

Section : Chemistry

Q.1 Match List-I with List-II

List-I:

List-II:

Name of Amino Acid    One letter code

- |                   |         |
|-------------------|---------|
| (A) Phenylalanine | (I) F   |
| (B) Tyrosine      | (II) Y  |
| (C) Asparagine    | (III) N |
| (D) Arginine      | (IV) R  |

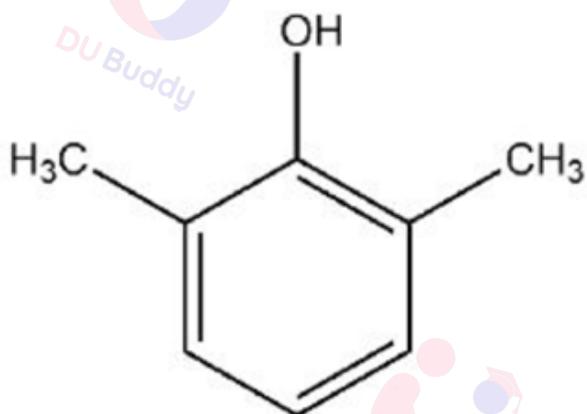
Choose the correct answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
3. (A) - (I), (B) - (IV), (C) - (II), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options 1. 1

2. 2
3. 3
4. 4

Q.2 The IUPAC name of the following compound is:



1. 2,5-Dimethylphenol
2. 2,5-Dimethylbenzene
3. 2,6-Dimethylphenol
4. 2,3-Dimethylphenol

Options 1. 1

2. 2
3. 3
4. 4

**Q.3** The decomposition of  $\text{N}_2\text{O}_5$  in  $\text{CCl}_4$  at 318K has been studied by monitoring the concentration of  $\text{N}_2\text{O}_5$  in the solution. Initially, the concentration of  $\text{N}_2\text{O}_5$  is 2.33 mol/L and after 184 minutes, it is reduced to 2.08 mol/L. The reaction takes place according to the equation



The average rate of this reaction in different units will be:

- $4.07 \times 10^{-2} \text{ mol L}^{-1} \text{ h}^{-1}$ ,  $\$6.79 \times 10^{-4} \text{ mol L}^{-1} \text{ min}^{-1}$ ,  $\$1.13 \times 10^{-5} \text{ mol L}^{-1} \text{ s}^{-1}$
- $2.907 \times 10^{-2} \text{ mol L}^{-1} \text{ h}^{-1}$ ,  $\$6.79 \times 10^{-4} \text{ mol L}^{-1} \text{ min}^{-1}$ ,  $\$1.13 \times 10^{-5} \text{ mol L}^{-1} \text{ s}^{-1}$
- $12.07 \times 10^{-2} \text{ mol L}^{-1} \text{ h}^{-1}$ ,  $\$7.79 \times 10^{-4} \text{ mol L}^{-1} \text{ min}^{-1}$ ,  $\$5.13 \times 10^{-5} \text{ mol L}^{-1} \text{ s}^{-1}$
- $8.1 \times 10^{-2} \text{ mol L}^{-1} \text{ h}^{-1}$ ,  $\$13.5 \times 10^{-4} \text{ mol L}^{-1} \text{ min}^{-1}$ ,  $\$2.25 \times 10^{-5} \text{ mol L}^{-1} \text{ s}^{-1}$

Options 1. 1

2. 2
3. 3
4. 4

**Q.4** The Nernst equation corresponding to the cell reaction given below, is



- $E_{\text{cell}} = E_{\text{cell}}^{\circ} - \frac{RT}{2F} \ln \frac{[\text{Ni}^{2+}]}{[\text{Ag}^+]^2}$
- $E_{\text{cell}} = E_{\text{cell}}^{\circ} - \frac{RT}{2F} \log \frac{[\text{Ni}^{2+}]}{[\text{Ag}^+]^2}$
- $E_{\text{cell}} = E_{\text{cell}}^{\circ} - \frac{RT}{2F} \ln \frac{[\text{Ni}^{2+}]}{2[\text{Ag}^+]^2}$
- $E_{\text{cell}} = E_{\text{cell}}^{\circ} - \frac{RT}{F} \ln \frac{[\text{Ni}^{2+}][\text{Ag}]^2}{[\text{Ag}^+]^2[\text{Ni}]}$

