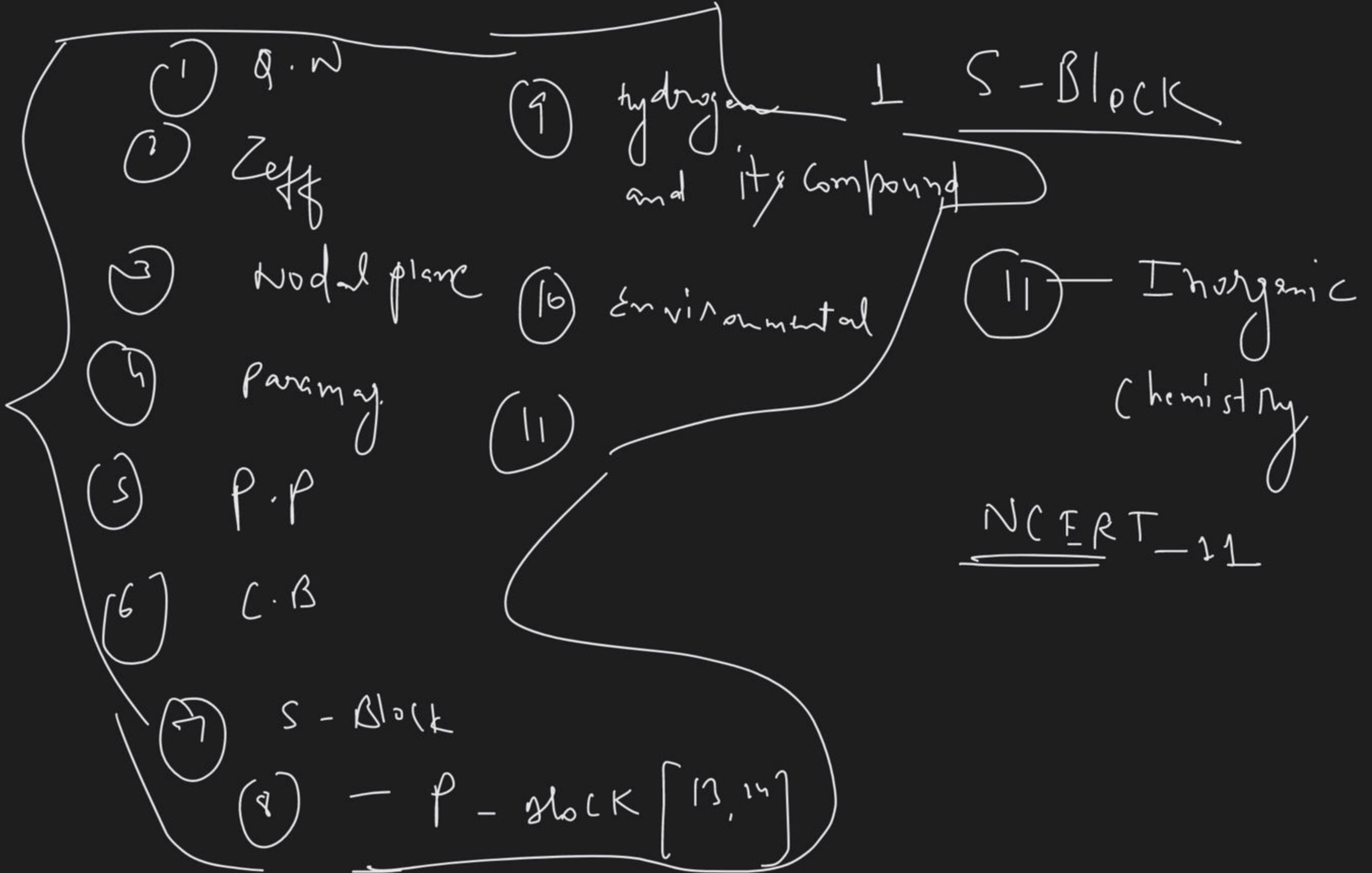




# S - Block Elements

Nurture: Course on Inorganic Chemistry for Class 11



Single theory — Notes

→ Sheet

1

2

3 Doubt clearing session

Problems and solution is

inorganic

chemistry

→ Vichal  
Joshi





unacademy

# IIT INORGANIC CHEMISTRY

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VISHAL JOSHI SIR

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Kota (Raj.) 324005

Mr. Vishal Joshi who is the **Director & Co-Founder of Nucleus Education** popularly known as VJ sir among students. He is also the HOD of Inorganic Chemistry Department. He is Known as the Wizard of Inorganic Chemistry. Nucleus Education is A Premier Institute for IIT JEE(Main+Advanced), NEET (UG) and other Competitive Examinations of National and International level like Olympiads, PRMO, RMO, IJSO, ICHO, IPHO, IAO, NTSE and KVPY.



Mr. Vishal Joshi has a mammoth experience of 19 years and he has been the mentor of top brains of the country. He has mentored top rankers of IIT-JEE such as

Chitraang Murdia (AIR-1, IIT-JEE 2014), Govind Lahoti (AIR-3, IIT-JEE 2014), Nishit Agarwal (AIR-6, IIT-JEE 2012), Amey Gupta (AIR-8, IIT-JEE 2014), Lakshay Sharma (AIR- 10, IIT-JEE 2017), Yatish Agarwal (AIR-12, IIT-JEE 2017) , Rohan Garg (AIR-18, IIT-JEE2015), Vibhav Agarwal ( AIR-19, IIT-JEE 2019), Shashank Agarwal (AIR-20, IIT-JEE 2018) And—

