

# p & s- Block Element JEE Main Questions 2025 PDF

## s-Block Elements

Q: Arrange the following in the order of increasing ionic radii:  $\text{Na}^+$ ,  $\text{Mg}^{2+}$ ,  $\text{Al}^{3+}$ , and  $\text{F}^-$ .

A:  $\text{Al}^{3+} < \text{Mg}^{2+} < \text{Na}^+ < \text{F}^-$ .

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Q: Which alkali metal forms a superoxide in reaction with oxygen?

A: Potassium (K), Rubidium (Rb), and Cesium (Cs).

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Q: Which of the following is used to remove the permanent hardness of water?

A: Washing soda ( $\text{Na}_2\text{CO}_3$ ).

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Q: Sodium ions are responsible for:

A: Nerve impulse transmission.

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Q: Lithium shows a diagonal relationship with magnesium. Which property justifies this relationship?

- a) Formation of soluble hydroxide
- b) Formation of nitrides
- c) High polarizing power
- d) Formation of peroxides

A: c) High polarizing power.

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Q: Which alkali metal is used in photoelectric cells?

- a) Sodium
- b) Potassium
- c) Cesium
- d) Rubidium

A: c) Cesium.

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## p-Block Elements

Q: Which element shows a +1 oxidation state due to the inert pair effect?

A: Thallium (Tl).

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Q: Graphite is a good conductor of electricity because:

A: It has free delocalized  $\pi$ -electrons.

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Q: Which of the following is a strong oxidizing agent?

A: Ozone ( $O_3$ ).

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Q: Identify the gas responsible for acid rain:

A: Sulfur dioxide ( $SO_2$ ).

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Q: Which of the following is used in the manufacture of heat-resistant glass?

A: Borax ( $Na_2[B_4O_5(OH)_4] \cdot 8H_2O$ ).

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Q: The oxidation state of oxygen in  $OF_2$  is:

- a) -2
- b) -1
- c) +2
- d) +1

A: c) +2.

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Q: Which of the following compounds contains both ionic and covalent bonds?

- a) NaCl
- b)  $CaCO_3$
- c)  $H_2O$
- d)  $NH_3$

A: b)  $CaCO_3$ .

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Q: Which gas is liberated when ammonium dichromate is heated?

- a) Oxygen
- b) Nitrogen
- c) Ammonia

d) Chlorine

A: b) Nitrogen.

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## Topic wise p & s- Block Element JEE Main Questions (Sample)

Check the

s-Block Elements

Arrange the following alkali metals in decreasing order of reactivity with water: Li, Na, K, Rb, Cs.

A:  $\text{Cs} > \text{Rb} > \text{K} > \text{Na} > \text{Li}$ .

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Which of the following alkaline earth metals forms the least soluble hydroxide in water?

- a)  $\text{Be}(\text{OH})_2$
- b)  $\text{Mg}(\text{OH})_2$
- c)  $\text{Ca}(\text{OH})_2$
- d)  $\text{Ba}(\text{OH})_2$

A: a)  $\text{Be}(\text{OH})_2$ .

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Compounds

Q3: Plaster of Paris ( $\text{CaSO}_4 \cdot 0.5\text{H}_2\text{O}$ ) is obtained by heating gypsum to approximately:

- a)  $100^\circ\text{C}$
- b)  $200^\circ\text{C}$
- c)  $373^\circ\text{C}$
- d)  $473^\circ\text{C}$

A: a)  $100^\circ\text{C}$ .

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Biological Importance

Q4: Magnesium ions are a critical component of which biological molecule?

- a) Hemoglobin
- b) DNA
- c) Chlorophyll
- d) ATP

A: c) Chlorophyll.