Options 1. 1

2. 2
3. 3
4. 4

**Q.5** The IUPAC name of allylamine is:

1. Prop-2-en-2-amine
2. Prop-2-en-1-amine
3. Prop-1-en-3-amine
4. Prop-1-en-1-amine

Options 1. 1

2. 2
3. 3
4. 4

**Q.6** Choose the correct statement(s) for Wolff Kishner Reaction.

- (A) The carbonyl group of aldehyde and ketone is reduced to  $\text{CH}_2$  group.
- (B) Wolff Kishner Reaction involves potassium hydroxide and ethylene glycol
- (C) The reaction is carried out at a low temperature.
- (D) Hydrazine is used in this reaction.

Choose the correct answer from the options given below:

1. (A), (B) and (D) only
2. (A), (B) and (C) only
3. (A), (B), (C) and (D)
4. (B), (C) and (D) only

Options 1. 1

2. 2
3. 3
4. 4

Q.7 Solubility of a gas in a liquid:

1. Decreases with rise in temperature
2. Increases with rise in temperature
3. Does not depend on temperature
4. First decreases and then increases with rise in the temperature

Options 1. 1

2. 2
3. 3
4. 4

Q.8 Match List-I with List-II

List-I: Concentration term List-II: Formula

(A) Mass percentage

$$(I) \frac{\text{Volume of solute}}{\text{Volume of solution}} \times 100$$

(B) Volume percentage

$$(II) \frac{\text{Moles of a component}}{\text{Total moles of all the components}}$$

(C) Mole Fraction

$$(III) \frac{\text{Moles of solute}}{\text{Mass of solvent in kg}}$$

(D) Molality

$$(IV) \frac{\text{Mass of solute}}{\text{Volume of solution} \times \text{Density of solution}} \times 100$$

Choose the correct answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options 1. 1

2. 2
3. 3
4. 4

Q.9 Calculate the magnetic moment of a divalent ion in aqueous solution if its atomic number is 27.

1. 6.98 BM
2. 5.92 BM
3. 4.90 BM
4. 3.87 BM

Options 1. 1

2. 2
3. 3
4. 4

Q.10 Match List-I with List-II

List-I:

List-II:

Compound

Application

(A) Methanol

(I) Used in wine making

(B) Ethanol

(II) Wood Spirit

(C) Diethyl ether

(III) Carbolic acid

(D) Phenol

(IV) Anaesthetic

Choose the correct answer from the options given below:

1. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
2. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options 1. 1

2. 2
3. 3
4. 4

Q.11 What kind of behavior is shown in the Zwitter ionic form of amino acids?

1. Di-polar behaviour
2. Amphoteric behaviour
3. Intermolecular H-bonding
4. Peptide behavior

Options 1. 1

2. 2
3. 3
4. 4

Q.12 In the form of dichromate, Cr(VI) is a strong oxidising agent in acidic medium but Mo (VI) in MoO<sub>3</sub> and W (VI) in WO<sub>3</sub> are not. Choose the correct reason from the options given below:

- (A) Cr (VI) is more stable than Mo (VI) and W (VI)
- (B) Mo (VI) and W (VI) are more stable than Cr (VI)
- (C) Higher oxidation states of heavier members of group-6 of transition series are more stable
- (D) Lower oxidation states of heavier members of group-6 of transition series are more stable

Choose the correct answer from the options given below:

1. (A), and (D) only
2. (A) and (C) only
3. (B) and (C) only
4. (B), and (D) only

