NEET CHEMISTRY 2018-19 - Chennai

Periodic Test : 020 **Test ID :** 020

Number of questions: 150 **Test date: 27.03.2019**

Name: _____ **Time**: 3HRS

ID No: _____

Negative Marks : 4 marks for correct attempt & 1 mark deducted for every wrong attempt.

1. The element z = 114 has been discovered recently. It wi11 belong to which of the following family/group and electronic configuration?
   (a) Carbon family, [Rn] $5f^{14}\ 6d^{10}\ 7s^2\ 7p^2$
   (b) Oxygen family. [Rn] $5f^{14}\ 6d^{10}\ 7s^2\ 7p^4$
   (c) Nitrogen family, [Rn] $5f^{14}\ 6d^{10}\ 7s^2\ 7p^6$
   (d) Halogen family, [Rn] $5f^{14}\ 6d^{10}\ 7s^2\ 7p^5$

2. In which of the following options the order of arrangement does not agree with the variation of property indicated against it?
   (a) I < Br < Cl < F (increasing electron gain enthalpy)
   (b) Li < Na < K <Rb (increasing metallic radius)
   (c) $Al^{3+} < Mg^{2+} < Na^{+} < F^{-}$ (increasing ionic size)
   (d) B <: C < N <O (increasing, first ionisation enthalpy)

3. The species Ar,K^+ and Ca^{2+} contain the same number of electrons.in which order do their radii increase?
   (a) $Ca^{2+} < K^{+} <$ Ar
   (b) $K^{+} <$ Ar< Ca^{2+}
   (c) Ar<$K^{+} < Ca^{2+}$
   (d) Ca^{2+}<Ar<K^{+}

4. 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) $Al^{3+}>Mg^{2+}>N^{3}$

5. Which one of the following arrangements represents the correct order of least negative to most negative electron gain enthalpy for C, Ca Al, F and O
   (a) Al <Ca <O< C <F
   (b) Al< O< C < Ca < F
   (c) C < F<O<Al<Ca
   (d) Ca < Al<C<O<F

6. Identify the wrong statement in the following
   (a) Amongst isoelectronic species, smaller the positive charge on the cation, smaller is the ionic radius.

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(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 elements decreases periodic table.

(d) Atomic radius of the elements decreases as one moves across from left to right in the 2^{nd} period of the periodic table.

7. What is value of electron gain enthalpy? of Na^+ if IE_1 L of Na = 5.1 eV'?

(a) -5.1 eV

(b) -10.2 eV

(c) +2.55 eV

(d) +10.12 eV

8. The correct order of the decreasing ionic radii among the following isoelectronic species is

(a) $Ca^{2+} > K^+ > S^{2-} > Cl^-$

(b) $Cl^- > S^{2-} > Ca^{2+} > K^+$

(c) $S^{2-} > Cl^- > K^+ > Ca^{2+}$

(d) $K^+ > Ca2^+ > C1^- > S2^-$

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. Among the elements Ca, Mg, P and Cl the order of' increasing atomic radii is

(a) Mg <Ca<Cl<P

(b) Cl < P < Mg <Ca

(c) P < Cl < Ca < Mg

(d) Ca < Mg < P < Cl

11. Among the following which one has the highest cation to anion size ratio'?

(a) CsI

(b) (h) CsF

(c) Lid

(d) NaF

12. Amongst the elements with following electronic configurations, which one of them may have the highest ionisation energy?

(a) Ne $[3s^2\ 3p^2]$

(b) Ar $[3d^{10}\ 4s^2\ 4p^3]$

(c) Ne $[3s^2\ 3p^1]$

(d) Ne $[3s^2\ 3p^3]$

13. Which one of the following arrangements does not give the correct picture of the trends indicated against it?

(a) $F_2 > CI_2 > Br_2 > I_2$: Bond dissociation energy

(b) $F_2 > CI_2 > Br_2 > I_2$: Electro negativity

(c) $F_2 > CI_2 > Br_2 > I_2$: Oxidizing power

(d) $F_2 > CI_2 > Br_2 > I_2$: Electron gain enthalpy

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14. Identify the correct order of the size of the following:
    (a) $Ca^{2+} < K^{+} < Ar < C1^{-} < S^{2-}$
    (b) $Ar < Ca^{2+} < .K^{+} < Cl^{-} < S^{2-}$
    (c) $Ca^{-} < Ar < K^{+} < Cl^{-} < S^{2-}$
    (d) $Ca^{2+} < K^{+} < Ar < S^{2-} < C^{l-}$

