1.

the tenth element in the periodic table resembles:

(1)the second

(2)the fourth

(3)the fifth

(4)the eight

2.

Which of the following order is not in accordance with the property stated against it ?

(a) $F_2 > Cl_2 > Br_2 > l_2$ Oxidising Power

(b) Hl > HBr >HCl >HF Acidic property in water

(c) $F_2 > Cl_2 > Br_2 > l_2$ Electronegativity

(d) $F_2 > Cl_2 > Br_2 > l_2$ Bond dissociation energy

3.

The elements *X, Y, Z* and *J* have the indicated electron configurations starting with the innermost shell. The most metallic element is :

(a) *X* = 2, 8, 3

(b) *Y* = 2, 8, 8

(c) *Z* = 2, 8, 8, 1

(d) *j* = 2, 8, 8, 7

4.

The most non-metallic element among the following is:

(a) Be

(b) B

(c) Mg

(d) Al

5.

$_{58}$Ce is a member of:

(a) *s*-block elements

(b) *p*-block elements

(c) *d*-block elements

(d) *f*-block elements

6.

The screening effect of 'd' electrons is :

(a) much less than *s*-electrons

(b) much more than *s*-electrons

(c) equal to *s*-electrons

(d) equal to *p*-electrons

7.

Transuranic elements are those which are:

(a) of higher atomic number than uranium

(b) lighter than uranium

(c) of lower atomic number than uranium

(d) of same atomic number as uranium

8.

General electronic configuration of outermost and penultimate shell of an atom is
$(n - 1)s^2 (n - 1) p^6 (n - 1)d^x ns^2$. If n = 4 and x = 5, the number of proton in the nucleus is:

(a) > 25

(b) < 24

(c) 25

(d) 30

9.

Which of the following represents the correct order of increasing electron gain enthalpy with negative sign for the elements O,S,F and Cl?

(a) Cl < F < O < S

(b) O < S < F < Cl

(c) F < S < O < Cl

(d) S < O < Cl < F

10.

The maximum number of valency electrons possible for atoms in the second period of the periodic table is:

(a) 18

(b) 10

(c) 8

(d) 2

11.

If a certain element has an atomic number 19, the element is:

(a) an inert gas

(b) a metal with oxidation number +1

(c) a non-metal with oxidation number -3

(d) a metal with oxidation number -3

12.

Which of the following has the least density?

(1)Na

(2)Li

(3)Mg

(4)K

13.

The order of basic character of given oxides is:

(a) $Na_2O > MgO > Al_2O_3 > CuO$

(b) $MgO > Al_2O_3 > CuO > Na_2O$

(c) $Al_2O_3 > MgO > CuO > Na_2O$

(d) $CuO > Na_2O > MgO > Al_2O_3$

14.

Low melting point of manganese in the 1st transition series is due to:

(a) strong metallic bond due to d^{10} configuration

(b) weak metallic bond due to d^5 configuration

(c) weak metallic bond due to d^7 configuration

(d) none of the above

15.

An element *R* forms the highest oxide R_2O_5. R belongs to:

(a) IV group

(b) V group

(c) VI group

(d) VII group

16.

Transition elements exhibit variable oxidation states because they release electrons from the following orbits:

(a) ns and np orbits

(b) (n-1)d and ns orbits

(c) (n-1)d orbits

(d) ns orbits

17.

In II period most acidic oxide is formed by:

(a) F

(b) N

(c) O

(d) Li

18.

The outer electron configuration of Gd (Atomic no. 64) is:

(a) $4f^3\ 5d^5 6d^2$

(b) $4f^8\ 5d^{10} 6d^2$

(c) $4f^4\ 5d^4 6d^2$

(d) $4f^7\ 5d^1 6s^2$

19.

Which of the following transition metal ions has the lowest density?

(a) Copper

(b) Nickel

(c) Scandium

(d) Zinc

20.

Ionic radii are

[2004]

(a) inversely proportional to effective nuclear charge

(b) inversely proportional to square of effective nuclear charge.

(c) directly proportional to effective nuclear charge

(d) directly proportional to square of effective nuclear charge

21.

Which one is a metalloid?

(a)Tin

(b)Germanium

(c)Sulphur

(d)Carbon

22.

Elements with electronic configuration $1s^2,2s^22p^6$, $3s^23p^63d^{10}$, $4s^24p^64d^{10}$, $5s^25p^3$ belongs to the ..... group of periodic table.

(a) 3rd

(b) 5th

(c) 7th

(d) 2nd

23.

General electronic configuration of the transition elements is given by:

(a) ns^2nd^{1-10}

(b) $ns^2np^6nd^{1-10}$

(c) $(n-1)d^{1-10}np^6$

(d) $(n-1)d^{1-10}ns^{0-2}$

24.

Which of the following is not a metal?

(a) Gold

(b) mercury

(c) Scandium

(d) Selenium

25.

The alkali metals have:

(a)highest ionization energy

(b)largest atomic radii

(c)highest density

(d)highest electronegativity

26.

Which of the following statement is correct with respect to the property of elements with increase in atomic number in carbon family.

(1) Their metallic character decreases

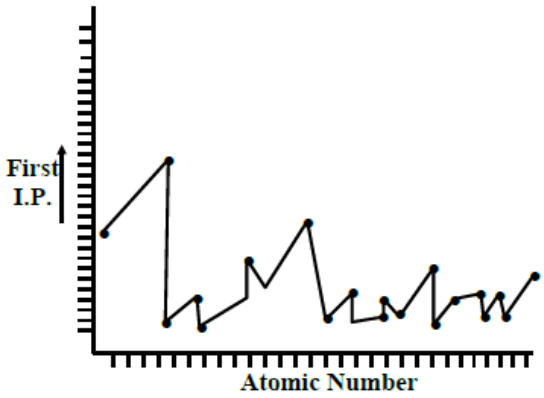
(2) The stability of +2 oxidation state increases

(3) Their ionisation energy increases

(4) Their atomic size decreases

27.

