



# **ZONAL INSTITUTE OF EDUCATION AND TRAINING Bhubaneswar**

## **MCQ Class IX- X Chemistry**

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## 1 MATTER IN OUR SURROUNDINGS

- As solid melts to form liquid:
  - Inter particle distance increases
  - Inter molecular forces of attraction decreases
  - Compressibility increases
  - All of the above
- Which of the following is not characteristic of solid:
  - High Rigidity
  - Regular Shape
  - High density
  - High compressibility
- The boiling point of water is:
  - 101°C at atmospheric pressure
  - 273K at atmospheric pressure
  - 0°C at atmospheric pressure
  - 0K at atmospheric pressure
- Which of the following has highest intermolecular forces of attraction?
  - Water at room temperature
  - CO<sub>2</sub> gas
  - Ethyl alcohol
  - Iron metal
- Which of the following substances will undergo sublimation?
  - Common salt
  - Odonil
  - Sugar
  - Sand
- The process of evaporation causes:
  - Cooling
  - Heating
  - Dryness
  - None of the above
- The conversion of solid to gas directly is called:
  - Evaporation
  - Sublimation
  - Distillation
  - condensation
- Evaporation of a liquid can take place:
  - At its boiling point
  - At all temperatures
  - At its freezing point
  - At a fixed temperature
- Which of the following describes a liquid state:
  - Definite volume and definite shape
  - Definite volume and no specific shape
  - definite shape but no definite volume
  - neither definite shape nor definite volume
- Wet clothes are kept for drying. Which of the following does **not** help them in drying:
  - Spreading it out
  - Blowing wind over it
  - Making the room a little warmer
  - Cooling the room
- At higher altitudes the boiling points of liquids
  - Increases
  - Decreases

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- c. Remains the same  
d. Increases then decreases
12. During evaporation particles of a liquid change into vapours :  
a. From the surface  
b. From the bulk  
c. From the bottom  
d. From all over the liquid
13. In which phenomenon does water change into water vapour below its boiling point:  
a. Boiling  
b. Evaporation  
c. Freezing  
d. Sublimation
14. We get the smell of hot food in the kitchen outside the house because of:  
a. Boiling  
b. Evaporation  
c. Sublimation  
d. Diffusion
15. which are the favourable conditions for liquefaction of petroleum gas:  
a. High pressure, high temperature  
b. Low pressure, low temperature  
c. High pressure, low temperature  
d. Low pressure, high temperature
16. latent heat of vapourisation is used to:  
a. Overcome forces of attraction between the liquid particles at the boiling point  
b. Overcome forces of attraction between solid particles at the freezing point  
c. Increase the kinetic energy of particles in the liquid state  
d. Increase the kinetic energy of the particles in the vapour phase
17. Which of the following has highest density?  
a. Kerosene  
b. Water  
c. Iron  
d. Wood
18. Dry ice on heating produces:  
a. Liquid CO<sub>2</sub>  
b. Gas CO<sub>2</sub>  
c. Liquid water  
d. Water vapour
19. Particles move randomly in:  
a. Water  
b. Sugar  
c. Nitrogen  
d. Dry ice
20. When we blow air into the balloon it inflates because:  
a. Air particles diffuse into the balloon  
b. Air particles collide with the walls of the balloon and exert pressure on them  
c. Rubber is elastic in nature  
d. The temperature of air in the balloon increases
- 21.–

**2 Is MATTER AROUND US PURE?**

1. When a bottle of soda water is opened, carbon dioxide escapes, producing a fizz. This is due to:  
a. Decrease in solubility on decreasing temperature

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- b. Decrease in solubility on increasing temperature
  - c. Decrease in solubility on decreasing pressure
  - d. Decrease in solubility on increasing pressure
2. A mixture of oil and water can be separated by:
- a. Sublimation
  - b. Crystallisation
  - c. Chromatography
  - d. Separating funnel

Questions 3 to 5 are based on the following information:

Four samples A, B, C, D are prepared by adding a pinch of copper sulphate, a spatula of copper sulphate, a spatula of chalk powder, and some milk, to water respectively.

