
NEET CHEMISTRY 2018-19 - Chennai

Periodic Test : 11

Test ID : 023

Number of questions: 150

Test date: 31.03.2019

Name: _____

Time: 3HRS

ID No: _____

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

- Which of the following statements about hydrogen is incorrect?
 - Hydronium ion, H_3O^+ exists freely in solution.
 - Dihydrogen does not act as a reducing agent.
 - Hydrogen has three isotopes of which tritium is the most common
 - Hydrogen never acts as cation in ionic salts.
- Some statements about heavy water are given below:
 - Heavy water is used as a moderator in nuclear reactors.
 - Heavy water is more associated than ordinary water.
 - Heavy water is more effective solvent than ordinary water.Which of the above statements are correct?
 - (i) and (ii)
 - (ii) and (iii)
 - (ii) and (iii)
 - (i) and (iii)
- The structure of H_2O_2 is
 - spherical
 - non-planar
 - Planar
 - Linear
- Which one of the following pairs of substances on reaction will not evolve H_2 gas
 - Copper and HCl (aqueous)
 - Iron and steam
 - Iron and H_2SO_4 (aqueous)
 - Sodium and ethyl alcohol
- The volume strength of 1.5 N H_2O_2 solution is
 - 8.8
 - 8.4
 - 4.8
 - 5.22
- The O - O - H bond angle in H_2O_2 is
 - 106°
 - 109.28°
 - 120°
 - 97°

7. Which of the following groups of ion makes the water hard?

- (a) Sodium and bicarbonate
- (b) Magnesium chloride
- (c) Potassium and sulphate
- (d) Ammonium and chloride

8. One would expect proton to have very large

- (a) Charge
- (b) Ionization potential
- (c) Hydration energy
- (d) Radius

9. At its melting point ice is lighter than water because

- (a) H_2O molecules are more closely packed in solid state
- (b) ice crystals have hollow hexagonal arrangement of H_2O molecules.
- (c) on melting of ice the H_2O molecules shrinks in size
- (d) ice forms mostly heavy water on first melting

10. Hydrogen peroxide molecules are

- (a) monoatomic and form X_2^{2-} ions
- (b) diatomic and form X^- ions
- (c) diatomic and form X_2^- ions
- (d) monoatomic and form X^- ions.

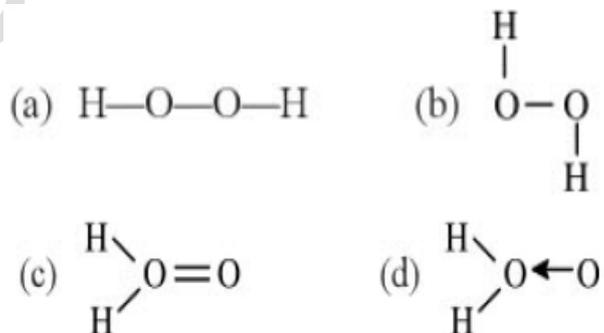
11. The ionization of hydrogen atom would give rise to

- (a) hydride ion
- (b) hydronium ion
- (c) Proton
- (d) hydroxyl ion

12. Which of the following metal evolves hydrogen on reacting with cold dilute HNO_3

- (a) Mg
- (b) Al
- (c) Fe
- (d) Cu.

13. Which of the following is the true structure of H_2O_2



14. The reaction of H_2O_2 with H_2S is an example of reaction.

- (a) addition
- (b) oxidation
- (c) reduction
- (d) acidic

15. Ionic mobility of which of the following alkali metal ions is lowest when aqueous solution of their salts are put under an electric field?
- K
 - Rb
 - Li
 - Na
16. The suspension of slaked lime in water is known as
- lime water
 - quick lime
 - milk of lime
 - aqueous solution of slaked lime
17. In context with beryllium, which one following statements is incorrect?
- It is rendered passive by nitric acid
 - It forms Be_2C
 - Its salts rarely hydrolyze.
 - Its hydride is electron deficient and polymeric
18. Which of the following statements is false?
- Ca^{2+} ions are not important in maintaining the regular beating of the heart
 - Mg^{2+} ions are important in the green parts of the plants.
 - Mg^{2+} ions form a complex with ATP.
 - Ca^{2+} ions are important in blood clotting,
19. The product obtained as a result of a reaction of nitrogen with CaC_2 is
- CaCN_3
 - Ca_2CN
 - $\text{Ca}(\text{CN})_2$
 - CaCN
20. On heating which of the following releases CO_2 most easily?
- Na_2CO_3
 - MgCO_3
 - Ca_3CO_3 ,
 - K_2CO_3
21. 20.0 g of a magnesium carbonate sample decomposes on heating to give carbon dioxide and 8.0 g magnesium oxide. What will be the percentage purity of magnesium carbonate in the sample? (At Wt of Mg = 24)
- 96
 - 60
 - 84
 - 75
22. The function of Sodium pump" is a biological process operating in each and every cell of all animals. Which of the following biologically important ions is also a constituent of this pump?
- K^+
 - Fe^{2+}
 - Ca^{2+}
 - Mg^{2+}

