

QUIZ 2: ATOMIC STRUCTURE



What is the difference between line spectrum and continuous spectrum?

Line spectrum

- A Light that is emitted only at a specific wavelength
- B The line spectrum is made up of all the wavelength
- C A rainbow is an example.
- D Produced by heating atomic vapour.

Continuous spectrum

- Light that made up of all the wavelength.
- Light that is emitted only at a specific wavelength
- Produced by heating atomic vapour.
- Contained 5 series of spectrum.



How is the second line of Brackett series produced?

- A When an electron makes a transition from $n=6$ to $n=4$.
- B When an electron makes a transition from $n=4$ to $n=2$.
- C When an electron makes a transition from $n=4$ to $n=6$.
- D When an electron makes a transition from $n=5$ to $n=4$.



State the number of electrons that can occupy in the 2p orbital.

- A 2
- B 6
- C 3
- D 10

LIVEWORKSHEETS



Calculate the wavelength of the second line in Lyman series.

- A $2.45 \times 10^{-7} \text{ m}$
- B $1.30 \times 10^{-7} \text{ m}$
- C $1.23 \times 10^{-7} \text{ m}$
- D $1.03 \times 10^{-7} \text{ m}$



Calculate the frequency of the second line in Lyman series.

- A $1.91 \times 10^{14} \text{ s}^{-1}$
- B $2.91 \times 10^{15} \text{ s}^{-1}$
- C $3.23 \times 10^{14} \text{ s}^{-1}$
- D $1.65 \times 10^{15} \text{ s}^{-1}$



What is the minimum amount of ionization energy of hydrogen atom at ground state?

- A $2.18 \times 10^{-18} \text{ J}$
- B $2.18 \times 10^{-18} \text{ J mol}^{-1}$
- C $1312.36 \text{ kJ mol}^{-1}$
- D $1312.36 \text{ J mol}^{-1}$



State the number of electrons that can occupy in the following orbital.

$4 d_{xy}$

- A 2
- B 10
- C 1
- D 6

LIVEWORKSHEETS



Which of the following set of four quantum numbers NOT for an electron in 3p orbital.

- A $n=3, l=1, m=-1, s=-\frac{1}{2}$ C $n=3, l=1, m=0, s=-\frac{1}{2}$
B $n=3, l=1, m=+1, s=+\frac{1}{2}$ D $n=3, l=1, m=+2, s=+\frac{1}{2}$



Choose the predicted electronic configuration for Cu.
[Z of Cu: 29]

- A $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^9$ C $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1 3d^{10}$
B $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1 3d^5$ D $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^4$



State the reason why Cr has anomalous electronic configuration.

- A Fully filled 3d orbital is extraordinary stable if compared to partially filled 3d orbital.
B Half filled 3d orbital is more stable if compared to partially filled 3d orbital.
C Fully filled 3d orbital is extraordinary stable if compared to half filled 3d orbital.
D Half filled 3d orbital is more stable if compared to fully filled 3d orbital.