

NEET 2024 SQUAD

MONDAY

9 PM **LIVE**



**CLASSIFICATION OF ELEMENTS AND
PERIODICITY IN PROPERTIES**

JEE 2024 SQUAD

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9 PM **LIVE**



***CLASSIFICATION OF ELEMENTS AND
PERIODICITY IN PROPERTIES***

Plus One **PRITHVI**

FOR NEET/KEEM ENTRANCE EXAM

BATCH 2023 - 24

BATCH FEE

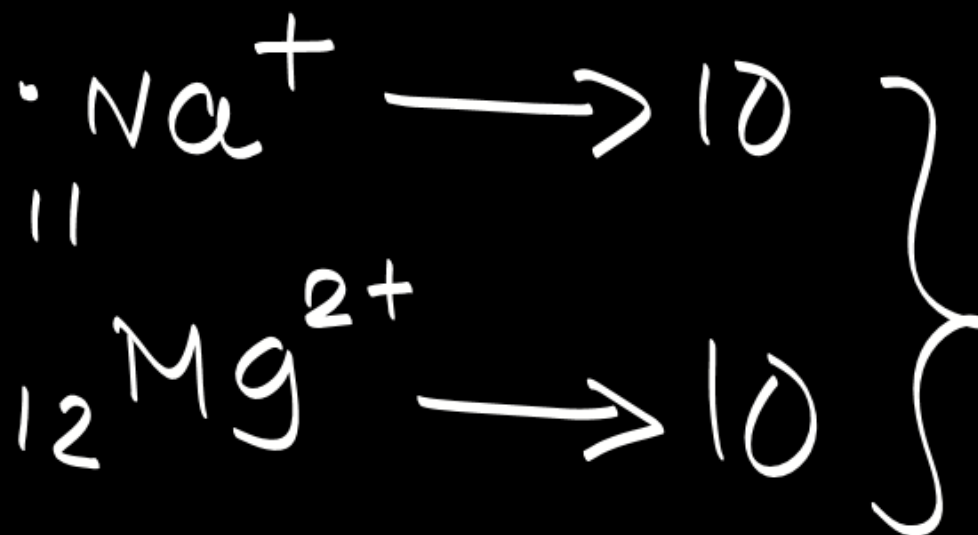
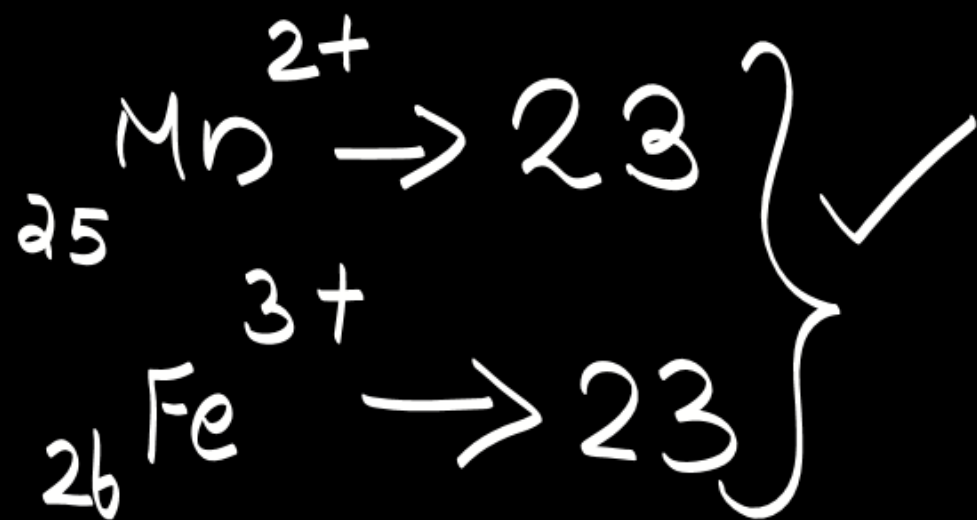
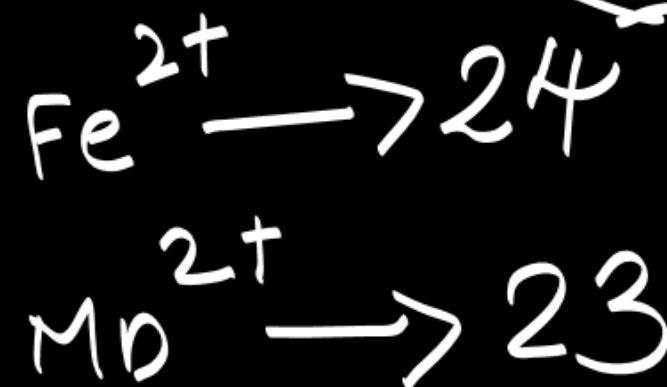
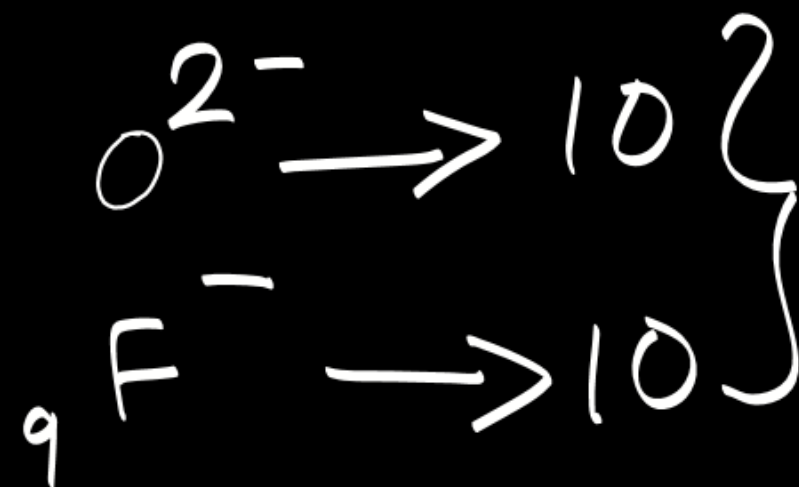
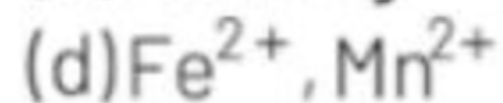
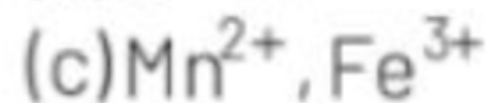
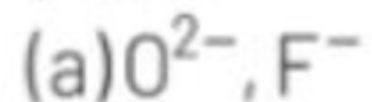
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WITH BOOKS - BATCH FEE

