



## CHEMISTRY

### BOOKS - NTA MOCK TESTS

#### NTA NEET SET 26

#### Chemistry

1. Metal chloride A is soluble in hot water but insoluble in cold water.

Select correct statement about A. Thus

A. A can give yellow ppt. with  $K_2CrO_4$

B. A can give white ppt with  $K_2SO_4$

C. A can give yellow ppt with KI

D. All of the above are correct statements.

**Answer: D**



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2. Which of the following is wrong statement?

- A. Ozone is violet - black is solid state
- B. Ozone is diamagnetic gas
- C.  $\text{ONCl}$  and  $\text{ONO}^-$  are isoelectronic
- D.  $\text{O}_3$  molecule is bent

Answer: C



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3. Which of the following is correct statement ?

- A.  $\text{F}_2$  has higher dissociation energy than  $\text{Cl}_2$
- B. F has higher electron affinity than Cl
- C.  $\text{HF}$  is stronger acid than  $\text{HCl}$

D. Boiling point increases down the group in halogens

**Answer: D**



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4. Clay is an example of

A. Three dimensional silicates

B. Chain silicates

C. Cyclic silicates

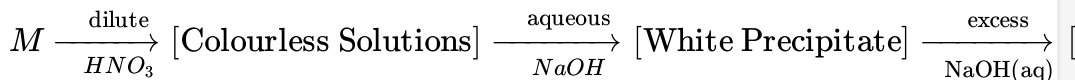
D. Sheet silicates

**Answer: D**



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5. A metal M and its compound can give the following observable changes in a consequence of reactions



A. *Mg*

B. *Pb*

C. *Zn*

D. *Sn*

**Answer: C**



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6. Example for a coordination compound is

A.  $\text{CoCl}_3 \cdot 6\text{NH}_3$

B.  $\text{KCl} \cdot \text{MgCl}_2 \cdot 6\text{H}_2\text{O}$

C.  $\text{FeSO}_4 \cdot 6\text{H}_2\text{O}$



**Answer: A**

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7. The compound which gives oxygen on moderate heating is

A. Cupric oxide

B. Mercuric oxide

C. Zinc oxide

D. Aluminium oxide

**Answer: B**

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8. The order of covalent character of KF, KI, KCl is

A.  $KCl$  It  $KF$  It  $KI$

B.  $KI$  It  $KCl$  It  $KF$

C.  $KF$  It  $KI$  It  $KCl$

D.  $KF$  It  $KCl$  It  $KI$

**Answer: D**



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9. A doctor by mistake administers a  $Ba(NO_3)_2$  solution to a patient for radiography investigations. Which of the following should be given as the best to prevent to adsorption of soluble barium?

A.  $NaCl$

B.  $Na_2SO_4$

C.  $KCl$

D.  $NH_4Cl$

**Answer: B**

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**10. Which are correct match?**

(i) Eka silicon-Be (ii) Eka aluminium -Ga

(iii) Eka manganese-Tc (iv) Eka scandium-B

A. a, b, c

B. a, b

C. a, c

D. b, c

**Answer: B**

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**11. Which of the following statement is incorrect**

A. Silver glance mainly contains silver sulphide

B. Gold is found in native state

C. Zinc blende mainly contain zinc chloride

D. Copper pyrites also contains  $Fe_2S_3$

**Answer: C**

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**12. Which is more basic in character?**

A.  $NaOH$

B.  $KOH$

C.  $RbOH$

D.  $LiOH$

**Answer: C**

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13. The strength in volumes of a solution containing 30.36 g/L of  $H_2O_2$  is  
(Given volume of 1 mole of gas STP = 22.4 litre)

- A. 10 volume
- B. 20 volume
- C. 5 volume
- D. None of these

**Answer: A**

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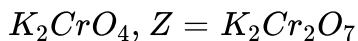
14. For  $(A) + K_2CO_3 + air \xrightarrow{Heat} (B)$

$(B) + Cl_2 \rightarrow (C)$  pink

Which of the following is correct ?