AIR- 23, 24, 27, 29, 32, 33, 36, 37, 40, 42, 48, 51, 52, 53, 54, 57, 58, 61, 63, 66, 67, 73, 78, 82, 86, 87, 91, 93, 96, 98, 99, 100

He has also been the mentor of ICHO Gold Medalist Kshitiz Garg (2015), Silver Medalist Sharvik Mittal (2016), Bronze Medalist Kushal Babel (2012), Silver Medalist Aayush Kadam (2018) and Jeevesh Kesar KVPY rank 7<sup>th</sup> (2019). One student Yash Mishra under his guidance has received the very prestigious Pradhan Mantri Bal Shakti Puraskar by the honorable President Shree Ramnath Kovind on 26<sup>th</sup> Jan 2020.



Mr. Vishal Joshi is also an Author. He is the author of PROBLEMS AND SOLUTIONS IN  
INORGANIC CHEMISTRY for IIT-JEE (Main & Advanced). He is one of the best teachers who  
understand the challenges faced by students preparing for the IIT-JEE entrance examination and has  
customized fundamentals of inorganic chemistry in his book to meet student's requirements. He is  
known as Motivational Guru among students.



# S-Block

group  
subgroup

I A

Li

Na

K

Rb

Cs

Fr

sub group

II A

Be

Mg

Ca

Sr

Ba

Ra

$ns^2$

Note  $\rightarrow$  Be is not  
alkaline earth metal  
because oxide and hydroxides  
are amphoteric in nature

