PYQSide PYQSide.com — free PYQs with solutions Powered by PrepBlink

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

Max. Marks: 64 **Questions:** 16

Section A (MCQ) — 16 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 :

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.3 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

Scan or tap for the full solution

Q.4 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.5 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.6 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.7 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)

Scan or tap for the full solution

Q.8 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.9 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.10 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

Scan or tap for the full solution

Q.11 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.12 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.13 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.14 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.15 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.16 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.

Scan or tap for the full solution

ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	**3**	**1**	**4**	**2**	**3**	**1**	**2**	**2**	**1**	**3**	**4**
Ques.	12	13	14	15	16						
Ans.	**2**	**1**	**4**	**4**	**2**						