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NEET P-BLOCK ELEMENTS (GROUP 15–18) — PYQS

Max. Marks: 252 **Questions:** 63

Section A (MCQ) — 63 questions

Q.1 Identify the incorrect statement from the following: [NEET (UG) 2026]

(1) Phosphorus, arsenic and antimony show catenation property.

(2) $P(C_2H_5)_3$ and $As(C_6H_5)_3$ form dπ–dπ bond with transition metals.

(3) Nitrogen can form dπ–pπ bond with oxygen.

(4) Nitrogen can form pπ–pπ multiple bonds with itself.

Scan or tap for the full solution

Q.2 Given below are two statements :
In light of the above statements, choose the most appropriate answer from the options given below.
Statement-I: Heating NaCl with concentrated H_2SO_4 and MnO_2 results in oxidation of Mn.
Statement-II: Heating NaI with concentrated H_2SO_4 and MnO_2 results in reduction of Mn. [RE-NEET (UG) 2026]

(1) Statement-I is incorrect but Statement-II is correct

(2) Both Statement-I and Statement-II are correct

(3) Both Statement-I and Statement-II are incorrect

(4) Statement-I is correct but Statement-II is incorrect

Scan or tap for the full solution

Q.3 Given below are two statements :
Statement-I: Like nitrogen that can form ammonia, arsenic can form arsine.
Statement-II: Antimony cannot form antimony pentoxide.

In the light of the above statements, choose the most appropriate answer from the options given below : [NEET (UG) 2025]

(1) Statement-I is correct but Statement-II is incorrect

(2) Statement-I is incorrect but Statement-II is correct

(3) Both Statement-I and Statement-II are correct

(4) Both Statement-I and Statement-II are incorrect

Scan or tap for the full solution

Q.4 Given below are two statements:
Statement-I: The boiling point of hydrides of Group 16 elements follow the order
$H_2O > H_2Te > H_2Se > H_2S$.
Statement-II: On the basis of molecular mass, H_2O is expected to have lower boiling point than the other members of the group but due to the presence of extensive H-bonding in H_2O, it has higher boiling point.

In the light of the above statements, choose the correct answer from the options given below: [NEET (UG) 2024]

(1) Both Statement-I and Statement-II are true

(2) Both Statement-I and Statement-II are false

(3) Statement-I is true but Statement-II is false

(4) Statement-I is false but Statement-II is true

Scan or tap for the full solution

Q.5 Among Group 16 elements, which one does NOT show -2 oxidation state? [NEET (UG) 2024]

(1) O (2) Se (3) Te (4) Po

Scan or tap for the full solution

Q.6 Match **List I** with **List II** :

List - I (Atom/Molecule)		List - II (Property)	
A.	Nitrogen atom	I.	Paramagnetic
B.	Fluorine molecule	II.	Most reactive element in group 18
C.	Oxygen molecule	III.	Element with highest ionisation enthalpy in group 15
D.	Xenon atom	IV.	Strongest oxidising agent

Identify the correct answer from the options given below : [RE-NEET (UG) 2024]

(1) A-III, B-I, C-IV, D-II
(2) A-I, B-IV, C-III, D-II
(3) A-II, B-IV, C-I, D-III
(4) A-III, B-IV, C-I, D-II

Solution

Q.7 Identify the incorrect statement from the following : [RE-NEET (UG) 2024]

(1) The acidic strength of HX (X = F, Cl, Br and I) follows the order: HF > HCl > HBr > HI.
(2) Fluorine exhibits −1 oxidation state whereas other halogens exhibit +1, +3, +5 and +7 oxidation states also.
(3) The enthalpy of dissociation of F_2 is smaller than that of Cl_2.
(4) Fluorine is stronger oxidising agent than chlorine.

Scan or tap for the full solution

Q.8 Identify the incorrect statement. [RE-NEET (UG) 2024]

(1) PEt_3 and $AsPh_3$ as ligands can form dπ − dπ bond with transition metals
(2) The N − N single bond is as strong as the P − P single bond
(3) Nitrogen has unique ability to form pπ − pπ multiple bonds with nitrogen, carbon and oxygen
(4) Nitrogen cannot form dπ − pπ bond as other heavier elements of its group

Scan or tap for the full solution

Q.9 Given below are two statements : one is labelled as Assertion A and the other is labelled as Reason R.
Assertion (A): Helium is used to dilute oxygen in diving apparatus.
Reason (R): Helium has high solubility in O_2.