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**BATCH FEE FOR ONE YEAR
ALL SUBJECTS**

From the following pairs of ion
which one is not an iso-electronic
pair?
[NEET 2021]



Eka aluminium and Eka silicon are now known as:

1.	Ga and Ge ✓	2.	Al and Si
3.	Fe and S	4.	H ⁺ and Si

option 1
Ga, Ge

Identify the wrong statement in the following. [CBSE AIPMT 2012]

- (a) Amongst isoelectronic species, smaller the positive charge on the cation, smaller is the ionic radius X
- (b) Amongst isoelectronic species, greater the negative charge on the anion, larger is the ionic radius
- (c) Atomic radius of the elements increases as one moves down the first group of the periodic table
- (d) Atomic radius of the elements decreases as one moves across from left to right in the 2nd period of the periodic table

+ ↓ → size larger.

Option a

— ↑ size ↑

Which of the following sets has strongest tendency to form anions?

[CBSE AIPMT 1993]

(a) Ga, In, Tl

(b) Na, Mg, Al

(c) N, O, F ✓

(d) V, Cr, Mn

option C
{N, O, F}

cation (+)

Metals $\rightarrow e^-$ donate

Na $\rightarrow Na^+ \rightarrow$ cation

Non-metals $\rightarrow e^-$ accept

$O^{2-} \rightarrow$ anion

The elements with atomic numbers 35, 53, and 85 are

1. Noble gases
2. Halogens
3. Heavy metals
4. Light metals

35, 53, 85

35 → Br

F → 9 → 2nd period

Cl →

Br

I

~~2~~ 8 8 18 8, 32, 32

In the periodic table, with the increase in atomic number, the metallic character of an element

- (a) decrease in a period and increases in a group
- (b) increases in a period and decreases in a group
- (c) increases in a period as well as in the group
- (d) decreases in a period and also in the group

option 1

Which of the following statement is wrong :-

- (1) 2nd period contain 8 elements
- (2) 3rd period contains 18 elements ✓
- (3) 1st period contains two non metals
- (4) In p-block, metal, nonmetal and metalloids are present

2 ② ③
 ↓ ↓
8 8 18 18 32 32

The IUPAC name of the element which is placed after Db_{105} in the periodic table, will be :-

- | | |
|---------------------|--------------------|
| (1) Un nil pentium | (2) Un un nilium |
| (3) Un nil hexium ✓ | (4) Un nil quadium |

Db_{105}

106 $\rightarrow$ Un nil hexium

option 3

Select the correct match –

$$P = ns^2 np^4$$

(A) Group no = 17, p-block

$$Q = (n-1)d^2 ns^2$$

(B) Group no = 4, d-block

$$R = (n-2)f^7(n-1)d^1 ns^2$$

(C) Group no = 16, p-block

$$S = (n-1)d^{10} ns^2 np^5$$

(D) Group no = 3, f-block

(1) (P-A), (Q-B), (R-C), (S-D)

(2) (P-C), (Q-B), (R-D), (S-A)

(3) (P-A), (Q-C), (R-B), (S-D)

(4) (P-B), (Q-D), (R-C), (S-A)

Option 2

$$P \rightarrow ns^2 np^4 \rightarrow 4 + 12 = \underline{\underline{16}} \text{ g}$$

(P-C)

$$(n-1)d^2 ns^2 \rightarrow 2 + 2 = \underline{\underline{4}} \text{ g}$$

(Q-B)

$$(n-2)f^7 (n-1)d^1 ns^2 \rightarrow 3 \text{ g}$$

(R-D)

$$(n-1)d^{10} ns^2 np^5 \rightarrow 5 + 12 = \underline{\underline{17}} \text{ g}$$

(S-A)