23. Solubility of the alkaline earth metal sulphates in water decreases in the sequence
- $\text{Sr} > \text{Ca} > \text{Mg} > \text{Ba}$
 - $\text{Ba} > \text{Mg} > \text{Sr} > \text{Ca}$
 - $\text{Mg} > \text{Ca} > \text{Sr} > \text{Ba}$
 - $\text{Ca} > \text{Sr} > \text{Ba} > \text{Mg}$
24. In Castner-Kellner cell for production of sodium hydroxide
- brine is electrolyzed using graphite electrodes
 - molten sodium chloride is electrolysed
 - sodium amalgam is formed at mercury cathode
 - brine is electrolyzed with Pt electrodes
25. Which one of the alkali metals, forms only, the normal oxide, M_2O on heating in air?
- Rb
 - K
 - Li
 - Na
26. The ease of adsorption of the hydrated alkali metal ions on an ion-exchange resin follows the order:
- $\text{Li}^+ < \text{K}^+ < \text{Na}^+ < \text{Rb}^+$
 - $\text{Rb}^+ < \text{K}^+ < \text{Na}^+ < \text{Li}^+$
 - $\text{K}^+ < \text{Na}^+ < \text{Rb}^+ < \text{Li}^+$
 - $\text{Na}^+ < \text{Li}^+ < \text{K}^+ < \text{Rb}^+$
27. Which of the following compounds has the lowest melting point?
- CaCl_2
 - CaBr_2
 - CaI_2
 - CaF_2
28. Which one of the following is present as an active ingredient in bleaching powder for "Bleaching action"?
- CaO_2
 - $\text{Ca}(\text{OCl})_2$
 - CaO_2Cl
 - CaCl_2
29. Match List-I with List-II for the compositions of substances and select the correct answer using the code given above.
- | List-I (substances) | List-II (compositions) |
|----------------------------|--|
| A. Plaster of Paris | (i) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ |
| B. Epsomite | (ii) $\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}$ |
| C. Kieserite | (iii) $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ |
| D. Gypsum | (iv) $\text{MgSO}_4 \cdot \text{H}_2\text{O}$ |
- (A)-(iii), (B)-(iv), (C)-(i), (D)-(ii)
 - (A)-(ii), (B)-(iii), (C)-(iv), (D)-(i)
 - (A)-(i), (B)-(ii), (C)-(iii), (D)-(iv)
 - (A)-(iv), (B)-(iii), (C)-(ii), (D)-(i)

30. Which of the following alkaline earth metal sulphates has hydration enthalpy higher than the lattice enthalpy?
- (a) CaSO_4
(b) BeSO_4
(c) BaSO_4
(d) SrSO_4
31. Property of the alkaline earth metals that increases with their atomic number
- (a) solubility of their hydroxides in water
(b) solubility of their sulphates in water
(c) ionization energy
(d) electro negativity
32. Which one of the following compounds is a peroxide?
- (a) KO_2
(b) BaO_2
(c) MnO_2
(d) NO_2
33. The compound A on heating gives a colourless gas and a residue that is dissolved in water to obtain B. Excess of CO_2 is bubbled through aqueous solution of B, C is formed which is recovered in the solid form. solid C on gentle heating, gives back A. The compound is
- (a) CaCO_3
(b) Na_2CO_3
(c) K_2CO_3
(d) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
34. In the case of alkali metals, the covalent character decreases in the order
- (a) $\text{MF} > \text{MCl} > \text{MBr} > \text{MI}$
(b) $\text{MF} > \text{MCl} > \text{MI} > \text{MBr}$
(c) $\text{MI} > \text{MBr} > \text{MCl} > \text{MF}$
(d) $\text{MCl} > \text{MI} > \text{MBr} > \text{MF}$
35. Which of the following oxide is not expected to react with sodium hydroxide?
- (a) CaO
(b) SiO_2
(c) BeO
(d) B_2O_3
36. Equimolar solutions of the following were prepared in water separately. which one of the solutions will record the highest pH?
- (a) MgCl_2
(b) CaCl_2
(c) SrCl_2
(d) BaCl_2
37. The sequence of ionic mobility in aqueous solution is
- (a) $\text{Rb}^+ > \text{K}^+ > \text{Cs}^+ > \text{Na}^+$
(b) $\text{Na}^+ > \text{K}^+ > \text{Rb}^+ > \text{Cs}^+$
(c) $\text{K}^+ > \text{Na}^+ > \text{Rb}^+ > \text{Cs}^+$
(d) $\text{Cs}^+ > \text{Rb}^+ > \text{K}^+ > \text{Na}^+$