- A. X = black,  $MnO_2$ , Y = Blue,  $K_2CrO_4$ , Z =  $KMnO_4$

B. X = green,  $Cr_2O_3$ , Y = Yellow,



C. X = black,  $MnO_2$ , Y = green,  $K_2MnO_4$ , Z =  $KMnO_4$

D. X = black,  $Bi_2O_3$ , Y = colourless  $KBiO_2$ , Z =  $KBiO_3$

**Answer: C**

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15.  $CrO_4^{2-} \xrightleftharpoons[pH=Y]{pH=X} Cr_2O_7^{-2}$  The pH values of (X) and (Y) are respectively

A. 5, 9

B. 6, 5

C. 8, 6

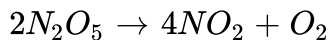
D. 7, 7

**Answer: A**



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16. The rate constant for the reaction



is  $3.0 \times 10^{-5} s^{-1}$ . If the rate is  $2.40 \times 10^{-5} molL^{-1} s^{-1}$ , then the concentration of  $N_2O_5$  (in  $molL^{-1}$ ) is

A. 0.4

B. 0.8

C. 1.2

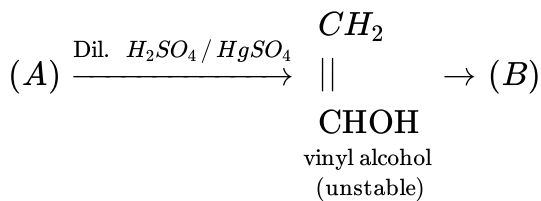
D. 0.6

Answer: B



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17. Identify A and B in the given reaction



- A.  $C_2H_2$  and  $CH_3CHO$
- B.  $CH_2$  and  $HCOOH$
- C.  $C_2H_4$  and  $CH_3COOH$
- D.  $C_2H_2$  and  $CH_3COOH$

**Answer: A**

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18. Primary, secondary and tertiary alcohols can be distinguished by performing

- A. Oxidation method
- B. Lucas test

C. Victor Meyer method

D. All of these

**Answer: D**



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**19.** Among the following, the essential amino acid is :

A. Valine

B. Alanine

C. Serine

D. Aspartic acid

**Answer: A**



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20. Phthalic anhydride on heating with resorcinol in the presence of conc.

$H_2SO_4$  gives :

- A. Phenolphthalein
- B. Coumarin
- C. Fluorescein
- D. Alizarin

**Answer: C**



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21. A colourless organic compound gives brisk effervescence with a mixture of sodium nitrite and dil.  $HCl$ . It could be

- A. Oxalic acid
- B. Acetic acid
- C. Urea

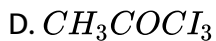
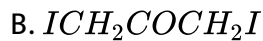
D. Glucose

Answer: C



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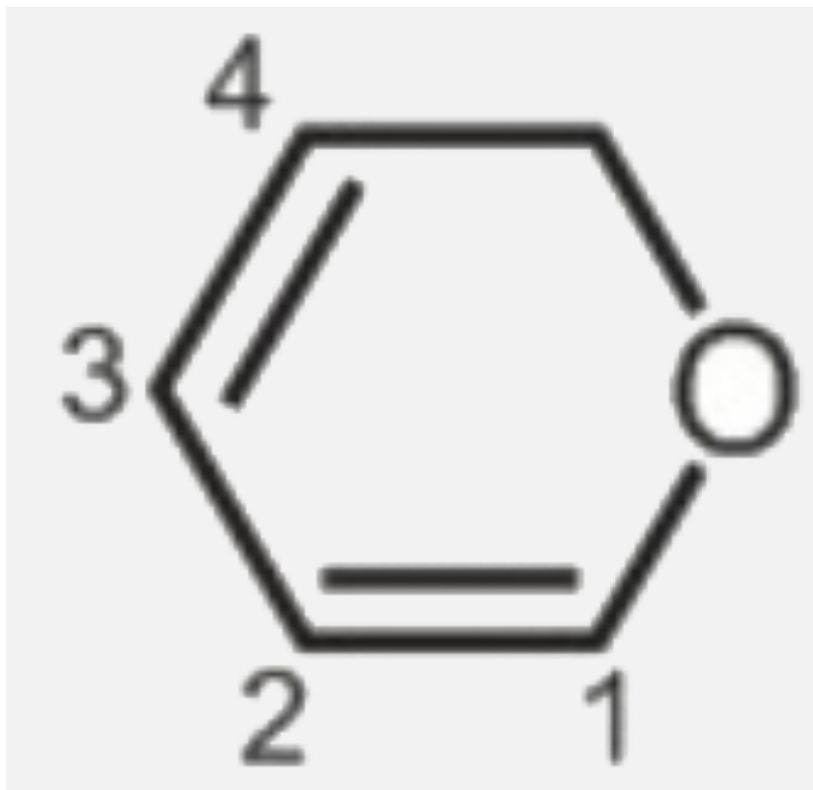
22. Which of the following is not formed in iodoform reaction ?