The correct order according to size is



option 3

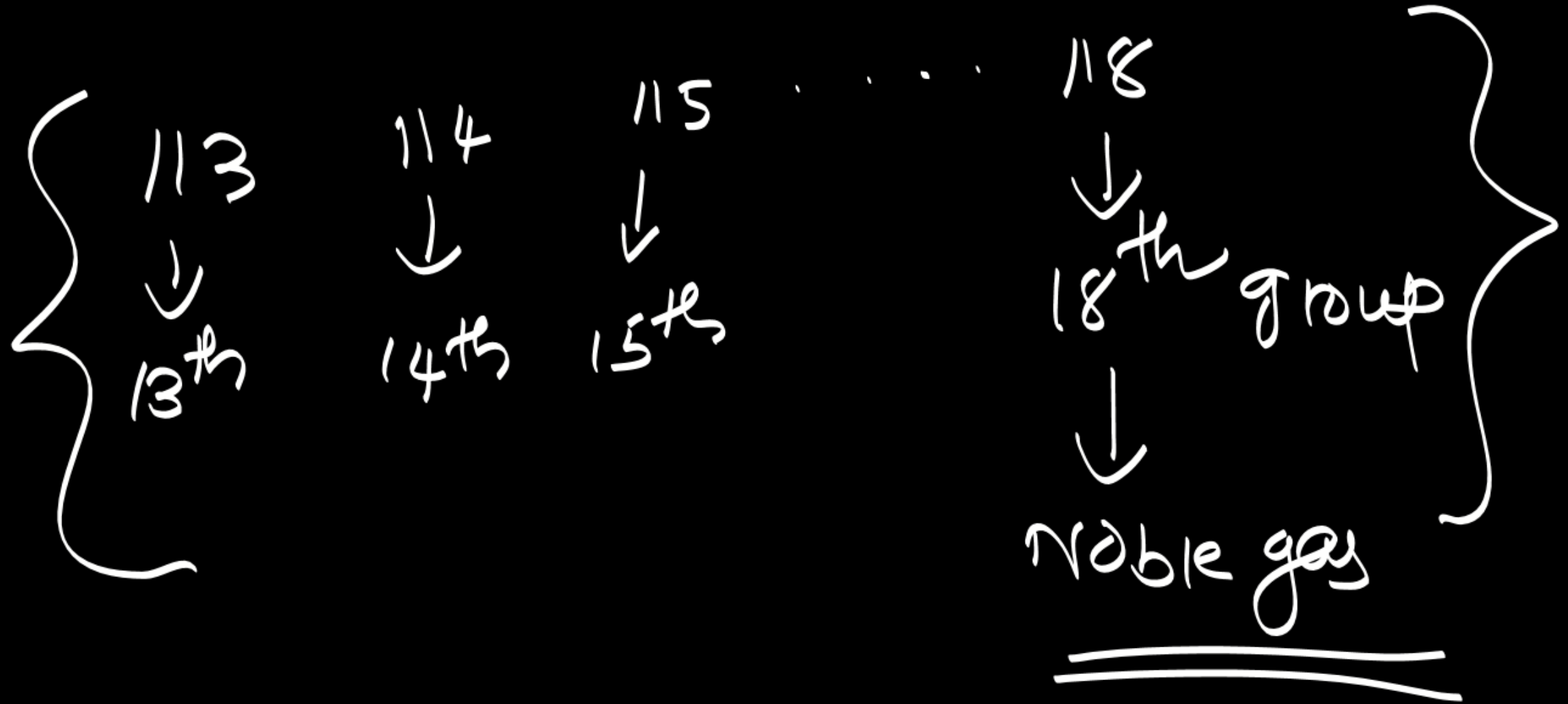


Anion > neutral atom.

— ↑, size ↑

The element with atomic number 118 will be ?

- 1) Alkali metals
- 2) Noble gases
- 3) Halogens
- 4) Transition element



The group having isoelectronic species is :

[JEE(Main)-2017, 4/120]

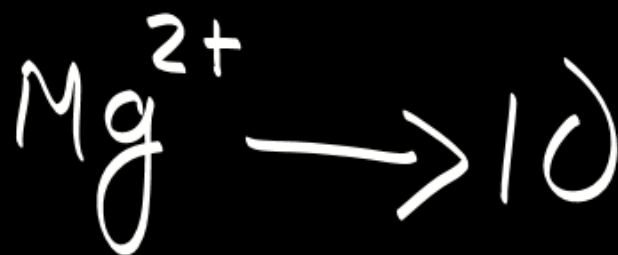
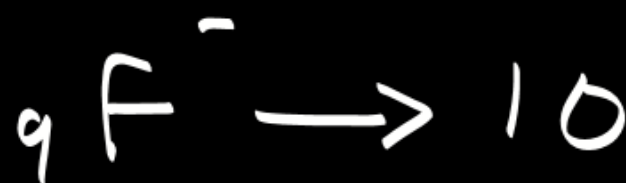
(1) O^- , F^- , Na , Mg^+

(2) O^{2-} , F^- , Na , Mg^{2+}

(3) O^- , F^- , Na^+ , Mg^{2+}

(4) O^{2-} , F^- , Na^+ , Mg^{2+}

option (4)