15. With which of the following electronic configuration an atom_ has the lowest ionization enthalpy
    (a) $IS^2\ 2S^2\ 2P^3$
    (b) $IS^2\ 2S^2\ 2P^5\ 3S^1$
    (c) $IS^2\ 2S^2\ 2P^6$
    (d) $IS^2\ 2S^2\ 2P^5$

16. Which one of the following ionic species has the greatest proton affinity to for stable compound?
    (a) NH_2
    (b) F
    (c) I
    (d) HS

17. Which one of the following orders is not in accordance with the property stated against it?
    (a) $F_2 > CI_2 > Br_2 > I_2$: Bond dissociation energy
    (b) $F_2 > CI_2 > Br_2 > I_{2:}$ Oxidizing power
    (c) $HI > HB_r > HCI > HI$: Acidic property in water
    (d) $F_2 > CI_2 > Br_2 > I_{2:}$ Electro negativity

18. Which one of the following arrangements represents the correct order of electron gain enthalpy (with negative sign) of the given atomic species?
    (a) S < O < Cl < F
    (b) (b)Cl < F< S< O
    (c) F < Cl < O < S
    (d) O < S < F < Cl

19. Ionic radii are
    (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

20. The ions O^2-, F^-, $Na,^+$ Mg^{2+} and $Al3^+$ are isoelectronic. Their ionic radii show
    (a) a significant increase from O^2- to $A1^{3+}$
    (b) a significant decrease from O^2- to $A1^{3+}$
    (c) an. increase from O^2- to F- and then decrease fromNa^+ to Al^{3+}
    (d) a decrease from O^2- to F- and then increase from Na^+ to Al^{3+}

21. Which statement is wrong?
    (a) Bond energy of $F_2 > C1_2$
    (b) Electronegativity F > Cl
    (c) F is more oxidising than C1
    (d) Electron affinity of Cl > F

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22. Which of the following elements has the maximum electron affinity?
    (a) 1
    (b) Br
    (c) Cl
    (d) F

23. The first ionization potentials (eV) of be and B respectively are
    (a) 8.29, 8.29
    (b) 9.32, 9.32
    (c) 8.29, 9.32
    (d) 9.32, 8.29

24. Which one of the following is correct order of the size of iodine species?
    (a) $I^+ > I^- > I$
    (b) I-> I > I^+
    (c) $I > I^- > I^+$
    (d) $I > I^+ > I^-$

25. Which of the following ion is the largest in size?
    (a) K
    (b) Ca^{2+}
    (c) Cl^-
    (d) S^{2-}

26. Which of the following has the smallest size?
    (a) $A1^{3+}$
    (b) (b) F
    (c) Na^+
    (d) Mg^{2+}

27. The electronics configuration of an element is $1s^2 2s^2 3s^2 2p^6 3s^2 3p^3$. What is the atomic number of the element, which is just below the above element in the periodic table?
    (a) 33
    (b) 34
    (c) 36
    (d) 49

28. One would expect proton to have very large
    (a) charge
    (b) ionization potential
    (c) hydration energy
    (d) radius

29. Na^+ Mg^{2+} $A1^{3+}$ and SO^+ are isoelectronic the order of their ionic size is
    (a) $Na^+ > Mg^{2+} > A1^{3+} <$ Si4'
    (b) $Na^+ < Mg^{2+} > A1^{3+} >$ SO'
    (c) $Na^+ > Mg2^+ > A1^{3+} > Si^{4+}$
    (d) $Na^+ < Mg^{2+} > Al^3 < Si^{4+}$

30. If the atomic number of an element is 33, it will be placed in the periodic table in the
    (a) first group
    (b) third group
    (c) fifth group
    (d) Seventh group.

31. In the periodic table from left to right in a period. the atomic volume
    (a) decreases
    (b) increases

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(c) remains same

(d) first decrease then increases.

32.Which electronic configuration of an element has abnormally high difference between second and third ionization.

(a) $1s^2$, $2s^2$, $2p^6$, $3s^1$

(b) $1s^2$, $2s^2$, $2p^6$, $3s^1$ $3p^1$

(c) $1s^2$, $2s^2$, $2p^6$, $3s^2 3p^2$

(d) $1s^2$, $2s^2$, $2p^6$, $3s^2$

33. One of the characteristic properties of non-metals is that they

(a) are reducing agents

(b) form basic oxides

(c) form captions by electron gain

(d) are electronegative.

34. Pauling's electronegativity values for elements are useful in predicting

(a) polarity of the molecules

(b) position in the EMF series.