3. Which one is the colloidal solution among them?
- a. C
  - b. D
  - c. B
  - d. A
4. Which of these will form a clear and transparent solution:
- a. A
  - b. B
  - c. A and B
  - d. B and D
5. Which of these will exhibit the Tyndall effect?
- a. A and D
  - b. B and C
  - c. A and B
  - d. D
6. Which of the following represents a chemical change?
- a. Extraction of copper from copper pyrites
  - b. Distillation of water
  - c. Melting of wax
  - d. Dissolution of salt in water
7. The sequence of steps for separating a mixture of salt, sand and camphor is:
- a. Adding water, filtration, evaporation, sublimation
  - b. Adding water, filtration, sublimation, evaporation
  - c. Sublimation, adding water, filtration, evaporation
  - d. Sublimation, adding water, evaporation, filtration
8. Which of the following is the correct set of apparatus for fractional distillation?
- a. Round bottomed flask, thermometer, water condenser and beaker
  - b. Round bottomed flask, thermometer, air condenser and beaker
  - c. Round bottomed flask, thermometer, fractionating column, water condenser and flask

- d. Round bottomed flask, thermometer, fractionating column, air condenser and flask
9. In the separation of dyes A and B by chromatography, component B has more solubility in the solvent. Which component will rise faster?
- a. A  
b. B  
c. Both at the same speed  
d. Separation of dyes is independent of the solubility in solvent
10. Different components can be separated from petroleum by:
- a. Filtration  
b. Chromatography  
c. Simple distillation  
d. Fractional distillation
11.  
12.

### 3 STRUCTURE OF THE ATOM

1. The charge/ mass ratio of electron:
- a. Depends on the nature of the electrodes  
b. Depends upon nature of the gas  
c. Remains constant  
d. Depends on both nature of the gas and nature of the electrode
2. A student weighs 30kg. Suppose his body is entirely made of electrons. How many electrons are there in his body? Mass of an electron =  $9.1 \times 10^{-31}$  kg
- a.  $3.29 \times 10^{31}$   
b.  $3.29 \times 10^{30}$   
c.  $3.29 \times 10^{23}$   
d.  $3.29 \times 10^{32}$
3. Which of the following is correct?

Column 1	Column 2
A. Electrons	i. Positive charge
B. Protons	ii. No charge
C. Neutrons	iii. Negative charge

- a. A-iii, B-ii, C-i  
b. A-iii, B-i, C-ii  
c. A-ii, B-iii, C-i  
d. A-ii, B-i, C-iii

4. If K, L, M, N shells of an atom are full, the total number of electrons in the atom are:
- a. 60  
b. 26  
c. 42  
d. 36
5. Which of the following are positively charged ions:

Atoms	Protons	Electrons	Neutrons
A	17	17	18
B	12	10	12
C	16	17	20
D	1	0	0
E	18	18	22
F	10	10	10

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- a. A and B  
b. C and D  
c. B and D  
d. D and F