In the light of the above statements, choose the correct answer from the options given below: [NEET (UG) 2023]

(1) Both A and R are true but R is NOT the correct explanation of A.
(2) A is true but R is false.
(3) A is false but R is true.
(4) Both A and R are true and R is the correct explanation of A.

Scan or tap for the full solution

Q.10 Match **List-I** with **List-II**:

	List-I (Oxoacids of Sulphur)		List-II (Bonds)
A.	Peroxodisulphuric acid	I.	Two S–OH, Four S=O, One S–O–S
B.	Sulphuric acid	II.	Two S–OH, One S=O
C.	Pyrosulphuric acid	III.	Two S–OH, Four S=O, One S–O–O–S
D.	Sulphurous acid	IV.	Two S–OH, Two S=O

Choose the correct answer from the options given below: [NEET (UG) 2023]

(1) A-III, B-IV, C-I, D-II
(2) A-I, B-III, C-IV, D-II
(3) A-III, B-IV, C-II, D-I
(4) A-I, B-III, C-II, D-IV

Solution

Q.11 Given below are two statements : one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**
Assertion (A): ICl is more reactive than I_2
Reason (R): I − Cl bond is weaker than I − I bond.

In the light of the above statements, choose the most appropriate answer from the options given below: [NEET (UG) 2022]

(1) Both (A) and (R) are correct and (R) is the correct explanation of (A).
(2) Both (A) and (R) are correct but (R) is not the correct explanation of (A).
(3) (A) is correct but (R) is not correct.
(4) (A) is not correct but (R) is correct.

Scan or tap for the full solution

Q.12 Given below are two statements
Statement-I: The boiling points of the following hydrides of group 16 elements increase in the order -
$H_2O < H_2S < H_2Se < H_2Te$
Statement-II: The boiling points of these hydrides increase with increase in molar mass.

In the light of the above statements, choose the most appropriate answer from the options given below : [NEET (UG) 2022]

(1) Both Statement-I and Statement-II are correct
(2) Both Statement-I and Statement-II are incorrect
(3) Statement-I is correct but Statement-II is incorrect

(4) Statement-I is incorrect but Statement-II is correct

Scan or tap for the full solution

Q.13 Which of the following reactions is a part of the large scale industrial preparation of nitric acid?

[NEET (UG) 2022 (Phase 2)]

(1) $Cu(NO_3)_2 + 2NO_2 + 2H_2O \xrightarrow[500\ K,\ 9\ bar]{Pt} 4HNO_3 + Cu$

(2) $NaNO_3 + H_2SO_4 \xrightarrow[500\ K,\ 9\ bar]{Pt} NaHSO_4 + HNO_3$

(3) $4NH_3 + 5O_2\ (\text{from air}) \xrightarrow[500\ K,\ 9\ bar]{Pt} 4NO + 6H_2O$

(4) $4HPO_3 + 2N_2O_5 \xrightarrow[500\ K,\ 9\ bar]{Pt} 4HNO_3 + P_4O_{10}$

Scan or tap for the full solution

Q.14 Fluorine is a stronger oxidising agent than chlorine because :

A. F-F bond has a low enthalpy of dissociation.

B. Fluoride ion (F^-) has high hydration enthalpy.

C. Electron gain enthalpy of fluorine is less negative than chlorine.

D. Fluorine has a very small size.

Choose the most appropriate answer from the options given : [NEET (UG) 2022 (Phase 2)]

(1) B and C only (2) A and B only

(3) A and C only (4) A and D only

Scan or tap for the full solution

Q.15 **Statement-I:** Acid strength increases in the order given as $HF \ll HCl \ll HBr \ll HI$.

Statement-II: As the size of the elements, F, Cl, Br, I increases down the group, the bond strength of HF, HCl, HBr and HI decreases and so the acid strength increases.

In the light of the above statements, choose the correct answer from the options given below.

[NEET (UG) 2021]

(1) Statement-I is incorrect but Statement-II is true.