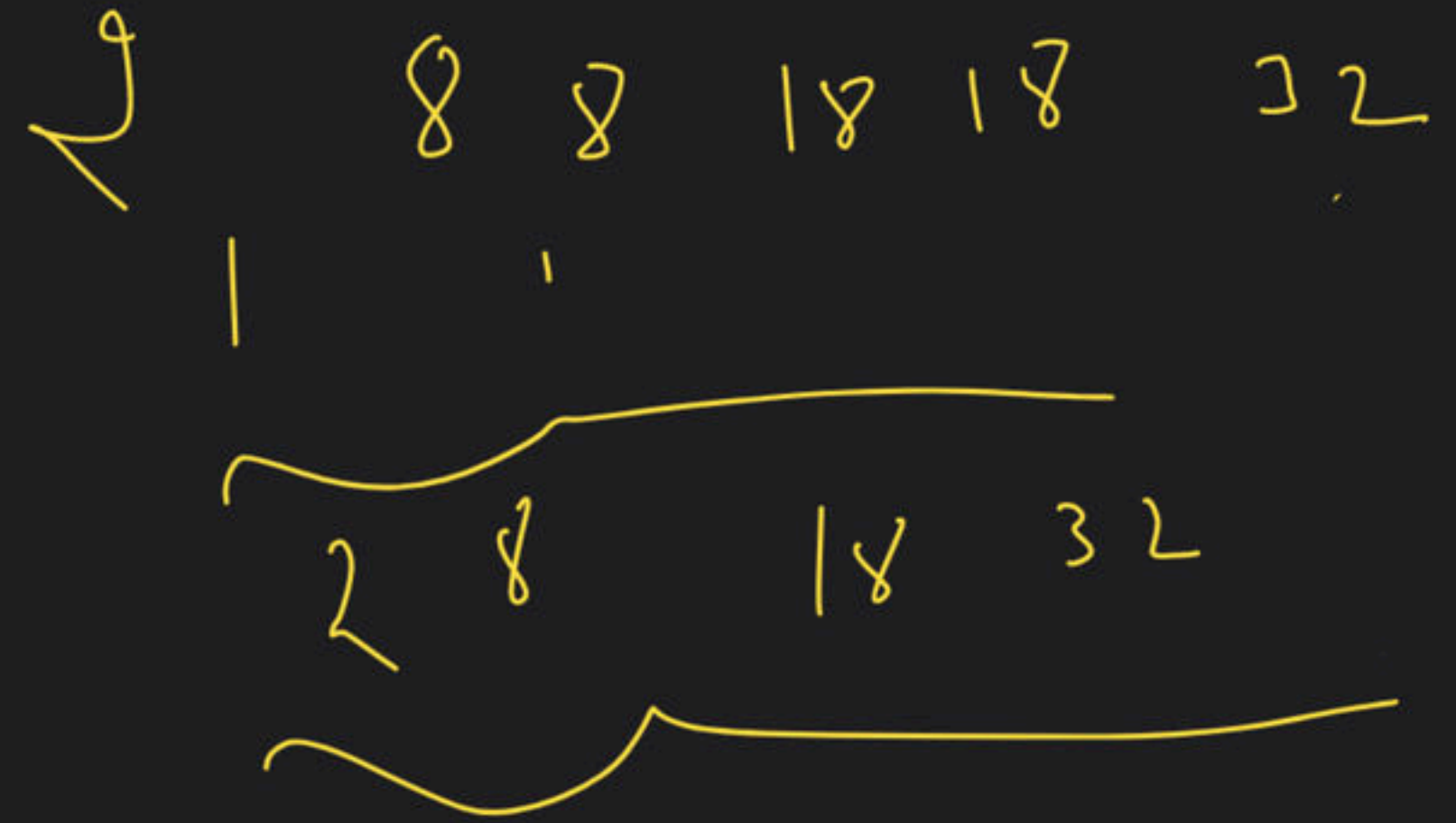
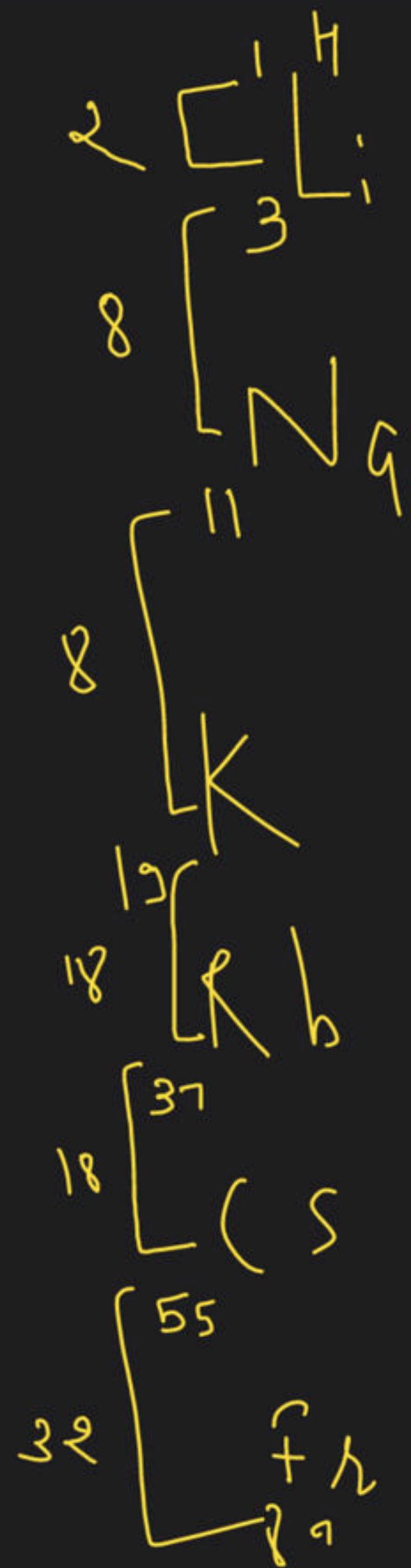
MgO Mg(OH)<sub>2</sub>

