

Name:

Date:

01. Atomic Number of an element is equal to:-

- (a). Number of Protons (b). Number of electrons (c). Number of neutrons (d). Both a) and b)

02. The charge of proton (p+) is :-

- (a). $+1.6 \times 10^{-19}C$ (b). $-1.6 \times 10^{-19}C$ (c). $+1.6 \times 10^{19}C$ (d). $-1.6 \times 10^{19}C$

03. $^{20}_{22}Ne$ and $^{10}_{10}Ne$ are

- (a). Isotopes (b). Isobars (c). Isotones (d). Both a) and b)

04. Helium [4_2He] has :-

- (a). 2 P + and 2 n^o (b). 2P + and 4n^o (c). 4 P + and 2 n^o (d). 2P + and 4n^o

05. In which form is oxygen stable?

- (a). O²⁻ (b). O²⁺ (c). O (d). Both a) and c)

06. How many electrons does Na⁺ has in its Outermost shell?

- (a). 10 (b). 11 (c). 18 (d). 8

07. Atomic number of an element during a Chemical reaction.

- (a). Increases (b). Remain Constant (c). Decreases (d). May be a) or c)

08. The molecular formula for Aluminum chloride us

- (a). Al₃Cl (b). Al Cl₃ (c). AlCl₃ (d). Both b and c

09. Atomicity of fluorine is :-

- (a). 1 (b). 2 (c). 3 (d). 4 [1]

10. Molecular formula for calcium fluoride is –

- (a). Ca F₂ (b). Ca F (c). Ca₂F (d). 2 Ca F

11. Electronic configuration of calcium is

- (a). 2, 8, 8, 2 (b). 2, 8, 6, 4 (c). 2, 8, 7, 1 (d). 2, 8, 1, 7.

12. Nitrogen is :-

- (a). Monatomic (b). Diatomic (c). Triatomic (d). Tetratomic

13. Which of the following electronic configuration are wrong and why?

- (a). 2, 8, 2 (b). 2, 8, 8, 2 (c). 2, 8, 9, 1. (d). 8, 8, 2,

14. β –particles are represented as: -

- (a) $^0_{-1}e$ (b) $^0_{+1}e$ (c) $^1_{-1}e$ (d) $^1_{0}e$

15. $^{40}_{18}Ar$ and $^{40}_{20}Ca$ are

- (a). Isotopes (b). Isobars (c). Isotones (d). Both b and c

16. The maximum number of electrons in L shell is

- (a). 8 (b). 18 (c). 28 (d). 38.

17. Neutron is

- (a). Chargeless and Massless (b). Chargeless and has Mass
(c). Has charge and Mass (d). Has charge and Massless.

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18. Which of the following statements is correct?

- (a). Cathode rays travel in straight line and have momentum.
- (b). Cathode rays travel in straight line and have no momentum
- (c). Cathode rays do not travel in straight line but have Momentum.
- (d). Cathode rays do not travel in straight line and have no momentum.

Q01. The nucleus of an atom of Bi – 210 (atomic number = 83) emits a β -particle and becomes a polonium nuclide. Write an equation for the nuclear change described.

Q02. How can one conclude that electrons are fundamental particles?

Q03. What happens to the nucleus of an atom when it emits a γ -ray?

Q04. Write the electronic configuration of following ions:

- (a). Cl^- (b). Mg (c). Al^{3+} (d). O

Q05. In a gold – foil experiment: -

- (a). Why did many α - particles pass through the gold foil undeflected?
- (b). Why did few α - particles deflect through small angles.
- (c). Why did few α - parties, after striking the gold foil, retrace their path.

Q06. Compare the three major particles in atoms with respect to their mass and charge?

Q07. Write an experiment to show cathode rays are deflected by magnetic fields?

Q08. Write the postulates of Bohr theory?

Q09. State Mendeleev's Periodic law?

Q10. Define ionization energy and electron affinity?

Q11. Why is atomic number more important than atomic weight in predicting the chemical properties of elements?

Q12. What are the advantages of the Periodic Table?

Q13. Explain the variation of atomic radius along a period and down a group.

Q14. Why metals are electropositive and non-metals are electronegative in nature?

Q15. Explain the formation of Al^{3+} ion and why is it formed?

Q16. What are ions? What are its two types?

Q17. Show diagrammatically the formation of O^{2-} ion?

Q18. Define Isotopes and Isobars?

Q19. Find the percentage composition of sucrose ($\text{C}_{12}\text{H}_{22}\text{O}_{11}$).

Q20. Calculate

- (a). The number of gram – atoms of oxygen
- (b). The number of atom of oxygen
- (c). The number of molecules of ozone in 32 g of ozone [O_3]

Q21. What mass of water will contain the same number of molecules as 8.0g of ferrous oxide [FeO] ?

Q22. State the properties of cathode rays? Write an experiment to show that cathode rays travel in straight line? What is meant by e/m ratio? What was the value of this ratio for a particle in the cathode rays?

Q23. What is radioactivity? What are the applications of radioisotopes?

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Q24. What are isotopes? Name the isotopes of hydrogen and draw the structure of their atoms?

Q25. What are α , β and γ – rays composed of.

Q26. There are 2 elements C and B. C emits an α – particle and B emits a β – particle. How will the resultant elements charge?

Q27. Complete the following Table :

Ion	Number of electrons	Atomic Number	Number of Neutrons	Atomic Mass
$^{86}\text{Rb}_{+37}$				
$^{24}\text{Mg}_{2+12}$				
$^{80}\text{Br}_{-35}$				