38. The alkali metals form salt-like hydrides by the direct synthesis at elevated temperature. The thermal stability of these hydrides decreases in which of the following orders?
- $\text{NaH} > \text{LiH} > \text{KH} > \text{RbH} > \text{CsH}$
 - $\text{LiH} > \text{NaH} > \text{KH} > \text{RbH} > \text{CsH}$
 - $\text{CsH} > \text{RbH} > \text{KH} > \text{NaH} > \text{LiH}$
 - $\text{KH} > \text{NaH} > \text{LiH} > \text{CsH} > \text{RbH}$
39. The correct order of increasing thermal stability of K_2CO_3 , MgCO_3 , CaCO_3 and BeCO_3
- $\text{BeCO}_3 < \text{MgCO}_3 < \text{CaCO}_3 < \text{K}_2\text{CO}_3$
 - $\text{MgCO}_3 < \text{BeCO}_3 < \text{CaCO}_3 < \text{K}_2\text{CO}_3$
 - $\text{K}_2\text{CO}_3 < \text{MgCO}_3 < \text{CaCO}_3 < \text{BeCO}_3$
 - $\text{BeCO}_3 < \text{MgCO}_3 < \text{K}_2\text{CO}_3 < \text{CaCO}_3$
40. In which of the following the hydration energy is higher than the lattice energy?
- MgSO_4
 - RaSO_4
 - SrSO_4
 - BaSO_4
41. The correct order of the mobility of the alkali metal ions in aqueous solution is
- $\text{Rb}^+ > \text{K}^+ > \text{Na}^+ > \text{Li}^+$
 - $\text{Li}^+ > \text{Na}^+ > \text{K}^+ > \text{Rb}^+$
 - $\text{Na}^+ > \text{K}^+ > \text{Rb}^+ > \text{Li}^+$
 - $\text{K}^+ > \text{Rb}^+ > \text{Na}^+ > \text{Li}^+$
42. The correct sequence of increasing covalent character is represented by
- $\text{LiCl} < \text{NaCl} < \text{BeCl}_2$
 - $\text{BeCl}_2 < \text{LiCl} < \text{NaCl}$
 - $\text{NaCl} < \text{LiCl} < \text{BeCl}_2$
 - $\text{BeCl}_2 < \text{NaCl} < \text{LiCl}$
43. A solid compound X on heating gives CO_2 gas and a residue. The residue mixed with water forms Y. On passing an excess of CO_2 , through in water, a clear solution Z is obtained. on boiling Z, compound X is reformed. The compound X is
- $\text{Ca}(\text{HCO}_3)_2$
 - CaCO_3
 - NaCO_3
 - K_2CO_3 .
44. In which of the following processes, fused sodium hydroxide is electrolysed at a 333°C Temperature for extraction of sodium?
- Castner's process
 - Down's process
 - Cyanide process
 - Both (b) and (c)

45. When a substance (A) react with water it produces a combustible gas (B) and a solution of substance (C) in water. When another substance (D) reacts with solution of (C), it also produces the same gas (B) on warming but (D) can produce gas (B) on reaction with dilute sulphuric acid at room temperature. A substance (A) imparts a deep golden yellow colour to a smokeless flame of Bunsen burner. Then (A), (B), (C) and (D) respectively are
- $\text{CaH}_2, \text{Ca}(\text{OH})_2, \text{Sn}$
 - $\text{K}, \text{H}_2, \text{KOH}, \text{Al}$
 - $\text{Na}, \text{H}_2, \text{NaOH}, \text{Zn}$
 - $\text{CaC}_2, \text{C}_2\text{H}_2, \text{Ca}(\text{OH})_2, \text{Fe}$
46. Calcium is obtained by the
- electrolysis of solution of calcium chloride in water
 - electrolysis of molten anhydrous calcium chloride
 - roasting of limestone
 - reduction of calcium chloride with carbon.
47. Sodium is made by the electrolysis of a molten then mixture of about 40% NaCl and 60% CaCl_2 , because
- Ca^{++} can reduce NaCl to Na
 - Ca^{++} can displace Na from NaCl
 - CaCl_2 helps in conduction of electricity
 - this mixture has a lower melting point than NaCl .
48. The solubility in water of sulphate down the Be group is $\text{Be} > \text{Mg} > \text{Ca} > \text{Sr} > \text{Ba}$. This is due to
- Decreasing lattice energy
 - high heat of solvation for smaller ions like Be^{2+}
 - Increasing in melting points
 - Increasing in molecular weight
49. Which identify the correct statements?
- Plaster of paris can be obtained by hydration of gypsum
 - Plaster of paris can be obtained by partial oxidation of gypsum
 - Gypsum contains a lower percentage of calcium than plaster of paris
 - Gypsum is obtained by heating plaster of paris

50. Which of the following is known as fusion mixture?

- (a) Mixture of $\text{Na}_2\text{CO}_3 + \text{NaHCO}_3$
- (b) $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$
- (c) Mixture of $\text{K}_2\text{CO}_3 + \text{Na}_2\text{CO}_3$
- (d) NaHCO_3

TEMPZ ACADEMY