6. The electronic configuration of Cl(17) is:

- a. 2,8,7  
b. 2,2, 8,5  
c. 2,8,2,5  
d. 2,2,5,8

7. Composition of the nuclei of two atomic species are given:

	X	Y
P	7	8
N	9	8

The mass number of x and Y and their relation is

- a. 16,16; isotopes  
b. 17,15; isotopes  
c. 17,15; isotopes  
d. 16,16; 1sobars
8.  $\text{Na}^+$  has 12 neutrons and 10 electrons. Which of the following statements is correct?  
a.  $\text{Na}^+$  has atomic number 10 and mass number 22.  
b.  $\text{Na}^+$  has atomic number 11 and mass number 23.  
c.  $\text{Na}^+$  has atomic number 10 and mass number 23.  
d.  $\text{Na}^+$  has atomic number 11 and mass number 22.
9. Which of the following statement is correct about proton?  
a. It is the nucleus of deuterium  
b. It is an ionized hydrogen molecule  
c. It is an ionized Hydrogen atom  
d. It is an  $\alpha$  particle with unit positive charge
10. The highest value of e/m ratio for anode rays is observed when the discharge tube is filled with:  
a.  $\text{N}_2$   
b.  $\text{H}_2$   
c. He  
d. Ar
11. When a gold foil is bombarded by a beam of  $\alpha$  particle, only a few of them get deflected whereas most go straight undeflected. This is because  
a. The force of attraction exerted on  $\alpha$  particles by the electrons is insufficient  
b. The volume of nucleus is much smaller than that of the atom  
c. The force of repulsion acting on the fast moving  $\alpha$  particles is very small  
d. The neutrons have no effect on  $\alpha$  particles
12. Which of the following statements does **not** belong to Bohr's model?  
a. Energy of the electrons in the orbit is quantized  
b. The electrons in the orbit nearest to the nucleus is the lowest energy  
c. Electrons revolve around the nucleus in different orbits having fixed energies  
d. The electrons radiate energy during revolution due to force of attraction between nucleus and electrons
13. How many electrons, protons and neutrons are present in  $\text{X}^+$ , if atomic number of X is 19 and its mass number is 39



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6. The balancing of chemical equations is in accordance with:
- Law of combining volumes
  - Law of constant proportions
  - Law of conservation of mass
  - Both b and c
7. Which of the following is a correct statement:
- $\text{Na}_2\text{S}$  is sodium sulphide,  $\text{Na}_2\text{SO}_3$  is sodium sulphite,  $\text{Na}_2\text{SO}_4$  is sodium sulphate
  - $\text{Na}_2\text{S}$  is sodium sulphite,  $\text{Na}_2\text{SO}_3$  is sodium sulphide,  $\text{Na}_2\text{SO}_4$  is sodium sulphate
  - $\text{Na}_2\text{S}$  is sodium sulphide,  $\text{Na}_2\text{SO}_3$  is sodium sulphate,  $\text{Na}_2\text{SO}_4$  is sodium sulphite
  - $\text{Na}_2\text{S}$  is sodium sulphite,  $\text{Na}_2\text{SO}_3$  is sodium sulphite,  $\text{Na}_2\text{SO}_4$  is sodium sulphide
8. The formula of Calcium phosphate is:
- $\text{CaPO}_4$
  - $\text{Ca}(\text{PO}_4)_2$
  - $\text{Ca}_3(\text{PO}_4)_2$
  - $\text{Ca}_2(\text{PO}_4)_3$
9. Molecular weight of  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  is equal to:
- 249.5
  - 159.5
  - $159.5 \times 90$
  - $159.5 + 10 + 16$
10. How many moles of electrons weigh 1 kg. Mass of an electron is  $9.1 \times 10^{-31}$
- $6.022 \times 10^{23}$
  - $6.022 \times 10^{23} / 9.1 \times 10^{-31}$
  - $1 \times 10^{31} / 9.1$
  - $10^8 / 9.1 \times 6.022$
11. Arrange the following in increasing number of molecules:
- 0.5 moles of  $\text{H}_2$
  - 4g of  $\text{H}_2$
  - 18g of  $\text{H}_2\text{O}$
  - 2.2g of  $\text{CO}_2$
- $\text{i} < \text{iii} < \text{iv} < \text{ii}$
  - $\text{iv} < \text{i} < \text{iii} < \text{ii}$
  - $\text{i} < \text{ii} < \text{iii} < \text{iv}$
  - $\text{iv} < \text{iii} < \text{ii} < \text{i}$
12. Out of 1 g of oxygen gas, 1 g of oxygen atoms and 1g of ozone, maximum number of atoms are present in:
- 1g of oxygen gas
  - 1g of oxygen atoms
  - 1 g of ozone
  - All have equal number of atoms
13. The number of atoms present in 0.5 moles of Nitrogen atoms is same as in:
- 12 g of C
  - 24 g of Mg
  - 8 g of O
  - 32 g of S
14. Which of the following is **not** a postulate of Dalton's atomic theory:
- All matter is made up of atoms
  - Atoms are tiny indivisible and indestructive ultimate particles
  - Atoms combine in small whole number ratios to form compounds
  - Atoms of different elements can have the same mass
15. 16g of  $\text{S}_8$  contains:
- $6.023 \times 10^{23}$  Atoms of S
  - $6.023 \times 10^{23} / 8$  atoms of s
  - $6.023 \times 10^{23} / 2$  atoms of S
  - $6.023 \times 10^{23} / 16$  atoms of S
16. Which of the following has the smallest number of molecules?
- 0.1 moles of  $\text{CO}_2$
  - 2g of  $\text{H}_2$  at STP
  - 16g of  $\text{O}_2$  gas
  - 3.4g of  $\text{NH}_3$