The electronic configuration with the highest ionization enthalpy is :

[Main 2017, 09 April, 4/120]

(1) [Ne] $3s^2 3p^1$

(2) [Ne] $3s^2 3p^2$

(3) [Ne] $3s^2 3p^3$

(4) [Ar] $3d^{10} 4s^2 4p^3$

option 3 $3s^2 3p^3$

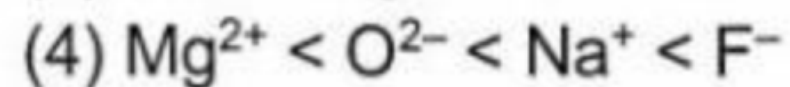
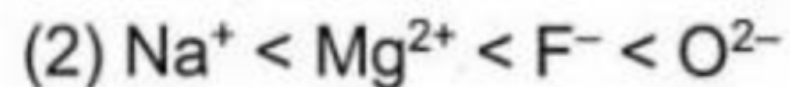
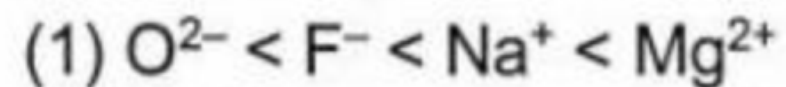


IE $\uparrow$

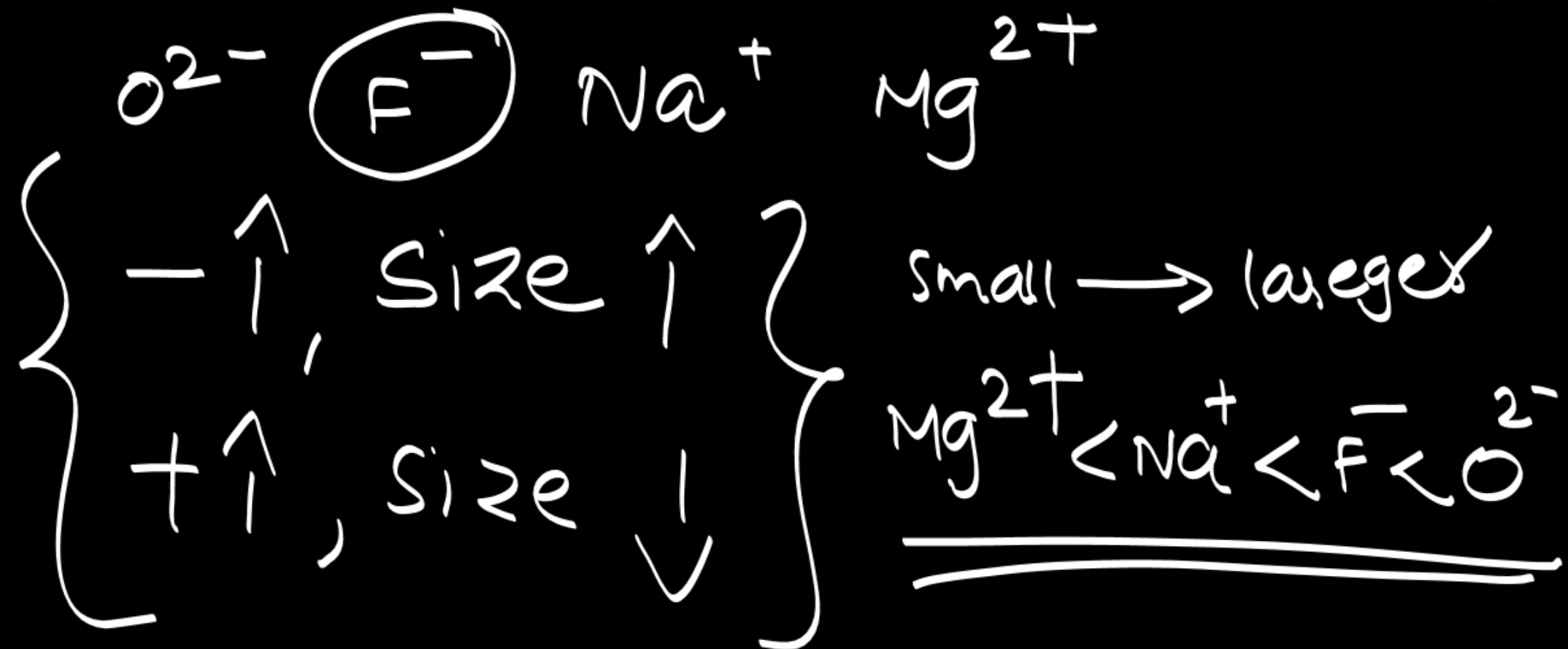


IE $\downarrow$

For Na^+ , Mg^{2+} , F^- and O^{2-} ; the correct order of increasing ionic radii is: [Main 2018, 15 April, 4/120]



Option 3



The ionic radius of Na^+ ion is $1.02 \text{ \AA}$. The ionic radii (in $\text{\AA}$) of Mg^{2+} and Al^{3+} , respectively, are:

[Main 2021, 18 Mar-I, 4/100]

(1) 0.68 and 0.72

(2) 1.05 and 0.99

(3) 0.72 and 0.54

(4) 0.85 and 0.99

option 3

$\text{Na}^+ \quad \text{Mg}^{2+} \quad \text{Al}^{3+}$

—————→

Decreases.

1.02 0.72 0.54

~~~~~

The CORRECT order of first ionisation enthalpy is :

option 3

[Main 2021, 27 Jul-II, 4/100]

(1)  $\text{Mg} < \text{Al} < \text{P} < \text{S}$

(2)  $\text{Mg} < \text{S} < \text{Al} < \text{P}$

(3)  $\text{Al} < \text{Mg} < \text{S} < \text{P}$

(4)  $\text{Mg} < \text{Al} < \text{S} < \text{P}$

Mg

Al

P

S

12

13

15

16

$1s^2 2s^2 2p^6 3s^2$

$3s^2 3p^1$

$3s^2 3p^3$

$3s^2 3p^4$

$\text{IE} \uparrow$