Options 1. 1

2. 2
3. 3
4. 4

Q.13 Match List-I with List-II

List-I	List-II
Name of Vitamin	Deficiency disease
(A) Vitamin A	(I) Beri Beri
(B) Vitamin B <sub>1</sub>	(II) Scurvy
(C) Vitamin C	(III) Rickets
(D) Vitamin D	(IV) Xerophthalmia

Choose the correct answer from the options given below:

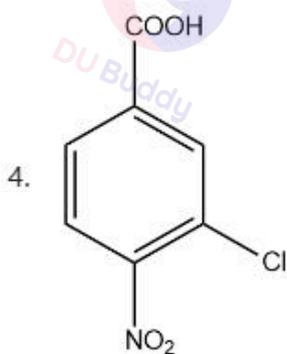
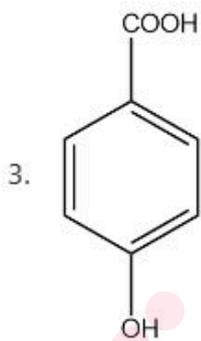
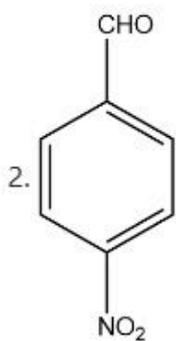
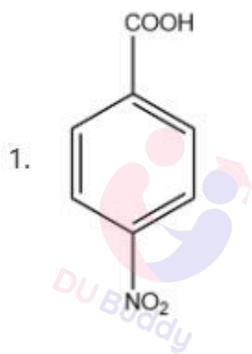
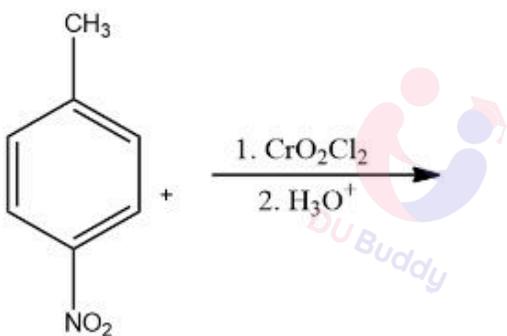
1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options 1. 1

2. 2
3. 3
4. 4



The product in the following chemical reaction is



- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.15** In Henry's law, the partial pressure of gas in the vapor phase is proportional to:

1. Mole fraction of gas in solution
2. Normality of gas in solution
3. Volume of gas in solution
4. Molality of gas in solution

- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.16** Aldehydes and ketones can be prepared by:

- (A) Oxidation of Alcohol
- (B) Dehydrogenation of Alcohol
- (C) Ozonolysis of alkenes
- (D) Hydration of Alkyne

Choose the correct answer from the options given below:

1. (A), (B), and (C) only
2. (A), (B), (C) and (D)
3. (D) and (C) only
4. (D) and (A) only

- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.17** DNA fingerprinting is used for:

- (A) Forensic Laboratories for identification of criminals
- (B) To identify paternity of an individual
- (C) To identify the dead bodies by comparing the DNA of parents or children
- (D) To identify racial groups, to rewrite biological evaluations.

Choose the correct answer from the options given below:

1. (A), (B) and (D) only
2. (A), (B), (C) and (D)
3. (A), (B), and (C) only
4. (B) and (C) only

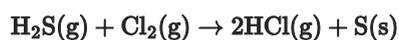
- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.18** The number of moles of potassium dichromate needed to oxidize 3 moles of ferrous ions in acidic medium will be .....

1. 0.5
2. 1.5
3. 2.0
4. 3.0

- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.19** In the reaction below, identify the species undergoing oxidation and reduction.