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17. An element X has valency equal to 3. What will be its formula with carbonate ions?  
 a.  $X_2CO_3$  c.  $X_2(CO_3)_3$   
 b.  $XCO_3$  d.  $X(CO_3)_3$
18. The mass of a single atom of an element X is  $2.65 \times 10^{-23}$  g. The atomic mass and name of the element is:  
 a. 16u, oxygen c. 32u, oxygen  
 b. 16u, Sulphur d. 32u, Sulphur
19.  
 a. Oxygen: diatomic  
 b. Ozone : \_\_\_\_\_  
     i. Monoatomic iii. Triatomic  
     ii. Diatomic iv. Tetra atomic
20.  
 a. 24g of Mg: 1 mole  
 b. 35.5g of  $Cl_2$ : \_\_\_\_\_  
     i. 0.5mol iii. 2moles  
     ii. 1 mol iv. 2.5 moles

**ANSWERS****1 MATTER IN OUR SURROUNDINGS**

- |      |      |       |       |       |
|------|------|-------|-------|-------|
| 1. d | 5. b | 9. b  | 13. b | 17. c |
| 2. d | 6. a | 10. d | 14. d | 18. b |
| 3. a | 7. b | 11. b | 15. c | 19. c |
| 4. d | 8. b | 12. a | 16. a | 20. b |

**2. Is MATTER AROUND US PURE?**

- |      |      |      |       |
|------|------|------|-------|
| 1. c | 4. c | 7. c | 9. b  |
| 2. d | 5. d | 8. c | 10. d |
| 3. b | 6. a |      |       |

**3 STRUCTURE OF THE ATOM**

- |      |      |       |       |       |
|------|------|-------|-------|-------|
| 1. c | 5. c | 9. c  | 13. a | 17. a |
| 2. a | 6. a | 10. b | 14. a | 18. c |
| 3. b | 7. d | 11. b | 15. d | 19. a |
| 4. a | 8. b | 12. d | 16. b | 20. b |

**4 ATOMS AND MOLECULES**

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- |      |      |       |       |       |
|------|------|-------|-------|-------|
| 1. a | 5. a | 9. a  | 13. c | 17. c |
| 2. d | 6. d | 10. d | 14. d | 18. a |
| 3. a | 7. a | 11. b | 15. d | 19. c |
| 4. c | 8. c | 12. d | 16. a | 20. a |

## CHAPTER I

### Chemical Reactions and Equations

- $\text{CuSO}_4 + \text{Zn} \rightarrow \text{Cu} + \text{ZnSO}_4$  This reaction is an example of a:
  - Combination reaction.
  - Double displacement reaction.
  - Decomposition reaction.
  - Displacement reaction.
- What happens when dilute Sulphuric acid is added to Zn granules? Tick the correct answer.
  - Hydrogen gas and Zinc chloride are produced.
  - Chlorine gas and Zinc hydroxide are produced.
  - No reaction takes place.
  - Zinc salt and water are produced.
- Translate the following statements into chemical equations and then balance it.  
 Barium chloride reacts with aluminium sulphate to give aluminium chloride and a precipitate of barium sulphate.
  - $\text{BaCl}_2 + \text{Al}_2(\text{SO}_4)_3 \rightarrow \text{AlCl}_3 + \text{BaSO}_4$
  - $3\text{BaCl}_2 + \text{Al}_2(\text{SO}_4)_3 \rightarrow 2\text{AlCl}_3 + 3\text{BaSO}_4$
  - $\text{BaCl}_2 + \text{AlSO}_4 \rightarrow \text{AlCl}_2 + \text{BaSO}_4$
  - $\text{BaCl}_3 + \text{Al}(\text{SO}_4)_3 \rightarrow \text{AlCl}_3 + \text{Ba}(\text{SO}_4)_3$
- Identify the type of reaction in each case.  
 $\text{Zinc carbonate(s)} \rightarrow \text{Zinc oxide(s)} + \text{Carbon dioxide(g)}$   
 $\text{Hydrogen(g)} + \text{Chlorine(g)} \rightarrow \text{Hydrogen chloride(g)}$ 
  - Combination, Decomposition
  - Double displacement, Combination
  - Decomposition, Combination
  - Displacement, Decomposition

