

JEE CHEMISTRY

Topic: Periodic Properties

- Q.1 Which of the following is not a Doeberiner triad-
(A) Li, Na, K (B) Mg, Ca, Sr
(C) Cl, Br, I (D) S, Se, Te
- Q.2 Which of the following set of elements obeys Newland's octave rule -
(A) Na, K, Rb (B) F, Cl, Br
(C) Be, Mg, Ca (D) B, Al, Ga
- Q.3 Elements which occupied position in the lother meyer curve, on the peaks, were -
(A) Alkali metals
(B) Highly electro positive elements
(C) Elements having large atomic volume
(D) All
- Q.4 Modern periodic table is based on atomic no. experiments which proved importance of at no. was -
(A) Braggs work on X-ray diffraction
(B) Moseleys work on X-ray spectrum
(C) Mulliken's oil drop experiment
(D) Lother meyer curve plotted between at vol. & at. wt.
- Q.5 The elements of groups, 1, 2, 13, 14, 15, 16 and 17 are collectively called -
(A) Noble gases
(B) Representative or normal elements
(C) Transition elements
(D) Inner transition elements
- Q.6 The discovery of which of the following group of elements gave a death blow to the Newlands Law -
(A) Inert gases
(B) Alkali metals
(C) Transuranic element
(D) Halogens
- Q.7 ${}_{92}^{238}\text{U}$ (IIIB) changes to ${}_{90}^{234}\text{Th}$ by emission of α -particle. Daughter element will be in -
(A) IIIB (B) IB (C) VB (D) IIA

- Q.8 From the list given below, elements which belongs to the same group or sub-group are -
(A) Atomic number = 12, 20, 4, 88
(B) Atomic number = 8, 16, 34, 2
(C) Atomic number = 11, 18, 27, 5
(D) Atomic number = 24, 47, 42, 55
- Q.9 The name 'Rare earths' is used for -
(A) Lanthanides only
(B) Actinides only
(C) Both lanthanides and actinides
(D) Alakaline earth metals
- Q.10 There are 10 neutrons in the nucleus of the element ${}_Z\text{M}^{19}$. It belongs to -
(A) f-block (B) s-block
(C) d-block (D) None of these
- Q.11 For Rb(Z=37), points out the number of electrons present in L and N shells respectively -
(A) 8 and 18 (B) 18 and 8
(C) 8 and 8 (D) 2 and 8
- Q.12 The electronic configuration of an element is $1s^2, 2s^2 2p^6, 3s^2 3p^4$. The atomic number of element present just below the above element in periodic table is -
(A) 36 (B) 34
(C) 33 (D) 32
- Q.13 The number of elements in 5th and 6th period of periodic table are respectively -
(A) 8, 18 (B) 18, 18
(C) 18, 32 (D) 18, 28
- Q.14 Atomic number of Ag is 47. In the same group the atomic number of elements placed above and below Ag will be -
(A) 37, 67 (B) 29, 79
(C) 39, 69 (D) 29, 65
- Q.15 Atomic number 15, 33, 51 represents the following family -
(A) Carbon family (B) Nitrogen family
(C) Oxygen family (D) None
- Q.16 Element P, Q, R and S belong to the same group. The oxide of P is acidic, oxide of Q and R are amphoteric while the oxide of S is basic. Which of the following elements is the most electropositive ?
(A) P (B) Q (C) R (D) S
- Q.17 Which of the following is an amphoteric oxide?
(A) MgO (B) Al_2O_3
(C) SiO_2 (D) P_2O_5

- Q.18 The first ionization potentials of four consecutive elements present in the second period of periodic table are 8.3, 11.3, 14.5 and 13.6 eV respectively which one of the following is the first ionisation potential of nitrogen ?
- (A) 13.6 (B) 14.5
(C) 11.3 (D) 8.3
- Q.19 Which of the following is wrong -
- (A) $\text{NH}_3 < \text{PH}_3 < \text{AsH}_3 \Rightarrow$ Acidic character
(B) $\text{Li} < \text{Be} < \text{B} < \text{C} \Rightarrow \text{IE}_1$
(C) $\text{Al}_2\text{O}_3 < \text{MgO} < \text{Na}_2\text{O} < \text{K}_2\text{O} \Rightarrow$ Basic character
(D) $\text{Li}^+ < \text{Na}^+ < \text{K}^+ < \text{Cs}^+ \Rightarrow$ Ionic radius
- Q.20 Which is most acidic oxide ?
- (A) Cl_2O (B) ClO_2 (C) Cl_2O_6 (D) Cl_2O_7
- Q.21 Atomic radius decreases in a period, but after halogens, the atomic radius suddenly increases. Thus, inert gases has almost highest radius in a period. The explanation for such an increase is-
- (A) Inert gases has most stable configuration
(B) Inert gases do not take part in bonding
(C) Vander Waal's radius is reported in case of inert gases
(D) None of these
- Q.22 The incorrect statement among the following is-
- (A) The properties of elements are periodic function of their atomic numbers
(B) Among the isoelectric species, Na^+ , Mg^{2+} and Al^{3+} ion having smallest radius is Al^{3+} ion
(C) The outer most electronic configuration of group 15 elements is ns^2np^5
(D) Electronegativity of an element depend upon its atomic size
- Q.23 Consider the following statements:
- I. The radius of an anion is larger than that of parent atom
II. The I.E. increases from left to right in a period generally
III. The electro-negativity of an element is the tendency of an isolated atom to attract an electron
- The correct statements are -
- (A) I alone (B) II alone
(C) I and II (D) II and III
- Q.24 3 students Ram, Shyam and Raj measured the radius of an element A. The values of their practical were not same (Ram = 110 nm, Shyam = 190 nm and Raj = 108 nm). Their teacher explained that their measurement were correct by saying that the recorded values are -
- (A) Metallic, vanderwaal and covalent radii respectively
(B) Covalent, Metallic and Vander wall radii respectively
(C) Vander wall, Metallic and covalent radii respectively
(D) None of the above

- Q.25 The chloride of an element 'L' gives neutral solution in water. The element 'L' belongs to group -
(A) 13th (III A) (B) 15th (VA)
(C) I (IA) (D) 16th (VIA)
- Q.26 The most non-metallic element among the following is -
(A) $1s^2, 2s^2 2p^4$ (B) $1s^2, 2s^2 2p^2$
(C) $1s^2, 2s^2 2p^3$ (D) $1s^2, 2s^2 2p^5$
- Q.27 The electronic configuration of an element C is $1s^2, 2s^2, 2p^6$. The formula of substance containing only C will be -
(A) C_8 (B) C_4
(C) C_2 (D) C
- Q.28 Which of the following is correct order of increasing bond strength -
(A) $HF < HCl < HBr < HI$
(B) $HI < HBr < HF < HCl$
(C) $HI < HBr < HCl < HF$
(D) $HCl < HBr < HF < HI$
- Q.29 Density of sodium and potassium follows the order -
(A) $K < Na$ (B) $K > Na$
(C) $Na \approx K$ (D) None of these
- Q.30 Which of the following is correct statement ?
(A) SO_2 is anhydride of sulphuric acid
(B) NO_2 is anhydride of nitric acid
(C) Cl_2O_7 is anhydride of perchloric acid
(D) N_2O is anhydride of nitrous acid

ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	B	C	D	B	B	A	A	A	A	D
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	C	B	C	B	B	D	B	B	B	D
Que.	21	22	23	24	25	26	27	28	29	30
Ans.	C	C	C	A	C	D	D	C	A	C