1. H<sub>2</sub>S is oxidized and Cl<sub>2</sub> is reduced
2. H<sub>2</sub>S and Cl<sub>2</sub> both are reduced
3. Cl<sub>2</sub> and H<sub>2</sub>S both are oxidized
4. H<sub>2</sub>S is reduced and Cl<sub>2</sub> is oxidized

Options 1. 1

2. 2
3. 3
4. 4

Q.20 Match List-I with List-II

List-I List-II

Sugar Example

- (A). Invert Sugar (I). Lactose  
 (B). Milk Sugar (II). Sucrose  
 (C). Dextrose (III). Fructose  
 (D). Ketohexose (IV). Glucose

Choose the correct answer from the options given below:

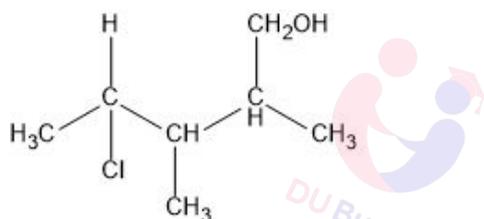
1. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
2. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
3. (A) - (I), (B) - (IV), (C) - (II), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options 1. 1

2. 2
3. 3
4. 4

Q.21

The IUPAC name of the following compound is



1. 4-Chloro-2,3-dimethylpentan-1-ol
2. 2-Chloro-2,3-dimethylpentan-1-ol
3. 4-Chloro-2,3-dimethylpentane
4. 4-Chloro-3,3-dimethylpentan-1-ol

Options 1. 1

2. 2
3. 3
4. 4

Q.22 The molar conductivity of KNO<sub>3</sub>, NaCl and KCl are 111, 128 and 152 S cm<sup>2</sup> mol<sup>-1</sup>, respectively. The molar conductivity of NaNO<sub>3</sub> will be:

1. 101 S cm<sup>2</sup> mol<sup>-1</sup>
2. 391 S cm<sup>2</sup> mol<sup>-1</sup>
3. -391 S cm<sup>2</sup> mol<sup>-1</sup>
4. 87 S cm<sup>2</sup> mol<sup>-1</sup>

Options 1. 1

2. 2
3. 3

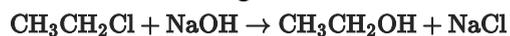
Q.23 The unit of rate constant for -2.5 order reaction is:

1.  $(\text{mol L}^{-1})^{-3/2} \text{ s}^{-1}$
2.  $(\text{mol L}^{-1})^{7/2} \text{ s}^{-1}$
3.  $(\text{mol L}^{-1})^{-7/2} \text{ s}^{-1}$
4.  $(\text{mol L}^{-1})^{3/2} \text{ s}^{-1}$

Options 1. 1

2. 2
3. 3
4. 4

Q.24 The rate law for the given reaction



is given by  $r = k[\text{CH}_3\text{CH}_2\text{Cl}]$ . The rate of reaction will be:

1. Unaffected by doubling the temperature of the reaction.
2. Doubled on doubling the concentration of NaOH
3. Halved on reducing the concentration of NaOH
4. Halved on reducing the concentration of  $\text{CH}_3\text{CH}_2\text{Cl}$  to half.

Options 1. 1

2. 2
3. 3
4. 4

Q.25 Aniline can be distinguished from ethanamine by

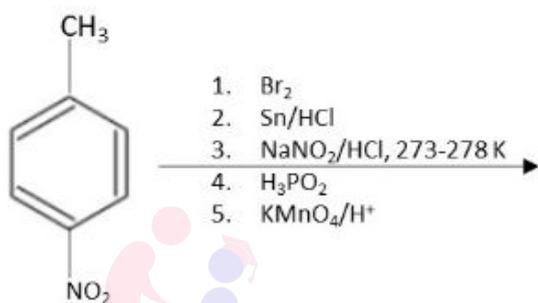
1. Hinsberg's Reagent
2. Isocyanide Test
3. Nitrous acid test
4. Tollen's Test

Options 1. 1

2. 2
3. 3
4. 4

Q.26

In the following reaction, the product A is



A

1. p-Bromobenzoic acid
2. m-Bromobenzoic acid
3. o-Bromobenzoic acid
4. 2,4-Dibromobenzoic acid

Options 1. 1

2. 2
3. 3
4. 4

Q.27 Half life of the zero order reaction is:

1. Directly proportional to the square root of the initial concentration of the reactant
2. Independent of initial concentration of the reactant
3. Inversely proportional to initial concentration of the reactant
4. Directly proportional to initial concentration of the reactant

Options 1. 1

2. 2
3. 3
4. 4

Q.28 Salicylaldehyde can be prepared by treating phenol with

1. CCl<sub>4</sub> in presence of aqueous KOH
2. CO<sub>2</sub> under pressure in the presence of sodium hydroxide solution.
3. NaNO<sub>2</sub> and a few drops of concentrated H<sub>2</sub>SO<sub>4</sub>
4. CHCl<sub>3</sub> in the presence of aqueous NaOH

Options 1. 1

2. 2
3. 3
4. 4

Q.29 Identify the correct statements from the given below:

- (A) Alcohols are less basic than amines.
- (B) Aromatic primary amines can be prepared by Gabriel phthalimide synthesis.
- (C) Primary amines have higher boiling points than tertiary amines.
- (D) Carbylamine test can be used as a test for both primary aliphatic and aromatic amines

Choose the correct answer from the options given below:

1. (A), (C) and (D) only
2. (A), (B) and (C) only
3. (A), (B), (C) and (D)
4. (B), (C) and (D) only.

Options 1. 1

2. 2
3. 3
4. 4

Q.30 Arrange the following compounds in increasing order of their reactivity towards nucleophilic addition reaction:

- (A) Ethanal
- (B) Propanal
- (C) Propanone
- (D) Butanone

Choose the correct answer from the options given below:

1. (D), (C), (B), (A)
2. (A), (B), (C), (D)
3. (D), (C), (A), (B)
4. (A), (B), (D), (C)

Options 1. 1

2. 2
3. 3
4. 4

Q.31 Which of the following does not come under the category of colligative properties?

1. Relative lowering of vapor pressure
2. Osmotic pressure of solution
3. Depression in Freezing point of the solvent
4. Depression in Freezing point of the solute

Options 1. 1

2. 2
3. 3
4. 4

Q.32 Arrange the following amines in increasing order of their basic strength in the gaseous phase



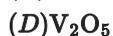
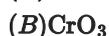
Choose the correct answer from the options given below:

1. (A), (B), (C), (D)
2. (A), (B), (D), (C)
3. (B), (A), (D), (C)
4. (B), (A), (C), (D)

Options 1. 1

2. 2
3. 3
4. 4

Q.33 Arrange the following oxides in decreasing order of oxidation state of the metal ion.



Choose the correct answer from the options given below:

1. (D), (C), (B), (A)
2. (A), (B), (C), (D)
3. (B), (A), (D), (C)
4. (C), (B), (D), (A)

Options 1. 1

2. 2
3. 3
4. 4

Q.34 Arrange the following phenols in the decreasing order of their acidic strength:

(A) Phenol

(B) o-Cresol

(C) o-Nitrophenol

(D) 2,4-Dinitrophenol

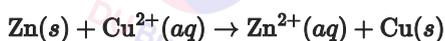
Choose the correct answer from the options given below:

1. (D), (C), (B), (A)
2. (D), (C), (A), (B)
3. (A), (C), (B), (D)
4. (B), (A), (C), (D)

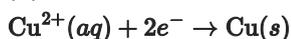
Options 1. 1

2. 2
3. 3
4. 4

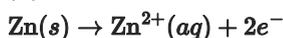
Q.35 Which of the following statements are correct with reference to the following reaction?



(A) The reduction reaction is



(B) The oxidation reaction is



(C) The two half (oxidation and reduction) reactions constitute redox couple.

(D) The given reaction is not a redox reaction.

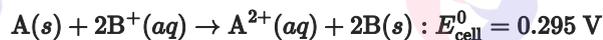
Choose the correct answer from the options given below:

1. (A), (B) and (C) only
2. (A), (B) and (D) only

3. (A), (B), (C) and (D)  
4. (B), (C) and (D) only

- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.36** Consider the following hypothetical redox reaction



The equilibrium constant of the reaction at 298 K will be:

1.  $10^5$   
2.  $10^{10}$   
3.  $10^{-10}$   
4.  $10^{20}$

- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.37** Cu exist as  $\text{Cu}^+$  and  $\text{Cu}^{2+}$  ion. Which of the following statements is correct?