5. The balancing of chemical equations is in accordance with:
- Law of combining volumes
  - Law of constant proportions
  - Law of conservation of mass
  - Both b and c
6. Which of the statements about the reaction below are incorrect?  $\text{Fe}_2\text{O}_3(\text{s}) + 3\text{CO}(\text{g}) \rightarrow 2\text{Fe}(\text{s}) + 3\text{CO}_2(\text{g})$
- Iron is getting reduced.
  - Carbon dioxide is getting oxidised.
  - Carbon monoxide is getting oxidised.
  - Iron oxide is getting reduced.
- a&b
  - a & c
  - c & d
  - all
7. What type of reaction is respiration
- Exothermic
  - Endothermic
  - Reduction reaction
  - Combination reaction
8. Identify the substances that are oxidised and the substances that are reduced in the following reactions.
- $$\text{CuO}(\text{s}) + \text{H}_2(\text{g}) \rightarrow \text{Cu}(\text{s}) + \text{H}_2\text{O}(\text{l})$$
- Cu is oxidised,  $\text{H}_2\text{O}$  is reduced
  - $\text{CuO}$  is oxidised,  $\text{H}_2\text{O}$  is reduced
  - $\text{H}_2$  is oxidised,  $\text{CuO}$  is reduced
  - $\text{H}_2$  is oxidised,  $\text{H}_2\text{O}$  is reduced
9. A solution of a substance 'X' is used for white washing. Name the substance 'X' and write its formula.
- Lime stone,  $\text{CaCO}_3$
  - Lime,  $\text{CaCO}_3$
  - Calcium oxide,  $\text{CaO}$
  - Calcium carbonate,  $\text{CaCO}_3$
10. Write the balanced reaction of Calcium oxide with water and state what type of reaction is this
- $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{CaOH} + \text{H}_2$ , displacement
  - $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$ , combination
  - $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$ , decomposition
  - $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{CaOH}$ , combination

## CHAPTER 2

### Acids, Bases and Salts

- You have been provided with three test tubes. One of them contains distilled water and the other two contain an acidic solution and a basic solution, respectively. Which of them will turn red litmus to blue.
  - Acid
  - Base
  - Water
  - All of the above
- Acids react with metals to liberate \_\_\_\_\_ gas.
  - Carbon dioxide
  - Carbon monoxide
  - Hydrogen
  - Water
- Acids react with metal carbonates to liberate \_\_\_\_\_ gas.
  - Carbon dioxide
  - Carbon monoxide
  - Hydrogen
  - Water
- Lime water turns milky when carbon dioxide is passed due to the formation of \_\_\_\_\_.
  - $\text{CaCO}_3$
  - $\text{CaO}$
  - $\text{CO}_2$
  - $\text{CaSO}_4$
- The milkiness (on passing excess carbon dioxide gas through lime water) disappears due to the formation of:
  - Calcium carbonate  $\text{CaCO}_3$
  - Calcium hydrogen carbonate  $\text{CaHCO}_3$
  - Calcium oxide  $\text{CaO}$
  - Calcium Nitrate  $\text{Ca}(\text{NO}_3)_2$
- Acids react with bases to form salt and water. This reaction is known as:
  - Combination
  - Decomposition
  - Neutralisation
  - reduction
- A calcium compound reacts with dilute hydrochloric acid to produce effervescence. The gas evolved extinguishes a burning candle. Identify the compound and the gas evolved.
  - Calcium Carbonate, Carbon dioxide
  - Calcium chloride, carbon dioxide
  - Calcium oxide, hydrogen
  - Calcium carbonate, hydrogen
- How is the concentration of hydronium ions ( $\text{H}_3\text{O}^+$ ) affected when a solution of an acid is diluted?
  - Increases
  - Decreases
  - Remains the same
  - Becomes zero
- Why does dry HCl gas not change the colour of the dry litmus paper?
  - Blue litmus becomes dry in presence of dry HCl gas
  - No  $\text{H}_3\text{O}^+$  ions will be present, litmus changes colour only in the presence of  $\text{H}_3\text{O}^+$  ions

