

Chapter 5

I. What is the maximum number of electrons that can occupy:

- (A) 3p ____ (B) 6s ____ (C) 4d ____ (D) fourth energy level ____

II. How many sublevels are in these main levels?

- (A) 1 ____ (B) 3 ____ (C) 4 ____ (D) 5 ____

III. State the following rules.

(A) Aufbau Principle--

(B) Pauli Exclusion Principle--

(C) Hund's Rule--

IV. Which of the following sublevels has the highest energy?

(A) 2s 3s 2p 3p ____ (B) 3s 3p 3d 4s ____

(C) 3s 4p 3d 3p ____ (D) 3p 4s 5d 6s ____

V. What element is represented by the following configuration?

(A) $1s^2 2s^2 2p^6 3s^2 3p^4$ ____ (B) $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2$ ____

(C) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^1$ ____

VI. Write the electron configurations for the following elements.

(A) Scandium #21

(B) Chlorine #17

(C) Zirconium #40

(D) Arsenic #33

VII. Using orbital notation ($\uparrow\downarrow$); draw the following atoms.

(A) Carbon #6

(B) Aluminum #13

(C) Manganese #25

(D) Selenium #34

(E) Radon #86

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