The graph of first ionization enthalpy versus atomic number as follows:



Which of the following statement is correct?

(1) Alkali metals are at the maxima and noble gases at the minima.

(2) Noble gases are at the maxima and alkali metals at the minima.

(3) Transition element are at the maxima.

(4) Minima and Maxima do not show any regular behaviour.

28.

The electric charge for electrode deposition of 1g equivalent of a substance is:

(a) 1 ampere per second

(b) 96,500 coulomb per second

(c) 1 ampere for 1 hour

(d) charge on 1 mole of electrons

29.

Electric configuration of chalcogens in their outermost orbit is

1. s^2p^3 2. s^2p^4 3.s^2p^5 4.s^2p^6

30.

Match list-I with list II and select the correct answer using codes given below:

1. List-I Ions List-II Radius (in pm)

(I) Li^+ (a) 216

(II) Na^+ (b) 195

(III) Br^- (c) 60

(IV) I^- (d) 95

Codes:

	I	II	III	IV
1.	a	b	d	c
2.	b	c	a	d
3.	c	d	b	a
4.	d	c	b	a

31.

Increasing order of the ionic radii and decreasing order of protons of the given isoelectric species is:-

(1) Ca^{+2}, K^+, Cl^-, S^{-2}

(2)Cl^-, Ca^{+2}, K^+, S^{-2}

(3)S^{-2}, Cl^-, Ca^{+2}, K^+,

(4)None of the above

32.

Allred Rochow scale is related to :-

(1) Electronegativity, radius and Z^*

(2) Resonance energy of molecule, Ionisation potential and electron affinity

(3) Bond Polarity, diagonal relationship and periodicity

(4) None of the above

33.

Atomic radius of Be, O, C, N, B are respectively (in pm) :-

(1) 111, 66, 77, 74, 88

(2) 74, 84, 111, 77, 66

(3) 111, 88, 77, 74, 66

(4) 111, 66, 88, 77, 74

34.

Ionic radii are

(1) directly proportional to square of effective nuclear charge

(2) inversely proportional to effective nuclear charge

(3) inversely proportional to square of effective nuclear charge

(4) directly proportional to effective nuclear charge

35.

Which of the following orders of ionic radii is correctly represented?

(a) $H^->H>H+$

(b) $Na^+>F^->O^{2-}$

(c) $F^->O^{2-}>Na^+$

(d)$Al^{3+}>Mg^{2+}>N^{3-}$

36.

Identify the wrong statement in the following:

(a) Amongst isoelectronic species, smaller the positive charge on the cation, smaller is the ionic radius

(b) Amongst isoelectronic species, greater the negative charge on the anion, larger is the ionic radius

(c) Atomic radius of the elements increases as one moves down the first group of the Periodic Table

(d) Atomic radius of the elements decreases as one moves across from left to right in the 2nd period of the Periodic Table

37.

Which of the following represents the correct order of increasing electron gain enthalpy with negative sign for the elements O, S, F and Cl?

(a) Cl<F<O<S (b) O<S<F<Cl

(c) F<S<O<Cl (d) S<O<Cl<F

38.

For following steps

$M_{(g)} \rightarrow M^+_{(g)} + e^-, \ \Delta H = 100\,eV$

$M_{(g)} \rightarrow M^{+2} + 2e^-, \ \Delta H = 250\,eV$

Which is not correct?

1. IE_1 of $M_{(g)}$ is 100 eV
2. IE of $M^+_{(g)}$ is 150 eV
3. IE_2 of $M_{(g)}$ is 250 eV
4. IE_2 of $M_{(g)}$ is 150 eV

39.

An element whose IUPAC name is ununtrium(Uut) belong to:

(a) s-block element

(b) p-block element

(c) d-block element (d) Transition element

40.

Consider the following electronic configuration of an element (P) :

$[\mathrm{Xe}]4f^{14}5d^{1}6s^{2}$

Then correct statement about element 'P' is :

(a) It belongs to 6th period and the 1st group

(b) It belongs to 6th period and the 2nd group

(c) It belongs to 6th period and the 3rd group

(d) none of these

41.

Consider the following information about element P and Q :

	Period number	Group number
P	2	15
Q	3	2

Then formula of the compound formed by P and Q element is :

(a) PQ (b) P_3Q_2 (c) P_2Q_3 (d)PQ_2

42.

Which of the following properties of the alkaline earth metals increase from Be to Ba?

(i) Atomic radius (ii) Ionisation energy (iii) Nuclear charge

(a) (i) and (ii) (b) (i) and (iii)

(c) (ii) and (iii) (d) (i), (ii) and (iii)

43.

Aqueous solutions of two compounds $M_1 - O - H \; and \; M_2 - O - H$ are prepared in two different beakers. If, the electronegativity of $M_1 = 3.4$, $M_2 = 1.2$, $O = 3.5 \; and \; H = 2.1$, then the nature of two solutions will be respectively:

(a) acidic, basic (b) acidic, acidic

(c) basic, acidic (d) basic, basic

44.

The process requiring the absorption of energy is :

(a) $F \rightarrow F^-$

(b) $H \rightarrow H^-$

(c) $Cl \rightarrow Cl^-$

(d) $O \rightarrow O^{2-}$

45.

Which of the following orders is correct?

(A) F>N>C>Si>Ga -non-metallic character.

(B) F>Cl>O>N - oxidising property.

(C) C<Si>P>N - electron affinity value.

(D) All of these.

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