



Class 11 Chemistry | Structure Of Atom

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. Maximum electrons in the $n = 3$ shell are:

A. 32 B. 8 C. 9 D. 18

2. Which quantum-number pair is forbidden?

A. $n=3, l=2$ B. $n=1, l=0$
C. $n=2, l=2$ D. $n=2, l=1$

3. How many orbitals belong to a d subshell?

A. 10 B. 5 C. 7 D. 3

4. The number of radial nodes in a 3p orbital is:

A. 2 B. 1 C. 3 D. 0

5. A photon of frequency ν has energy:

A. $h\nu$ B. $h\nu$ C. ν/h D. h/ν

6. If light wavelength doubles, photon energy becomes:

A. Half B. Unchanged C. Double D. Four times

7. An electron's momentum doubles. Its de Broglie wavelength becomes:

A. Unchanged B. Four times C. Half D. Double

8. Which transition in hydrogen emits the highest-energy photon?

A. $3 \rightarrow 2$ B. $4 \rightarrow 3$ C. $5 \rightarrow 4$ D. $3 \rightarrow 1$

9. Hydrogen's Balmer series terminates at:

A. $n=3$ B. $n=4$ C. $n=1$ D. $n=2$

10. Which orbital is spherical?

A. 2s B. $2p_x$ C. $3d_{yz}$ D. $3d_{xy}$

11. The ground-state configuration of Cr ($Z=24$) is:

A. $[\text{Ar}]3d^5 4s^1$ B. $[\text{Ar}]3d^6$
C. $[\text{Ar}]3d^4 4s^2$ D. $[\text{Ar}]3d^3 4s^3$

12. In ground-state nitrogen, the number of unpaired electrons is:

A. 5 B. 1 C. 2 D. 3

13. Two electrons in one orbital must have:

A. Different l B. Different n
C. Opposite spins D. Same spin

14. In a many-electron atom, which orbital fills before 3d by the Aufbau rule?

A. 5p B. 4d C. 4s D. 4p

15. An atom has $Z=17$ and mass number 37. Its neutron count is:

A. 17 B. 54 C. 37 D. 20

ANSWER KEY — check after completing all 15 questions

1.D 2.C 3.B 4.B 5.B 6.A 7.C 8.D 9.D 10.A 11.A 12.D 13.C 14.C 15.D

Original exam-style practice • Reference notes: www.physics.guru/cbse-practice-papers/ • Not an official paper

Plot No. 15, Second Floor, Jaisingh Chowk, Sector 85, Gurgaon - 122004

8800 8800 28 | www.goodmarksclasses.com