- c. HCl gas acts as a dehydrating agent
  - d. None of the above
10. When a bee stings, immediately a paste of lime is put on the sting. Why?
- a. Bee sting is made of a base
  - b. Bee sting contains an acid called formic acid. It gets neutralised with CaO .
  - c. Bee sting is acidic due to hydrochloric acid and this is neutralised
  - d. All of the above.

11.

### **CHAPTER 3 Metals and Non-metals**

1. An example of a metal which is a liquid at room temperature
- a. Zinc
  - b. Copper
  - c. Mercury
  - d. Bromine
2. Gold is used in making ornaments because it is:
- a. Lustrous
  - b. Unreactive
  - c. Malleable
  - d. All of the above
3. You are given two statements a and b, select the correct inference from this:
- a. Metals conduct heat.
  - b. Diamond is the best conductor of heat.
    - i. Hence diamond is a metal
    - ii. Statement a is correct
    - iii. Statements a and b is correct
    - iv. None of the above
4. A list of metals arranged in the order of their decreasing activities is known as:
- a. Periodic table
  - b. Reactivity series
  - c. Newland's law of octaves
  - d. All of these
5. Sodium is kept immersed in kerosene oil because:
- a. It reacts with moisture in the air
  - b. Immersing in kerosene cuts off the supply of air
  - c. The reaction of sodium with air is very violent.
  - d. All of the above.
6. Samples of four metals A, B, C and D were taken and added to the following solution one by one. The results obtained have been tabulated as follows
- a. Which is the least reactive metal?
    - i. A
    - ii. B
    - iii. C
    - iv. D

Metal	Iron(II) sulphate	Copper(II) sulphate	Zinc sulphate	Silver nitrate
A	No reaction	Displacement		
B	Displacement		No reaction	
C	No reaction	No reaction	No reaction	Displacement
D	No reaction	No reaction	No reaction	No reaction

7. In the above table arrange the metals A, B, C and D in increasing order of reactivity:
- $D < A < C < B$
  - $D < C < B < A$
  - $D < C < A < B$
  - $C < D < A < B$
8. What are the ions present in  $\text{Na}_2\text{O}$ ?
- $\text{Na}^+, \text{O}^-$
  - $\text{Na}^{2+}, \text{O}^{2-}$
  - $\text{Na}^{2+}, \text{O}^-$
  - $\text{Na}^+, \text{O}^{2-}$
9. Among the following select the metal found free in nature:
- Au
  - Cu
  - Na
  - Mg
10. Ores mined from the earth are usually contaminated with large amounts of impurities such as soil, sand, etc called \_\_\_\_\_.
- Gravel
  - Gangue
  - Sand
  - Granite

## CHAPTER 4

### Carbon and its Compounds

1.  $-\text{C}=\text{O}$  represents the functional group:
- Alcohols
  - Carboxylic acids
  - ketones
  - Acids
2. A functional group mainly determines the
- Physical properties
  - Chemical properties
  - Both
  - None of these
3. 100% pure ethanol is called
- Rectified spirit
  - Absolute alcohol
  - Denatured alcohol
  - Power alcohol
4. Carboxylic acid containing one carbon atom is