(2) Both Statement-I and Statement-II are true.

(3) Both Statement-I and Statement-II are false.

(4) Statement-I is correct but Statement-II is false.

Scan or tap for the full solution

Q.16 Noble gases are named because of their inertness towards reactivity. Identify an incorrect statement about them. [NEET (UG) 2021]

(1) Noble gases have large positive values of electron gain enthalpy

(2) Noble gases are sparingly soluble in water

(3) Noble gases have very high melting and boiling points

(4) Noble gases have weak dispersion forces

Scan or tap for the full solution

Q.17 In which one of the following arrangements the given sequence is not strictly according to the properties indicated against it? [NEET (UG) 2021]

(1) $CO_2 < SiO_2 < SnO_2 < PbO_2$: Increasing oxidizing order

(2) $HF < HCl < HBr < HI$: Increasing acidic strength

(3) $H_2O < H_2S < H_2Se < H_2Te$: Increasing pK_a values

(4) $NH_3 < PH_3 < AsH_3 < SbH_3$: Increasing acidic character

Scan or tap for the full solution

Q.18 Urea reacts with water to form A which will decompose to form B. B when passed through $Cu^{2+}(aq)$, deep blue colour solution C is formed. What is the formula of C from the following?

[NEET (UG) 2020]

(1) $[Cu(NH_3)_4]^{2+}$ (2) $Cu(OH)_2$

(3) $CuCO_3 \cdot Cu(OH)_2$ (4) $CuSO_4$

Scan or tap for the full solution

Q.19 Which of the following oxoacid of sulphur has −O–O– linkage? [NEET (UG) 2020]

(1) H_2SO_4, sulphuric acid

(2) $H_2S_2O_8$, peroxodisulphuric acid

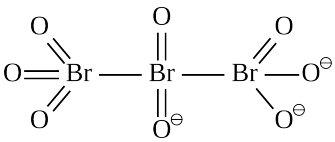
(3) $H_2S_2O_7$, pyrosulphuric acid

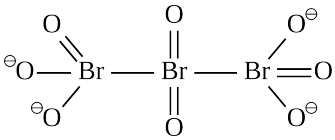
(4) H_2SO_3, sulphurous acid

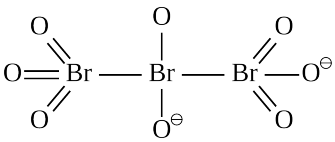
Solution

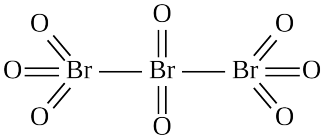
Q.20 The correct structure of tribromooctaoxide is :

[NEET (UG) 2019]

(1) 

(2) 

(3) 

(4) 

Scan or tap for the full solution

Q.21 Which is the correct thermal stability order for H_2E (E = O, S, Se, Te and Po)? [NEET (UG) 2019]

(1) $H_2Po < H_2Te < H_2Se < H_2S < H_2O$

(2) $H_2Se < H_2Te < H_2Po < H_2O < H_2S$

(3) $H_2S < H_2O < H_2Se < H_2Te < H_2Po$

(4) $H_2O < H_2S < H_2Se < H_2Te < H_2Po$

Scan or tap for the full solution

Q.22 Match the following :
Which of the following is the correct option?
[NEET (UG) 2019]

List-I		List-II	
a.	Pure nitrogen	i.	Chlorine
b.	Haber process	ii.	Sulphuric acid
c.	Contact process	iii.	Ammonia
d.	Deacon's process	iv.	Sodium azide or Barium azide

(1) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)

(2) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

(3) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(4) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)

Solution

Q.23 Identify the incorrect statement related to PCl_5 from the following : [NEET (UG) 2019]

(1) Axial P–Cl bonds are longer than equatorial P–Cl bonds

(2) PCl_5 molecule is non-reactive

(3) Three equatorial P–Cl bonds make an angle of 120° with each other

(4) Two axial P–Cl bonds make an angle of 180° with each other

Scan or tap for the full solution

Q.24 Match the Xenon compounds in **Column-I** with its structure in **Column-II** and assign the correct code : [NEET (UG) 2019]

Column-I		Column-II	
a.	XeF_4	i.	pyramidal
b.	XeF_6	ii.	square planar
c.	$XeOF_4$	iii.	distorted octahedral
d.	XeO_3	iv.	square pyramidal

(1) (a)-(ii), (b)-(iii), (c)-(i), (d)-(iv)

(2) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)

(3) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(4) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)

Solution

Q.25 Which of the following statements is not true for halogens? [NEET 2018]

(1) All are oxidizing agents.