$\text{Al} < \text{Mg} < \text{S} < \text{P}$

Which one of the following has largest ionic radius ?

[Main 2014, 19 April, 4/120]

(1)  $\text{Li}^+$

(2)  $\text{O}_2^{2-}$

(3)  $\text{B}^{3+}$

(4)  $\text{F}^-$

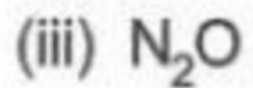
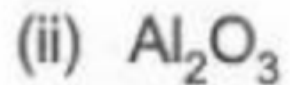
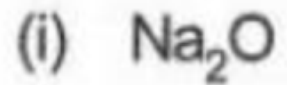
option 2  $\text{O}_2^{2-}$

— ↑, size ↑



Match the oxide given in column A with its property given in column B  
[NEET-2019 (Odisha)]

**Column-A**



**Column-B**

(a) Neutral

(b) Basic

(c) Acidic

(d) Amphoteric

Which of the following options has all correct pairs?

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

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

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

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

option 1

metals  $\longrightarrow$  Basic oxides

non-metals  $\longrightarrow$  Acidic oxides

$\text{Na}_2\text{O} \longrightarrow$  Basic (i-b)

$\text{Al}_2\text{O}_3 \longrightarrow$  Amphoteric (ii-d)

$\text{N}_2\text{O} \longrightarrow$  Neutral (iii-a)

$\text{Cl}_2\text{O}_7 \longrightarrow$  Acidic (iv-c)

A variable oxidation state is shown by which of the following?

|    |    |    |    |
|----|----|----|----|
| 1. | Na | 2. | Cu |
| 3. | Mg | 4. | Al |

**HW**