(oxide hydroxides are basic)

[alkaline earth metals]

[alkali metals]

$ns^1$





$1H$

$3Li$   $4Be$

$11Na$   $12Mg$

$19K$   $20Ca$

$37Rb$   $38Sr$

$55Cs$   $56Ba$

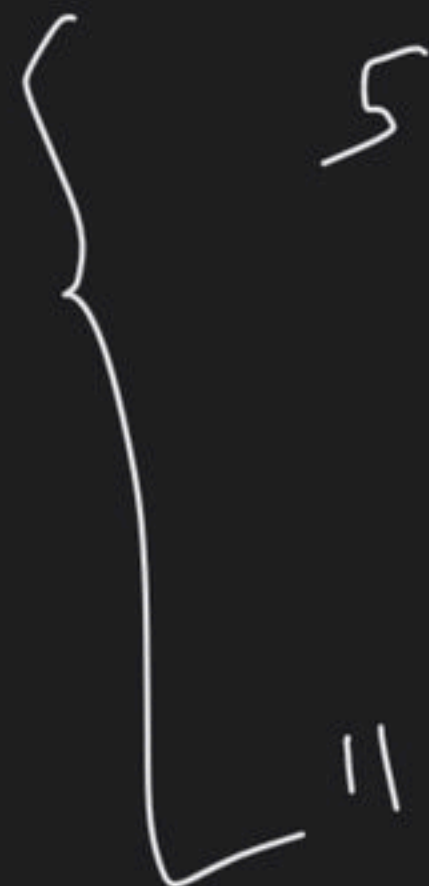
