



CHEMISTRY ONLINE
— **TUITION** —

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CHEMISTRY

MULTIPLE CHOICE - 1

ATOMIC STRUCUTRE

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Atomic Structure - 1

1. Which one of the following has the same number of electrons as an alpha particle?

- (A) H (B) H⁺ (C) H₂ (D) He

2. Which of the following elements has the largest second ionization energy?

- (A) O (B) F (C) Ne (D) Ne

3. Which one of the following represents the configuration of the three electrons of highest energy for the ground state of an element in group III?

- (A) 1s¹ 2s¹ 2p¹ (B) 2s¹ 2p² (C) 3p³ (D) 4s² 4p¹

4. Which one of the determines the position of the an element in the periodic table.

- (A) chemical reactivity
(B) first ionization energy
(C) number of electrons in outer orbital
(D) number of protons in the nucleus of its atom

5. Which of the following electronic configurations represent an element that forms a simple ion with a charge of -3?

- (A) 1s² 2s² 2p⁶ 3s² 3p¹
(B) 1s² 2s² 2p⁶ 3s² 3p³
(C) 1s² 2s² 2p⁶ 3s² 3p⁶ 3d¹ 4s²
(D) 1s² 2s² 2p⁶ 3s² 3p⁶ 3d³ 4s²

6. In which species are the number of electrons and neutrons equal?

- (A) ${}^9_4\text{Be}$ (B) ${}^{19}_9\text{F}$ (C) ${}^{23}_{11}\text{Na}^+$ (D) ${}^{18}_8\text{O}^{2-}$

7. Use of the Data Booklet is relevant to this question.

Which particle would, on gaining an electron, have a half-filled set of p orbitals?

- (A) C^+ (B) N (C) Si^- (D) P^+

8. Which of the following ions contains an unpaired electron?

- (A) Ca^{2+} (B) Cu^{2+} (C) K^+ (D) Ti^{4+}

9. What is the order of increasing energy of the listed orbitals in the atom of titanium?

- (A) 3s 3p 3d 4s
 (B) 3s 3p 4s 3d
 (C) 3s 4s 3p 3d
 (D) 4s 3s 3p 3d

10. Which of the following formulae represents a particle with the composition 1 proton, 1 neutron and 2 electrons?

[D represents deuterium, ${}^2\text{H}$]

- (A) D (B) D^- (C) H^- (D) He



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- Founder & CEO of Chemistry Online Tuition Ltd.
- Completed Medicine (M.B.B.S) in 2007
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