(2) All form monobasic oxyacids.

(3) All but fluorine show positive oxidation states.

(4) Chlorine has the highest electron-gain enthalpy.

Scan or tap for the full solution

Q.26 Match the interhalogen compounds of **column-I** with the geometry in **column-II** and assign the correct code. [NEET 2017]

Column-I		Column-II	
a.	XX'	i.	T-shape
b.	XX'_3	ii.	Pentagonal bipyramidal
c.	XX'_5	iii.	Linear
d.	XX'_7	iv.	Square pyramidal
		v.	Tetrahedral

(1) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)

(2) (a)-(v), (b)-(iv), (c)-(iii), (d)-(ii)

(3) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

(4) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)

Solution

Q.27 In which pair of ions both the species contain S–S bond? [NEET 2017]

(1) $S_4O_6^{2-}$, $S_2O_3^{2-}$ (2) $S_2O_7^{2-}$, $S_2O_8^{2-}$

(3) $S_4O_6^{2-}$, $S_2O_7^{2-}$ (4) $S_2O_7^{2-}$, $S_2O_3^{2-}$

Scan or tap for the full solution

Q.28 Name the gas that can readily decolourise acidified $KMnO_4$ solution. [NEET 2017]

(1) SO_2 (2) NO_2 (3) P_2O_5 (4) CO_2

Scan or tap for the full solution

Q.29 $HgCl_2$ and I_2 both when dissolved in water containing I^- ions, the pair of species formed is [NEET 2017]

(1) HgI_2, I^- (2) HgI_4^{2-}, I_3^-

(3) Hg_2I_2, I^- (4) HgI_2, I_3^-

Scan or tap for the full solution

Q.30 Match the compounds given in **column I** with the hybridisation and shape given in **column II** and mark the correct option [NEET 2016 (Phase 1)]

Column I		Column II	
a.	XeF_6	i.	distorted octahedral
b.	XeO_3	ii.	square planar
c.	$XeOF_4$	iii.	pyramidal
d.	XeF_4	iv.	square pyramidal

(1) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)
(2) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
(3) (a)-(i), (b)-(iii), (c)-(iv), (d)-(ii)
(4) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)

Solution

Q.31 Which is the correct statement for the given acids? [NEET 2016 (Phase 1)]

(1) Phosphinic acid is a monoprotic acid while phosphonic acid is a diprotic acid.
(2) Phosphinic acid is a diprotic acid while phosphonic acid is a monoprotic acid.
(3) Both are diprotic acids.
(4) Both are triprotic acids.

Scan or tap for the full solution

Q.32 Which one of the following orders is correct for the bond dissociation enthalpy of halogen molecules? [NEET 2016 (Phase 1)]

(1) $Br_2 > I_2 > F_2 > Cl_2$ (2) $F_2 > Cl_2 > Br_2 > I_2$
(3) $I_2 > Br_2 > Cl_2 > F_2$ (4) $Cl_2 > Br_2 > F_2 > I_2$

Scan or tap for the full solution

Q.33 When copper is heated with conc. HNO_3 it produces [NEET 2016 (Phase 1)]

(1) $Cu(NO_3)_2$, NO and NO_2
(2) $Cu(NO_3)_2$ and N_2O
(3) $Cu(NO_3)_2$ and NO_2
(4) $Cu(NO_3)_2$ and NO

Solution

Q.34 Among the following the correct order of acidity is [NEET 2016 (Phase 1)]

(1) $HClO_2 < HClO < HClO_3 < HClO_4$
(2) $HClO_4 < HClO_2 < HClO < HClO_3$
(3) $HClO_3 < HClO_4 < HClO_2 < HClO$
(4) $HClO < HClO_2 < HClO_3 < HClO_4$