$87Fr$   $88Ra$

$2, 8, 8, 18, 18, 32$   
L to R — atomic  
number ↑

-time table



$s - 8$   
 $\times$



$1 \rightarrow$

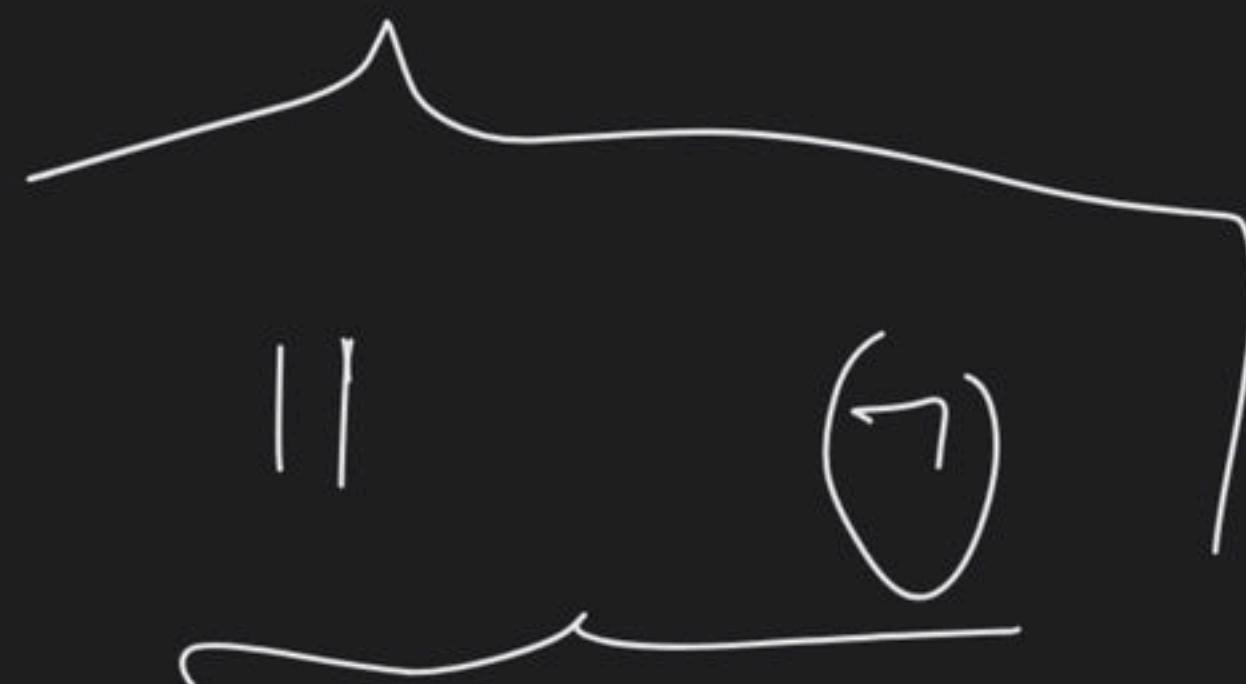
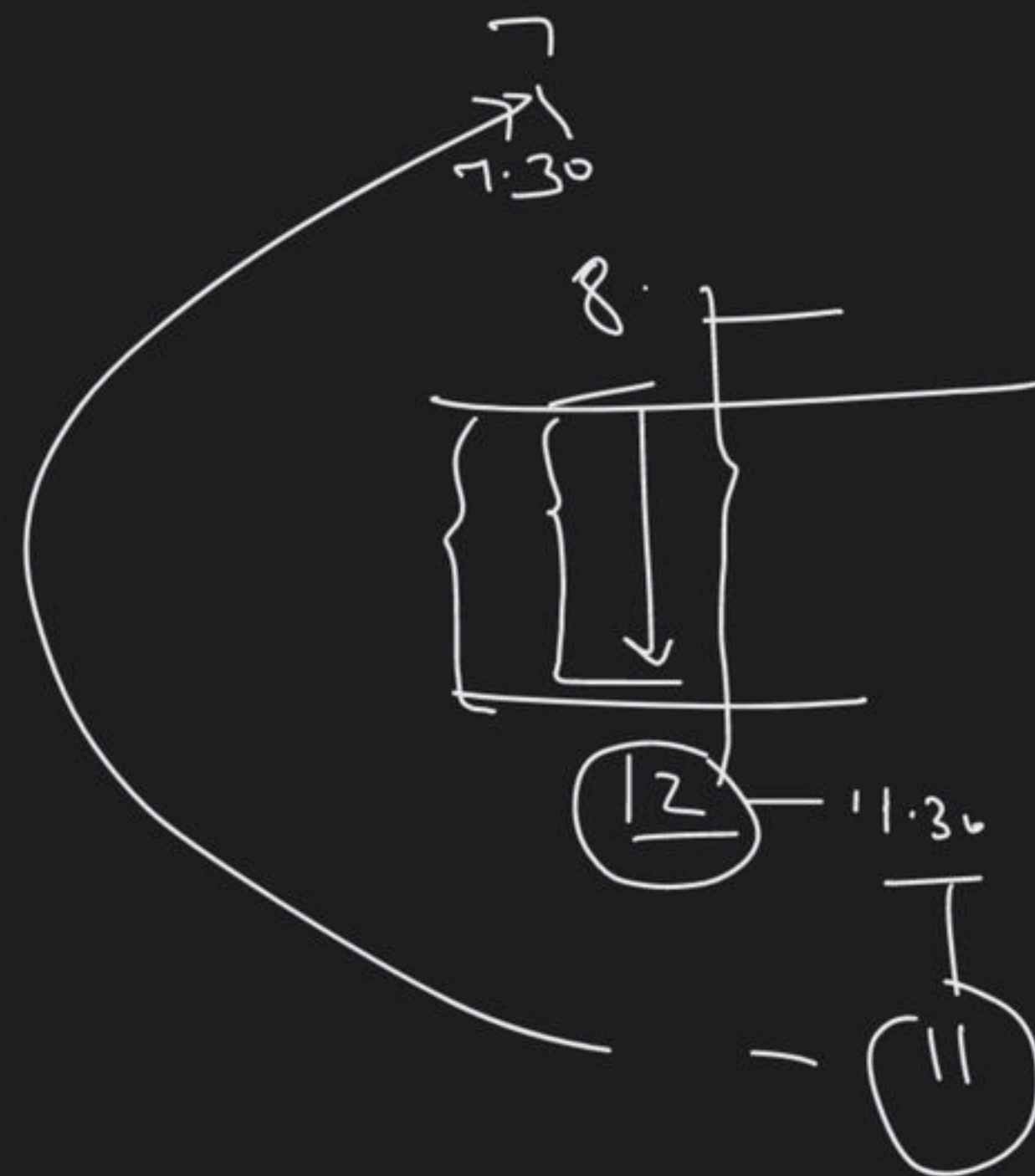
$8 -$