- a. Formic acid  
b. Acetic acid
- c. Citric acid  
d. Vinegar
5. The odour of acetic acid resembles that of:
- a. Tomato  
b. Kerosene
- c. Vinegar  
d. Lemon juice
6. Sodium carbonate solution is added to dilute ethanoic acid. It is observed that :
- a. A gas evolves  
b. A solid settles at the bottom
- c. The mixture becomes warm  
d. The colour of the mixture
7. 2ml of acetic acid is added to 5ml of water and was shaken up for 1minute, it was noticed that:
- a. The acid formed a separate layer on the top of water  
b. Water formed a separate layer on the top of the acid  
c. A clear and homogeneous solution is formed  
d. A pink and clear solution is formed
8. On adding  $\text{NaHCO}_3$  to acetic acid, a gas is evolved which turns lime water milky due to the formation of:
- a. Calcium Carbonate  
b. Calcium Hydroxide
- c. Calcium bicarbonate  
d. Calcium Acetate
9. Which among the following contains triple bond:
- a.  $\text{C}_2\text{H}_4$   
b.  $\text{C}_2\text{H}_2$
- c.  $\text{C}_3\text{H}_4$   
d.  $\text{C}_2\text{H}_6$
10. The number of covalent bonds in  $\text{C}_5\text{H}_{12}$  is:
- a. 15  
b. 16  
c. 17  
d. 18
11. Which amongst the following does not conduct electricity:
- a.  $\text{CH}_3\text{COOH}$   
b.  $\text{C}_3\text{H}_7\text{OH}$
- c.  $\text{HCOOH}$   
d.  $\text{NaCl(aq)}$
12. Methane reacts with one mole of Chlorine in presence of sunlight to give \_\_\_\_\_.  
The reaction is called\_\_\_\_\_.
- a. Chloromethane, substitution  
b. Dichloromethane, addition

- c. Trichloromethane, elimination  
d. Tetra chloro methane, combustion
13. Catenation is maximum in:  
a. Carbon  
b. Oxygen  
c. Sulphur  
d. Phosphorous
14. Ethane and ethene can be distinguished by using:  
a. Bromine water  
b. Chlorine water  
c.  $I_2$   
d. HCl
15. The number of isomers of  $C_6H_{14}$  are  
a. 4  
b. 5  
c. 6  
d. 7
16. Which of the following represents cyclohexane:  
a.  $C_6H_{14}$   
b.  $C_6H_{12}$   
c.  $C_6H_{10}$   
d.  $C_6H_6$
17. The IUPAC name of the following;  

$$\begin{array}{ccccccc}
 & H & H & H & H & & \\
 & | & | & | & | & & \\
 H & -C & -C & -C & -C & -O & -H \\
 & | & | & | & | & & \\
 & H & H & H & H & & 
 \end{array}$$
  
a. Butanal  
b. Butanoic acid  
c. Butanol  
d. Pentane
18. Which of the following are members of the same homologous series:  
a.  $CH_4$  and  $C_2H_4$   
b.  $CH_3OH$  and  $CH_3Cl$   
c.  $C_2H_5OH$  and  $C_3H_7OH$   
d.  $CH_3OCH_3$  and  $C_2H_5OH$
19. The difference in the molecular formula and molecular mass of  $CH_4$  and  $C_2H_6$  is:  
a.  $CH_3$  and 12u  
b.  $CH_2$  and 12u  
c.  $CH_3$  and 14u  
d.  $CH_2$  and 14u
20. Which of the following statements about diamond and graphite is true?  
a. They have same crystal structure  
b. They have same degree of hardness  
c. They have same electrical conductivity  
d. They have same chemical properties.

## CHAPTER 5

### Periodic Classification of Elements

1. The period that contains only gaseous elements are:





6. c                      7. a                      8. a                      9. b                      10. b  
11.

### **CHAPTER3: Metals and Non-metals**

1. c                      3. b                      5. d                      7. b                      9. a  
2. d                      4. b                      6. d                      8. d                      10. b

### **CHAPTER4:Carbon and itsCompounds**

1. c                      5. c                      9. b                      13. a                      17. c  
2. b                      6. a                      10. b                      14. a                      18. c  
3. b                      7. c                      11. b                      15. c                      19. d  
4. a                      8. a                      12. a                      16. b                      20. d

### **CHAPTER5Periodic Classification of Elements\**

1. a                      5. c                      9. b                      13. b                      17. a  
2. c                      6. a                      10. b                      14. a                      18. a  
3. b                      7. b                      11. d                      15. d                      19. b  
4. b                      8. c                      12. b                      16. b