



Online Class Supporting Materials

MALAPPURAM EDUCATIONAL DISTRICT

CLASS: 10

CHEMISTRY: 1

UNIT: PERIODIC TABLE AND ELECTRONIC CONFIGURATION

Topic: Shells and Subshells

1) Complete the table (find a, b, c and d)

Shells	K		L			M			N	
Maximum no. of electrons accommodated	2	8	18	a						
Subshell	1s	2s	2p	3s	3p	3d	4s	4p	4d	4f
Maximum no. of electrons accommodated in subshell	2	2	b	2	6	c	2	6	10	d

2) Which of the following subshells are not possible in an atom? Give Reason (2s, 2d, 3f, 3d, 3p)

TOPIC : FILLING OF ELECTRONS IN THE SUBSHELL

1. If there is 4 electrons in p subshell of third shell of an element , then find the following

- a) Complete subshell electronic configuration (1)
- b) Atomic number (1)

2. Write the subshell electronic configuration of following elements

- a) Argon (Atomic number – 18) (1)
- b) Vanadium (Atomic number – 23) (1)

3. If there is 3 electrons in third shell of an atom , then find the following

- a) Complete subshell electronic configuration (1)
- b) Atomic number (1)
- c) Write the common valency of this atom (1)

4. X - $1s^2 2s^2 2p^6 3s^2 3p^6 3d^1$

Y - $1s^2 2s^2 2p^6 3s^2 3p^6 3d^1 4s^2$

Complete subshell electronic configuration of an atom which contains 9 electrons in third shell is given. Find the following

- a) Which one of this is correct ? (1)
- b) Give reason (2)

5. Subshell electronic configuration of potassium (Atomic number -19) written by Tomy and Lilly is given...

Tomy - $1s^2 2s^2 2p^6 3s^2 3p^6 3d^1$

Lilly - $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$

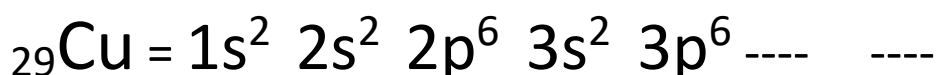
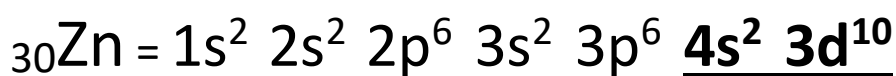
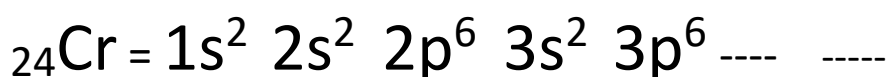
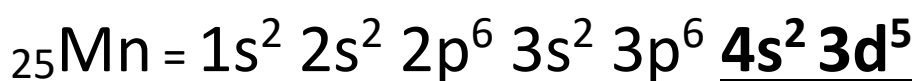
- a) Which one of this subshell electron configuration is correct ? (1)
- b) Give reason (2)

TOPIC: Sub shell electronic configuration of Cu & Cr

WORK SHEET

The d sub shell can accommodate a maximum number of 10 electrons. The completely filled configuration (d^{10}) or half filled configuration (d^5) of this sub shell is more stable than others.

Read the statement above thoroughly and complete the configuration of the below elements



Question

1. The electronic configuration of Silver (${}_{47}\text{Ag}$) written as $[\text{Kr}]5s^2 4d^9$. Is it correct? Give reason

Topic: Subshell Electronic Configuration Using Symbol of Noble Gases

1) Complete the table

Element	Atomic Number	Complete Subshell Electronic Configuration	Configuration using Noble gas
Na	11	$1s^2 2s^2 2p^6 3s^1$	[Ne] $3s^1$
K	19	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$	----- --
Sc	21	----- --	[Ar] $3d^1 4s^2$
Ca	20	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$	----- --
Co	27	----- --	----- --
Zn	30	----- --	----- --
Fe	26	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^6 4s^2$	----- --
Mg	12	----- --	----- --

THANK YOU
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