1.  $\text{Cu}^{2+}$  in aqueous solution undergoes disproportionation reaction  
2.  $\text{Cu}^+$  is  $3d^{10}$  and  $\text{Cu}^{2+}$  is  $3d^9$  but  $\text{Cu}^{2+}$  is more stable.  
3. stability of  $\text{Cu}^+$  and  $\text{Cu}^{2+}$  depends on nature of copper salt  
4.  $\text{Cu}^+$  and  $\text{Cu}^{2+}$  are equally stable

- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.38** The osmotic pressure of a solution at  $0^\circ\text{C}$  is 2 atm. What will be its osmotic pressure at 819 K ?

1. 6 atm  
2. 2 atm  
3. 4 atm  
4. 3 atm

- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.39** The rate of a first order reaction is  $0.06 \text{ mol L}^{-1} \text{ s}^{-1}$  after 20 seconds and  $0.03 \text{ mol L}^{-1} \text{ s}^{-1}$  after 30 seconds from the start of the reaction. The half life period of this reaction is

1. 20 s  
2. 30 s  
3. 10 s  
4. 0.30 s

- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.40** Name the reaction when Benzene is treated with ethanoyl chloride in the presence of anhydrous

$\text{AlCl}_3$

1. Friedel Crafts Alkylation  
2. Friedel Crafts Acylation

- 3. Chlorination
- 4. Benzoylation

- Options
- 1. 1
  - 2. 2
  - 3. 3
  - 4. 4

**Q.41** Read the passage carefully and answer the questions

Many halogen containing organic compounds are present in nature and some of them are clinically useful. These classes of organic compounds find a wide range of applications in our daily life as well as in industries. Many of the polyhalogen compounds are useful too in agriculture. However, some of these compounds cannot be easily decomposed and are thus considered to be environmental hazards. These halo compounds are prepared via different synthetic routes where a variety of organic compounds can be used as substrates such as amines, hydrocarbons etc. They are used as solvents for relatively non-polar compounds. These compounds exhibit substitution and elimination reactions, in addition to their reactions with different metals, which leads to the formation of a versatile starting material for others organic compounds.

The reaction of aryl halide with sodium and dry ether is known as

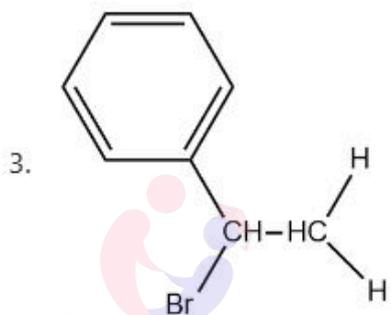
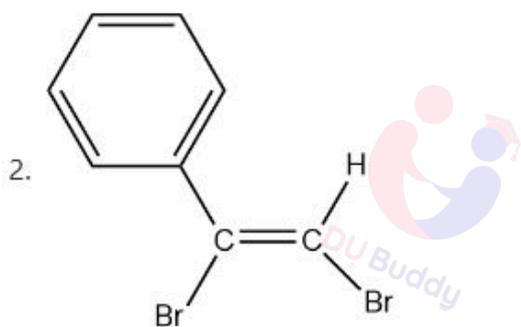
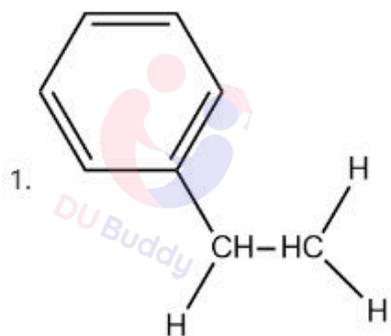
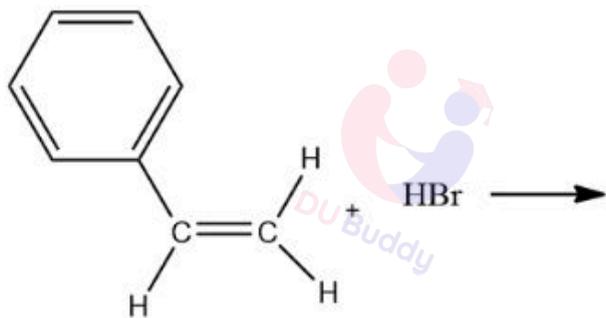
- 1. Fittig Reaction
- 2. Wurtz-Fittig reaction
- 3. Wurtz reaction
- 4. Sandmeyer's reaction