$8.5 + 8$   
 $\rightarrow \rightarrow \rightarrow$   
Not

$1 + s$





Which of the following oxide is

Amphoteric

(1)  $\text{CaO}$

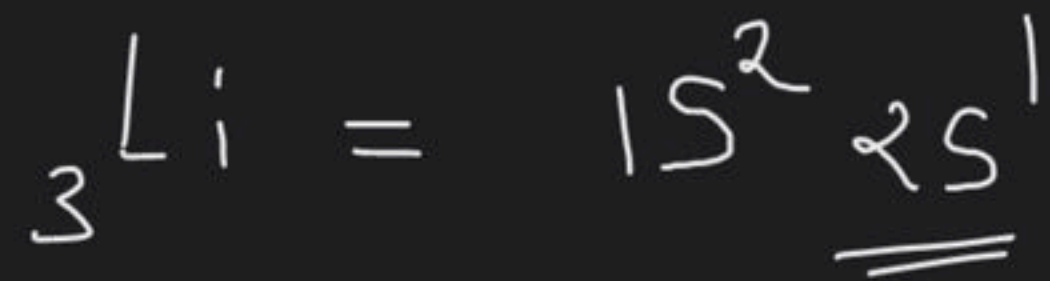
(2)  $\text{Na}_2\text{O}$

✓ (3)  $\text{BeO}$

(4) none



Block  $\rightarrow$  last  $e^-$  entered in s-orbital



Which of the Kali metal is radio active

- (1) Be    ~~(2)~~ Fr    (3) Ra    (4) both (2) and (3)



Which of the following metal hydroxide is  
Amphoteric in S-block

- (1) Li      (2) Be      (3) Ca      (4) Cs

Ques

Which of the following s-block element is not alkaline earth metal

- (1) Bc (2) Na (3) Li (4) Fr (5) Al
- 

Whi



Note

Amphoteric → Compound which acts as  
acid as well as base  
=

Block



① Practice

① → Note → Chitrang AIR - 2<sup>nd</sup>

→ DPP

→ Sheet { JEE Main  
JEE Advanced  
obj - 1<sup>st</sup> level } Basic → JEE F Ad  
3<sup>rd</sup>