Scan or tap for the full solution

Q.35 Hot concentrated sulphuric acid is a moderately strong oxidizing agent. Which of the following reactions does not show oxidizing behaviour? [NEET 2016 (Phase 2)]

(1) $Cu + 2H_2SO_4 \longrightarrow CuSO_4 + SO_2 + 2H_2O$
(2) $3S + 2H_2SO_4 \longrightarrow 3SO_2 + 2H_2O$
(3) $C + 2H_2SO_4 \longrightarrow CO_2 + 2SO_2 + 2H_2O$
(4) $CaF_2 + H_2SO_4 \longrightarrow CaSO_4 + 2HF$

Scan or tap for the full solution

Q.36 Strong reducing behavior of H_3PO_2 is due to [AIPMT 2015]

(1) high electron gain enthalpy of phosphorus
(2) high oxidation state of phosphorus
(3) presence of two −OH groups and one P–H bond
(4) presence of one −OH group and two P–H bonds.

Scan or tap for the full solution

Q.37 The variation of the boiling points of the hydrogen halides is in the order HF > HI > HBr > HCl. What explains the higher boiling point of hydrogen fluoride? [AIPMT 2015]

(1) There is strong hydrogen bonding between HF molecules.
(2) The bond energy of HF molecules is greater than in other hydrogen halides.
(3) The effect of nuclear shielding is much reduced in fluorine which polarises the HF molecule.
(4) The electronegativity of fluorine is much higher than for other elements in the group.

Scan or tap for the full solution

Q.38 Which of the statements given below is incorrect? [AIPMT 2015]

(1) O_3 molecule is bent.
(2) ONF is isoelectronic with O_2N^-
(3) OF_2 is an oxide of fluorine.
(4) Cl_2O_7 is an anhydride of perchloric acid.

Scan or tap for the full solution

Q.39 Nitrogen dioxide and sulphur dioxide have some properties in common. Which property is shown by one of these compounds, but not by the other? [AIPMT 2015 (Cancelled)]

(1) Is soluble in water.
(2) Is used as a food preservative.
(3) Forms 'acid-rain'.
(4) Is a reducing agent.

Solution

Q.40 Acidity of diprotic acids in aqueous solutions increases in the order [AIPMT 2014]

(1) $H_2S < H_2Se < H_2Te$ (2) $H_2Se < H_2S < H_2Te$
(3) $H_2Te < H_2S < H_2Se$ (4) $H_2Se < H_2Te < H_2S$

Scan or tap for the full solution

Q.41 Which is the strongest acid in the following? [NEET 2013]

(1) $HClO_4$ (2) H_2SO_3 (3) H_2SO_4 (4) $HClO_3$

Scan or tap for the full solution

Q.42 Roasting of sulphides gives the gas X as a byproduct. This is a colourless gas with choking smell of burnt sulphur and causes great damage to respiratory organs as a result of acid rain. Its aqueous solution is acidic, acts as a reducing agent and its acid has never been isolated. The gas X is [NEET 2013]

(1) CO_2 (2) SO_3 (3) H_2S (4) SO_2

Scan or tap for the full solution

Q.43 Identify the incorrect statement, regarding the molecule XeO_4: [NEET 2013 (Karnataka)]

(1) XeO_4 molecule is square planar.

(2) There are four $p\pi - d\pi$ bonds.

(3) There are four $sp^3 - p, \sigma$ bonds.

(4) XeO_4 molecule is tetrahedral.

Solution

Q.44 In which of the following arrangements the given sequence is not strictly according to the property indicated against it? [AIPMT 2012 (Mains)]

(1) $HF < HCl < HBr < HI$: increasing acidic strength

(2) $H_2O < H_2S < H_2Se < H_2Te$: increasing pK_a values

(3) $NH_3 < PH_3 < AsH_3 < SbH_3$: increasing acidic character

(4) $CO_2 < SiO_2 < SnO_2 < PbO_2$: increasing oxidising power

Scan or tap for the full solution

Q.45 Which of the following statements is not valid for oxoacids of phosphorus? [AIPMT 2012 (Prelims)]

(1) Orthophosphoric acid is used in the manufacture of triple superphosphate.

(2) Hypophosphorous acid is a diprotic acid.

(3) All oxoacids contain tetrahedral four coordinated phosphorus.