(c) coordination numbers

(d) dipole moments,

35. The electronic configuration of four elements are given below. Which elements does not Belong to the same family as others'?

(a) $[Xe]4f^{14}\,5d^{10}\,1s^2$

(b) $[Kr]4d^{10}\ 5s^2$

(c) $[Ne]3s^2\ 3p^5$

(d) $[Ar]3d^{10}\ 4s^2$

36. In the periodic table, with the increase in atomic-number, the metallic character of an element

(a) decreases in a period and increases in a group

(b) increases in a period and decreases in a group

(c) increases both in a period and the group

(d) decreases in a period and the group.

37. Which of the following pairs of compounds is isoelectronic and isostructural?

(a) TeI_2 , XeF_2

(b) IBr_2 , XeF_2

(c) IF_3. XeF_2,

(d) $BeC1_2$, XeF_2

38. The species, having bond angles of 120^0 is

(a) CIF_3

(b) $NC1_3$

(c) $BC1_3$

(d) PH_3

39. Which one of the following pairs of species have the same bond order?

(a) O_2, NO^+

(b) CN^-, CO

(c) N_2, O_2^-

(d) CO, NO

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40. Which one of the following compounds shows the presence of intramolecular hydrogen bond?
    (a) H_2O_2
    (b) HCN
    (c) Cellulose
    (d) Concentrated acetic acid .

41. The hybridizations of atomic orbital's of nitrogen in NO_2^+, NO_3^- and NH_4^+ respectively are
    (a) sp, sp^3 and sp^2
    (b) Sp^2, sp^3 and sp
    (c) sp, sp^2 and sp^3
    (d) sp^2, sp and sp^3

42. Which of the following pairs of ions is isoelectronic and isostructural?
    (a) CO_3^{2-} NO_3^-
    (b) $C1O_3^-$, CO_3^{2-}
    (c) SO_3^{2-}, NO_3^-
    (d) $C1O_3^-$, SO_3^{2-}

43. The correct geometry and hybridization for XeF_4 are
    (a) octahedral, sp^3d^2
    (b) trigonal bipyramidal, sp^3d
    (c) planar triangle, sp^3d^3
    (d) square planar, sp^3d^2

44. Among the following which one is a wrong statement?
    (a) PH_5 and $BiCl_5$ do not exist.
    (b) Pπ-dπ in bonds are present in SO_2.
    (c) SeF_4 and CH_4 have same shape
    (d) I_3^+ has bent geometry

45. Consider the molecules CH_4, NH_3 and H_2O.Which of the given statement is false?
    (a) The H-O-H bond angle in H_2O is smaller than H-N-H bond angle in NH_3
    (b) The H-C-H bond angle in CH_4 is larger than H-N-H bond angle in NH_3
    (c) The H-C-H bond angle in CH_4 the H-N-H bond angle in NH_3 and the H-O-H bond angle in H_2O are all greater than 90^0
    (d) The H-O-H bond angle in H_2O is larger than the H-C-H bond angle in CH_4

46. Predict the correct order among the following
    a) bond pair - bond pair > lone pair - bond pair>lone pair - lone pair
    b) Lone pair - bond pair > bond pair - bond pair>lone pair - lone pair
    c) lone pair - lone pair > lone pair - bond pair>bond pair - bond pair
    d) lone pair - lone pair > bond pair - bond pair>lone pair - bond pair

47. In which of the following pairs, both the species are not isostructural?
    (a) Diamond, Silicon carbide
    (b) NH_3, PH_3
    (c) XeF_4, XeO_4
    (d) $SiC1_4$, $PC1_4$

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48. Decreasing order of stability of O_2^-, O_2^- $O_2^+$and O_2^{2-} is

(a) $O_2^{2-} > O_2^- > O_2 > O_2^+$

(b) $O_2 > O_2^+ > O_2^{2-} > O_2^-$

(c) $O_2^- > O_2^{2-} > O_2^+ > O_2$

(d) $O_2^+ > O_2 > O_2^- > O_2^{2-}$

49. Which Of the following pairs of ions are isodectronic and isostructural?

(a) SO_3^{2-}, NO_3^-

(b) ClO_3^- , SO_3^{2-}

(c) CO_3^{2-} , SO_3^{2-}

(d) ClO_3- , CO_3^{2-}

50. The correct bond order in the following species is

(a) $O_2^+ < O_2^- < O_2^{2+}$

(b) $O_2^- < O_2^+ < O_2^{2+}$

(c) $O_2^{2+} < O_2^+ < O_2^-$

(d) $O_2^{2+} < O_2^- < O_2^+$

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