

MCQ set-II of P-Block Elements

1. A single N–N bond is weaker than a single P–P bond because:

- a) Nitrogen has larger atomic size
- b) There is high repulsion between lone pairs in N₂
- c) P–P bond has more π -bond character
- d) Nitrogen is less electronegative

Answer: b — high inter-electronic repulsion due to small size weakens N–N single bond.

2. Which one of the following *does not* show allotropy?

- a) Phosphorus
- b) Arsenic
- c) Antimony
- d) *Nitrogen*

Answer: d — N₂ exists only as diatomic gas, no allotropes.

3. Which group 15 element forms *metallic bonds* in elemental state?

- a) As
- b) P
- c) Sb
- d) Bi

Answer: d — Bismuth exhibits metallic character.

4. Maximum covalency of nitrogen is:

- a) 3
- b) 4
- c) 5

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d) 6

Answer: b — nitrogen's max covalency is 4 (via sp^3 hybridisation including lone pair).

5. Which of the following does *not* show the -3 oxidation state commonly?

- a) Nitrogen
- b) Phosphorus
- c) Arsenic
- d) Bismuth

Answer: d — Bi mostly shows +3 and +5, -3 very rare.

6. Which element among Group 16 has more than two allotropic forms?

- a) Oxygen
- b) Selenium
- c) Tellurium
- d) Polonium

Answer: b — Selenium shows multiple allotropes (amorphous, hexagonal, etc.).

7. Which name is correct for Group 16 elements?

- a) Pnictogens
- b) Chalcogens
- c) Halogens
- d) Noble gases

Answer: b — Group 16 = chalcogens.

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8. Elements O, S, Se, and Te are commonly known as:

- a) Rare earth elements
- b) Chalcogens
- c) Halogens
- d) Pnictogens

Answer: b — all are Group 16 chalcogens.

9. Which of the following oxoacids are *peroxoacids of sulphur*?

- a) H_2SO_5 and $\text{H}_2\text{S}_2\text{O}_8$
- b) H_2SO_5 and $\text{H}_2\text{S}_2\text{O}_7$
- c) $\text{H}_2\text{S}_2\text{O}_7$ and $\text{H}_2\text{S}_2\text{O}_8$
- d) $\text{H}_2\text{S}_2\text{O}_6$ and $\text{H}_2\text{S}_2\text{O}_7$

Answer: a — H_2SO_5 and $\text{H}_2\text{S}_2\text{O}_8$ are peroxoacids.

10. Which is false about p-block elements?

- a) They have their final electron entering p-orbitals
- b) They include metals, nonmetals, and metalloids
- c) All of them strictly form ionic compounds
- d) They span Groups 13–18

Answer: c — p-block elements form *both covalent and ionic* compounds, not strictly ionic.

11. Which of the following is a *neutral oxide* among p-block elements?

- a) CO
- b) CO_2
- c) SO_2
- d) N_2O_5

Answer: a — CO is neutral oxide.

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12. Which p-block element has *the highest electronegativity*?

- a) Oxygen
- b) Nitrogen
- c) Fluorine
- d) Chlorine

Answer: c — fluorine is the most electronegative element.

13. Which of the following exhibits the greatest *catenation* among p-block elements?

- a) Silicon
- b) Germanium
- c) Carbon
- d) Tin

Answer: c — carbon's catenation is highest.

14. Which element is *not* a p-block element?

- a) Boron
- b) Oxygen
- c) Calcium
- d) Nitrogen

Answer: c — Ca is an s-block element.

15. Ionization enthalpy trend among Group 15 elements generally:

- a) Decreases down the group
- b) Increases down the group

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- c) Remains constant
- d) First increases then decreases

Answer: a — ionization enthalpy decreases as atomic size increases.