(4) All oxoacids contain at least one P=O unit and one P–OH group.

Scan or tap for the full solution

Q.46 Sulphur trioxide can be obtained by which of the following reactions? [AIPMT 2012 (Prelims)]

(1) $CaSO_4 + C \xrightarrow{\Delta}$ (2) $Fe_2(SO_4)_3 \xrightarrow{\Delta}$

(3) $S + H_2SO_4 \xrightarrow{\Delta}$ (4) $H_2SO_4 + PCl_5 \xrightarrow{\Delta}$

Scan or tap for the full solution

Q.47 How many bridging oxygen atoms are present in P_4O_{10}? [AIPMT 2010 (Mains)]

(1) 6 (2) 4 (3) 2 (4) 5

Scan or tap for the full solution

Q.48 Match **List-I** (substances) with **List-II** (processes) employed in the manufacture of the substances and select the correct option. [AIPMT 2010 (Mains)]

List-I (Substances)		List-II (Processes)	
A.	Sulphuric acid	i.	Haber's process
B.	Steel	ii.	Bessemer's process
C.	Sodium hydroxide	iii.	Leblanc process
D.	Ammonia	iv.	Contact process

(1) (A) $\longrightarrow$ (i); (B) $\longrightarrow$ (iv); (C) $\longrightarrow$ (ii); (D) $\longrightarrow$ (iii)

(2) (A) $\longrightarrow$ (i); (B) $\longrightarrow$ (ii); (C) $\longrightarrow$ (iii); (D) $\longrightarrow$ (iv)

(3) (A) $\longrightarrow$ (iv); (B) $\longrightarrow$ (iii); (C) $\longrightarrow$ (ii); (D) $\longrightarrow$ (i)

(4) (A) $\longrightarrow$ (iv); (B) $\longrightarrow$ (ii); (C) $\longrightarrow$ (iii); (D) $\longrightarrow$ (i)

Scan or tap for the full solution

Q.49 Oxidation states of P in $H_4P_2O_5$, $H_4P_2O_6$, $H_4P_2O_7$ are respectively [AIPMT 2010 (Prelims)]

(1) +3, +5, +4 (2) +5, +3, +4

(3) +5, +4, +3 (4) +3, +4, +5

Scan or tap for the full solution

Q.50 Among the following which is the strongest oxidising agent? [AIPMT 2009]

(1) Br_2 (2) I_2 (3) Cl_2 (4) F_2

Scan or tap for the full solution

Q.51 Which of the following arrangements do not give the correct picture of the trends indicated against them? [AIPMT 2008]

(1) $F_2 > Cl_2 > Br_2 > I_2$: Bond dissociation energy

(2) $F_2 > Cl_2 > Br_2 > I_2$: Electronegativity

(3) $F_2 > Cl_2 > Br_2 > I_2$: Oxidizing power

(4) $F_2 > Cl_2 > Br_2 > I_2$: Electron gain enthalpy

Scan or tap for the full solution

Q.52 Which one of the following orders correctly represents the increasing acid strengths of the given acids? [AIPMT 2007]

(1) $HOClO < HOCl < HOClO_3 < HOClO_2$

(2) $HOClO_2 < HOClO_3 < HOClO < HOCl$

(3) $HOClO_3 < HOClO_2 < HOClO < HOCl$

(4) $HOCl < HOClO < HOClO_2 < HOClO_3$

Scan or tap for the full solution

Q.53 Which one of the following orders is not in accordance with the property stated against it ? [AIPMT 2006]

(1) $F_2 > Cl_2 > Br_2 > I_2$: Bond dissociation energy

(2) $F_2 > Cl_2 > Br_2 > I_2$: Oxidising power

(3) HI > HBr > HCl > HF : Acidic property in water

(4) $F_2 > Cl_2 > Br_2 > I_2$: Electronegativity

Scan or tap for the full solution

Q.54 Which one of the following orders is not in accordance with the property stated against it? [AIPMT 2006]

(1) $F_2 > Cl_2 > Br_2 > I_2$: Bond dissociation energy

(2) $F_2 > Cl_2 > Br_2 > I_2$: Oxidising power

(3) HI > HBr > HCl > HF : Acidic property in water

(4) $F_2 > Cl_2 > Br_2 > I_2$: Electronegativity.

