (C) It dissolves equally in both (D) Does not dissolve in both
18. A greenish yellow gas reacts with an alkali metal hydroxide to form a halate which can be used in fire works and safety matches. The gas and halides respectively are -
 (A) Br₂, KBrO₃ (B) Cl₂, KClO₃ (C) I₂, NaIO₃ (D) Cl₂, NaClO₃
19. XeF₆ on complete hydrolysis gives -
 (A) Xe (B) XeO₂ (C) XeO₃ (D) XeOF₂
20. XeF₆ dissolves in anhydrous HF to give a good conducting solution which contains
 (A) H⁺ and XeF₇⁻ ions (B) HF₂⁻ and XeF₅⁺ ions
 (C) HXeF₆⁺ and F⁻ (D) None of these

Numerical based

21. The number of lone pairs of electrons in chlorine(I) oxide is
22. In the known interhalogen compounds AB_n, what is maximum value of n?
23. How many Cl – O bonds Cl₂O₇ ?
24. On long standing bleaching powder undergoes auto-oxidation. The sum of the oxidation numbers of chlorine atoms in the products is
25. The n-factor of Cl₂ on reaction with dil and cold NaOH is ...

KEY

1.	D	2.	C	3.	D	4.	C	5.	D
6.	A	7.	C	8.	C	9.	D	10.	A
11.	B	12.	A	13.	B	14.	A	15.	A
16.	D	17.	A	18.	B	19.	C	20.	A
21.	8	22.	7	23.	8	24.	4	25.	1

* *Wish You all the Best* *