

PYQSide

NEET P-BLOCK ELEMENTS (GROUP 13 & 14) — GROUP 13 ELEMENTS (BORON FAMILY) — PYQS

Max. Marks: 64

Questions: 16

Section A (MCQ)

Q.1 The correct statement is [RE-NEET (UG) 2026]

- (1) Aluminium has five valence orbitals.
 (2) Boron has a maximum covalency of four.
 (3) Beryllium has three valence orbitals.
 (4) Magnesium has a maximum covalency of four.

Scan or tap for the full solution 

Q.2 Taking stability as the factor, which one of the following represents correct relationship?

[NEET (UG) 2023]

- (1) $\text{InI}_3 > \text{InI}$ (2) $\text{AlCl} > \text{AlCl}_3$
 (3) $\text{TlI} > \text{TlI}_3$ (4) $\text{TlCl}_3 > \text{TlCl}$

Scan or tap for the full solution 

Q.3 Which of the following statements is not correct about diborane?

[NEET (UG) 2022]

- (1) There are two 3-centre-2-electron bonds.
 (2) The four terminal B-H bonds are two centre two electron bonds.
 (3) The four terminal hydrogen atoms and the two boron atoms lie in one plane.
 (4) Both the boron atoms are sp^2 hybridised.

Scan or tap for the full solution 

Q.4 Match List-I with List-II :

List-I (Compounds)		List-II (Molecular formula)	
a.	Borax	i.	NaBO_2
b.	Kernite	ii.	$\text{Na}_2\text{B}_4\text{O}_7 \cdot 4\text{H}_2\text{O}$
c.	Orthoboric acid	iii.	H_3BO_3
d.	Borax bead	iv.	$\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$

Choose the correct answer from the options given below :

[NEET (UG) 2022 (Phase 2)]

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

Scan or tap for the full solution 

Q.5 $\text{Na}_2\text{B}_4\text{O}_7 \xrightarrow{\text{heat}} \text{X} + \text{NaBO}_2$

in the above reaction the product "X" is :

[NEET (UG) 2022 (Phase 2)]

- (1) NaB_3O_5 (2) H_3BO_3 (3) B_2O_3 (4) $\text{Na}_2\text{B}_2\text{O}_5$

Scan or tap for the full solution 

Q.6 The correct order of atomic radii in group 13 elements is

[NEET 2018]

- (1) $\text{B} < \text{Al} < \text{In} < \text{Ga} < \text{Tl}$
 (2) $\text{B} < \text{Al} < \text{Ga} < \text{In} < \text{Tl}$
 (3) $\text{B} < \text{Ga} < \text{Al} < \text{Tl} < \text{In}$
 (4) $\text{B} < \text{Ga} < \text{Al} < \text{In} < \text{Tl}$

Scan or tap for the full solution 

Q.7 Which one of the following elements is unable to form MF_6^{3-} ion?

[NEET 2018]

- (1) Ga (2) Al (3) B (4) In

Scan or tap for the full solution 

Q.8 Boric acid is an acid because its molecule

[NEET 2016 (Phase 2)]

- (1) contains replaceable H^+ ion
 (2) gives up a proton
 (3) accepts OH^- from water releasing proton
 (4) combines with proton from water molecule.

Scan or tap for the full solution 

Q.9 AlF_3 is soluble in HF only in presence of KF. It is due to the formation of

[NEET 2016 (Phase 2)]

- (1) $\text{K}_3[\text{AlF}_3\text{H}_3]$ (2) $\text{K}_3[\text{AlF}_6]$
 (3) AlH_3 (4) $\text{K}[\text{AlF}_3\text{H}]$

Scan or tap for the full solution 

Q.10 The stability of +1 oxidation state among Al, Ga, In and Tl increases in the sequence

[AIPMT 2015]

- (1) $\text{Al} < \text{Ga} < \text{In} < \text{Tl}$ (2) $\text{Tl} < \text{In} < \text{Ga} < \text{Al}$
 (3) $\text{In} < \text{Tl} < \text{Ga} < \text{Al}$ (4) $\text{Ga} < \text{In} < \text{Al} < \text{Tl}$

Scan or tap for the full solution 

Q.11 Which of the following is electron-deficient ?

[NEET 2013]

- (1) $(\text{BH}_3)_2$ (2) PH_3 (3) $(\text{CH}_3)_2$ (4) $(\text{SiH}_3)_2$

Scan or tap for the
full solution



Q.12 Which of the following structure is similar to graphite?

[NEET 2013]

- (1) B_4C (2) B_2H_6 (3) BN (4) B

Scan or tap for the
full solution



Q.13 The tendency of BF_3 , BCl_3 and BBr_3 to behave as Lewis acid decreases in the sequence

[AIPMT 2010 (Prelims)]

- (1) $\text{BCl}_3 > \text{BF}_3 > \text{BBr}_3$ (2) $\text{BBr}_3 > \text{BCl}_3 > \text{BF}_3$
(3) $\text{BBr}_3 > \text{BF}_3 > \text{BCl}_3$ (4) $\text{BF}_3 > \text{BCl}_3 > \text{BBr}_3$

Scan or tap for the
full solution



Q.14 The stability of +1 oxidation state among Al , Ga , In and Tl increases in the sequence

[AIPMT 2009]

- (1) $\text{Al} < \text{Ga} < \text{In} < \text{Tl}$ (2) $\text{Tl} < \text{In} < \text{Ga} < \text{Al}$
(3) $\text{In} < \text{Tl} < \text{Ga} < \text{Al}$ (4) $\text{Ga} < \text{In} < \text{Al} < \text{Tl}$

Scan or tap for the
full solution



Q.15 Which one of the following compounds is not a protonic acid?

[AIPMT 2003]

- (1) $\text{B}(\text{OH})_3$ (2) $\text{PO}(\text{OH})_3$
(3) $\text{SO}(\text{OH})_2$ (4) $\text{SO}_2(\text{OH})_2$

Scan or tap for the
full solution



Q.16 Which compound is electron deficient?

[AIPMT 2000]

- (1) PCl_3 (2) BCl_3 (3) CCl_4 (4) PCl_5

Scan or tap for the
full solution



ANSWER KEY

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