Scan or tap for the full solution

Q.55 Which one of the following oxides is expected to exhibit paramagnetic behaviour? [AIPMT 2005]

(1) CO_2 (2) SiO_2 (3) SO_2 (4) ClO_2

Scan or tap for the full solution

Q.56 What is the correct relationship between the pH of isomolar solutions of sodium oxide, Na_2O (pH_1), sodium sulphide, Na_2S (pH_2), sodium selenide, Na_2Se (pH_3) and sodium telluride Na_2Te (pH_4)? [AIPMT 2005]

(1) $pH_1 > pH_2 > pH_3 > pH_4$

(2) $pH_1 > pH_2 \approx pH_3 > pH_4$

(3) $pH_1 < pH_2 < pH_3 < pH_4$

(4) $pH_1 < pH_2 < pH_3 \approx pH_4$

Solution

Q.57 Which one of the following orders correctly represents the increasing acid strengths of the given acids? [AIPMT 2005]

(1) $HOClO < HOCl < HOClO_3 < HOClO_2$

(2) $HOClO_3 < HOClO_2 < HOClO < HOCl$

(3) $HOClO_2 < HOClO_3 < HOClO < HOCl$

(4) $HOCl < HOClO < HOClO_2 < HOClO_3$

Scan or tap for the full solution

Q.58 Which one of the following statements is not true? [AIPMT 2003]

(1) Among halide ions, iodide is the most powerful reducing agent.

(2) Fluorine is the only halogen that does not show a variable oxidation state.

(3) HOCl is a stronger acid than HOBr.

(4) HF is a stronger acid than HCl.

Scan or tap for the full solution

Q.59 Which of the following statement is true? [AIPMT 2002]

(1) Silicon exhibits 4 coordination number in its compounds

(2) Bond energy of F_2 is less than Cl_2

(3) Mn(III) oxidation state is more stable than Mn(II) in aqueous state

(4) Elements of 15th group show only +3 and +5 oxidation states

Scan or tap for the full solution

Q.60 Zn gives H_2 gas with H_2SO_4 and HCl but not with HNO_3 because [AIPMT 2002]

(1) Zn acts as oxidising agent when it reacts with HNO_3

(2) HNO_3 is weaker acid than H_2SO_4 and HCl

(3) In electrochemical series Zn is above hydrogen

(4) NO_3^- is reduced in preference to hydronium ion.

Scan or tap for the full solution

Q.61 Nitrogen forms N_2, but phosphorus does not form P_2, however, it exists as P_4, reason is [AIPMT 2001]

(1) triple bond present between phosphorus atoms

(2) $p\pi - p\pi$ bonding is weak

(3) $p\pi - p\pi$ bonding is strong

(4) multiple bonds form easily.

Solution

Q.62 Which statement is wrong ? [AIPMT 2000]

(1) Bond energy of $F_2 > Cl_2$

(2) Electronegativity of F > Cl

(3) F is more oxidising than Cl

(4) Electron affinity of Cl > F

Solution

Q.63 Which compound has planar structure? [AIPMT 2000]

(1) XeF_4 (2) $XeOF_2$

(3) XeO_2F_2 (4) XeO_4

Solution

ANSWER KEY

Ques.	1	2	3	4	5	6	7
Ans.	3	1	1	1	4	4	1
Ques.	8	9	10	11	12	13	14
Ans.	2	2	1	1	2	3	2
Ques.	15	16	17	18	19	20	21
Ans.	2	3	3	1	2	4	1
Ques.	22	23	24	25	26	27	28
Ans.	2	2	4	3	1	1	1
Ques.	29	30	31	32	33	34	35
Ans.	2	3	1	4	3	4	4
Ques.	36	37	38	39	40	41	42
Ans.	4	1	3	2	1	1	4
Ques.	43	44	45	46	47	48	49
Ans.	1	2	2	2	1	4	4
Ques.	50	51	52	53	54	55	56
Ans.	4	1, 4	4	1	1	4	1

Ques.	57	58	59	60	61	62	63
Ans.	**4**	**4**	**2**	**4**	**2**	**1**	**1**

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