- Options
- 1. 1
  - 2. 2
  - 3. 3
  - 4. 4

**Q.42** Read the passage carefully and answer the questions

Many halogen containing organic compounds are present in nature and some of them are clinically useful. These classes of organic compounds find a wide range of applications in our daily life as well as in industries. Many of the polyhalogen compounds are useful too in agriculture. However, some of these compounds cannot be easily decomposed and are thus considered to be environmental hazards. These halo compounds are prepared via different synthetic routes where a variety of organic compounds can be used as substrates such as amines, hydrocarbons etc. They are used as solvents for relatively non-polar compounds. These compounds exhibit substitution and elimination reactions, in addition to their reactions with different metals, which leads to the formation of a versatile starting material for others organic compounds.

Write the product in the following reaction.



Options 1. 1

2. 2
3. 3
4. 4

**Q.43** Read the passage carefully and answer the questions

Many halogen containing organic compounds are present in nature and some of them are clinically useful. These classes of organic compounds find a wide range of applications in our daily life as well as in industries. Many of the polyhalogen compounds are useful too in agriculture. However, some of these compounds cannot be easily decomposed and are thus considered to be environmental hazards. These halo compounds are prepared via different synthetic routes where a variety of organic compounds can be used as substrates such as amines, hydrocarbons etc. They are used as solvents for relatively non-polar compounds. These compounds exhibit substitution and elimination reactions, in addition to their reactions with different metals, which leads to the formation of a versatile starting material for others organic compounds.

Alkyl halides react with sodium in dry ether and give hydrocarbon containing double the number of carbon atom present in the halides. The reaction is known as:

1. Wurtz Fittig reaction
2. Wurtz Reaction
3. Fittig Reaction
4. Swarts Reaction

Options 1. 1

2. 2
3. 3
4. 4

**Q.44** Read the passage carefully and answer the questions

Many halogen containing organic compounds are present in nature and some of them are clinically useful. These classes of organic compounds find a wide range of applications in our daily life as well as in industries. Many of the polyhalogen compounds are useful too in agriculture. However, some of these compounds cannot be easily decomposed and are thus considered to be environmental hazards. These halo compounds are prepared via different synthetic routes where a variety of organic compounds can be used as substrates such as amines, hydrocarbons etc. They are used as solvents for relatively non-polar compounds. These compounds exhibit substitution and elimination reactions, in addition to their reactions with different metals, which leads to the formation of a versatile starting material for others organic compounds.

Chloroform when slowly oxidized by air in the presence of light releases

1. Methylene chloride
2. Phosgene
3. Chlorofluorocarbon
4. Aerosols

Options 1. 1

2. 2
3. 3
4. 4

**Q.45** Read the passage carefully and answer the questions

Many halogen containing organic compounds are present in nature and some of them are clinically useful. These classes of organic compounds find a wide range of applications in our daily life as well as in industries. Many of the polyhalogen compounds are useful too in agriculture. However, some of these compounds cannot be easily decomposed and are thus considered to be environmental hazards. These halo compounds are prepared via different synthetic routes where a variety of organic compounds can be used as substrates such as amines, hydrocarbons etc. They are used as solvents for relatively non-polar compounds. These compounds exhibit substitution and elimination reactions, in addition to their reactions with different metals, which leads to the formation of a versatile starting material for others organic compounds.

