CHEMISTRY ONLINE
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CHEMISTRY

MULTIPLE CHOICE - 2

ATOMIC STRUCUTRE

Atomic Structure - 2

1) Helping Concept

Particle	Electronic Configuration	Remarks
Cr	$[Ar]3d^5 4s^1$	Unpaired s electron
Ge	$[Ar]3d^{10} 4s^2 4P^2$	Unpaired p electron
S	$1s^2 2s^2 2p^6 3s^2 3p^5$	Unpaired p electron
Sc	$[Ar]3d^1 4s^2$	Unpaired d electron

2) Helping Concept

Fe: $1s^2 2s^2 2p^2 3s^3 3p^6 3d^6 4s^2$

Fe^{3+}: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^5$

Cr^{3+}: $1s^2 2s^2 2p^6 3s^2 3p^3$

Mn^{3+}: $1s^2 2s^2 2p^6 3s^2 3p^4$

Ni^{2+}: $1s^2 2s^2 2p^6 3s^2 3p^7$

3) Helping Concept

$N^- \rightarrow N + e^-$

N: $1s^2 2s^2 2p^3$

A: $C^-(1s^2 2s^2 2p^3) \rightarrow C(1s^2 2s^2 2p^2) + e^-$

B: $N(1s^2 2s^2 2p^3) \rightarrow N^+(1s^2 2s^2 2p^2) + e^-$

D: $O^+(1s^2 2s^2 2p^3) \rightarrow O^{2+}(1s^2 2s^2 2p^2) + e^-$

4) Helping Concept

With $principal\ quantum\ number\ n = 2, the\ orbials\ present\ are\ 2s\ and\ 2p\ orbitals.$

5) Helping Concept

$The\ electronic\ configuration\ of\ a\ sulfur\ atom\ is\ 1s^2 2s^2 2p^6 3s^2 3p^4$

$However, in\ H_2S, there\ are\ 2\ more\ electrons, each\ from\ a\ hydrogen\ atom\ in\ forming\ covalent\ bonds. Hence, the$ electronic configuration $of\ S\ in\ H_2S\ is\ 1s^2 2s^2 2p^6 3s^2 3p^6 (octet\ configuration).$

6) Helping Concept

The differences in the IE′sare small, indicating that the elements are transition elements.

7) Helping Concept

First ionisation energy is the energy required for 1 mole of gaseous M atoms at ground state, to lose 1 mole of electrons to form 1 mole of gaseous M^+ions at ground state.

8) Helping Concept

Ne, having a complete octet electronic $configuration, is\ very\ stable.$

$Hence, a\ lot\ of\ energy\ is\ required\ to\ remove\ an\ electron\ since\ this\ will\ destroy\ the\ stable\ octet\ configuration.$

9) Helping Concept

$An\ electron\ has\ a -1\ charge\ and\ it\ is\ represented\ as$ $^{-1}$X.

$Since\ its\ mass\ is\ close\ to\ 0\ copared\ to\ a\ protons, it\ can\ be\ represented\ as$ ^{0}X. $Hence, {}^{0}_{-1}X is\ electron.$

10) Helping Concept

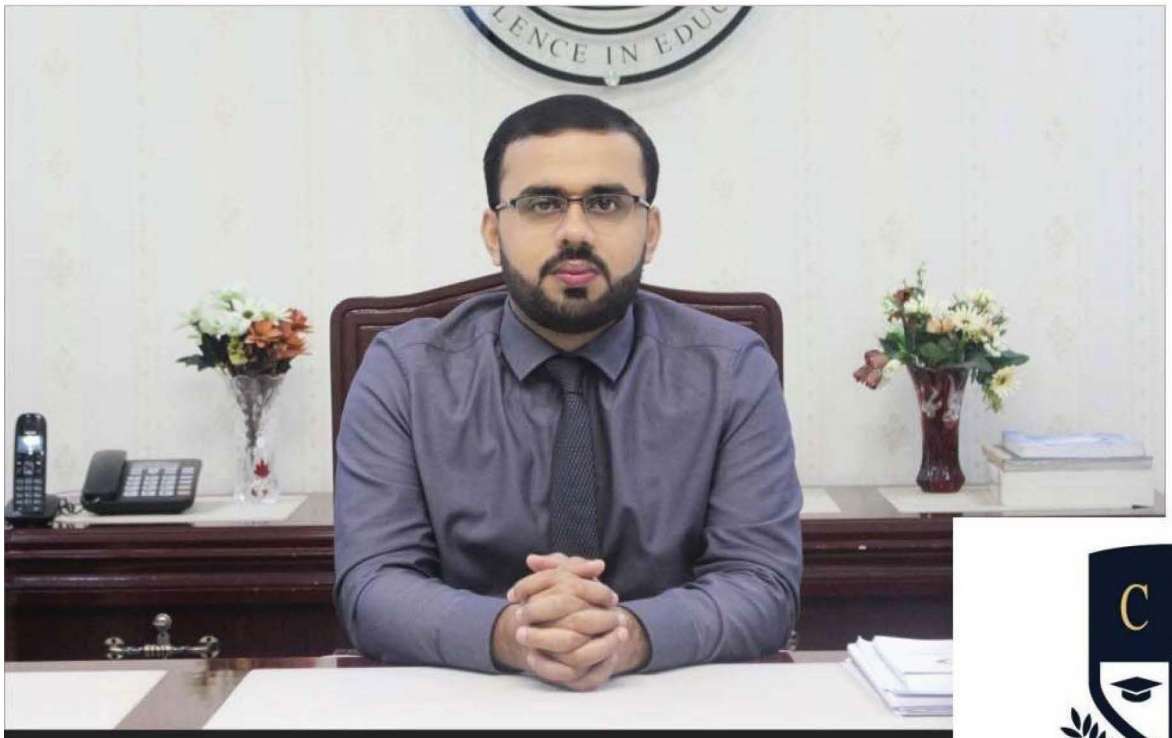
Number $of\ neutron\ in\ {}^{32}_{16}S = 32 - 16 = 16$

$Number\ of\ neutron\ in\ {}^{31}_{15}P = 31 - 15 = 16$

A : $23 - 11 = 12$

B: $24 - 12 = 12$

C: $28 - 14 = 14$



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- Founder & CEO of Chemistry Online Tuition Ltd.
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- Chemistry, Physics, Math's and Biology Tutor

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