Which halocompound is used for the treatment of malaria?

1. Chloramphenicol
2. Chloroquine

3. Halothane
4. Iodoform

- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.46** Read the passage carefully and answer the questions

The coordination compounds are of great importance. These compounds are widely present in the mineral, plants and animal world and are known to play many important functions in the area of analytical chemistry, metallurgy, biological systems, industry and medicine. For example, coordination compounds find use in many qualitative and quantitative chemical analysis. Some important metal extraction and purification make use of complex formation. Hardness of water can be estimated by stable complex formation of



Impure nickel is converted to which of its complex to be decomposed to yield pure nickel?

1.  $[\text{NiCl}_4]^{2-}$
2.  $[\text{Ni}(\text{CO})_4]$
3.  $[\text{Ni}(\text{NH}_3)_4]$
4.  $[\text{Ni}(\text{en})_3]$

- Options 1. 1  
2. 2  
3. 3  
4. 4

**Q.47** Read the passage carefully and answer the questions

The coordination compounds are of great importance. These compounds are widely present in the mineral, plants and animal world and are known to play many important functions in the area of analytical chemistry, metallurgy, biological systems, industry and medicine. For example, coordination compounds find use in many qualitative and quantitative chemical analysis. Some important metal extraction and purification make use of complex formation. Hardness of water can be estimated by stable complex formation of



In photography undecomposed AgBr is removed as .....

1.  $[\text{Ag}(\text{SCN})_4]^{3-}$
2.  $[\text{Ag}(\text{SO}_4)_2]^{3-}$
3.  $[\text{Ag}(\text{S}_2\text{O}_3)_2]^{3-}$
4.  $[\text{Ag}(\text{CN})_2]^-$

- Options 1. 1  
2. 2  
3. 3  
4. 4

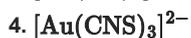
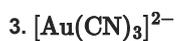
**Q.48** Read the passage carefully and answer the questions

The coordination compounds are of great importance. These compounds are widely present in the mineral, plants and animal world and are known to play many important functions in the area of analytical chemistry, metallurgy, biological systems, industry and medicine. For example, coordination compounds find use in many qualitative and quantitative chemical analysis. Some important metal extraction and purification make use of complex formation. Hardness of water can be estimated by stable complex formation of



From which coordination complex, gold is recovered by reducing this complex with Zn ?

1.  $[\text{Au}(\text{CN})_2]^-$
2.  $[\text{Au}(\text{CN})_4]^{2-}$



Options 1. 1

2. 2

3. 3

4. 4

**Q.49** Read the passage carefully and answer the questions

The coordination compounds are of great importance. These compounds are widely present in the mineral, plants and animal world and are known to play many important functions in the area of analytical chemistry, metallurgy, biological systems, industry and medicine. For example, coordination compounds find use in many qualitative and quantitative chemical analysis. Some important metal extraction and purification make use of complex formation. Hardness of water can be estimated by stable complex formation of



Hardness of water can be estimated by titration with \_\_\_\_\_.

1. sodium salt of  $\alpha$ -nitroso- $\beta$ -naphthol

2. Nickel salt of DMG

3. sodium salt of EDTA

4. copper salt of cupron

Options 1. 1

2. 2

3. 3

4. 4

**Q.50** Read the passage carefully and answer the questions

The coordination compounds are of great importance. These compounds are widely present in the mineral, plants and animal world and are known to play many important functions in the area of analytical chemistry, metallurgy, biological systems, industry and medicine. For example, coordination compounds find use in many qualitative and quantitative chemical analysis. Some important metal extraction and purification make use of complex formation. Hardness of water can be estimated by stable complex formation of



Wilkinson catalyst used for hydrogenation of alkenes is a complex of .....

1. Platinum

2. Nickel

3. Rhodium

4. Mercury

Options 1. 1

2. 2

3. 3

4. 4