Answer: B



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23.

In this molecules,  $\pi$  – electron - density is more on

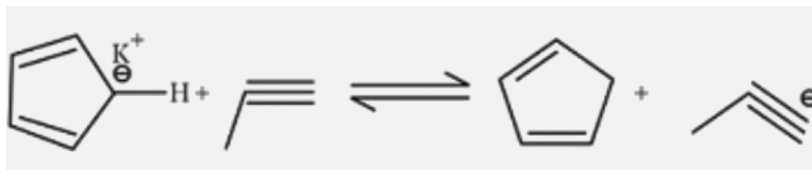
- A. C1 and C3
- B. C2 and C4
- C. C2 and C3
- D. C1 and C4

**Answer: B**



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24. What is true about the following equilibrium ?

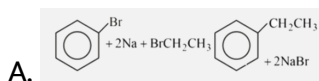


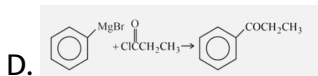
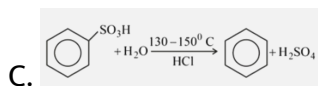
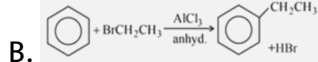
- A. It will be almost completely shifted to left
- B. It will be almost completely shifted to right
- C. The equilibrium constant is very close to one
- D. The equilibrium constant is zero

**Answer: A**

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25. Which of the following is Wurtz-Fitting reaction?





**Answer: A**

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26. Which of the following compounds is oxidised to prepare methyl ethyl ketone?

A. 2 - propanol

B. 1 - butanol

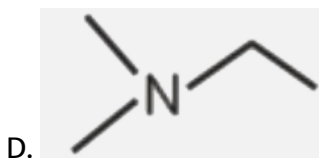
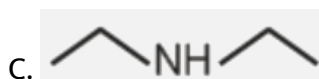
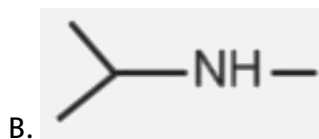
C. 2 - butanol

D. Tert - butyl alcohol

**Answer: C**

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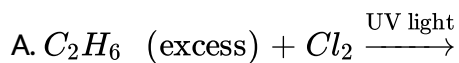
27. Among the following isomeric amines which one is expected to have the lowest boiling point ? .

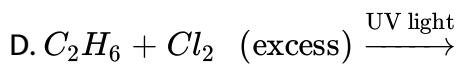
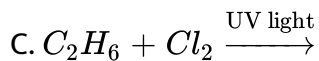
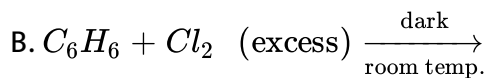


Answer: D

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28. The reaction conditions leading to the best yield of  $C_2H_5Cl$  are

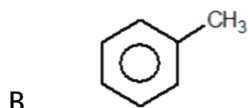
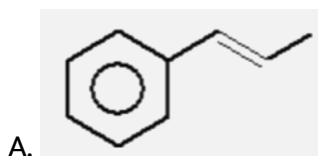


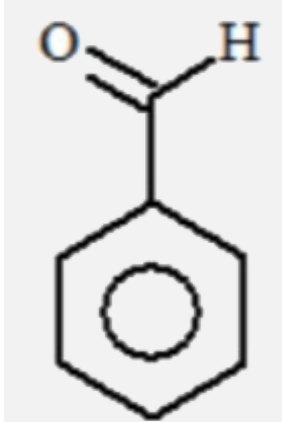


**Answer: A**

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29. Which of the following does not give benzoic acid salt on oxidation with hot alkaline  $KMnO_4$ .





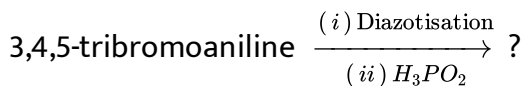
C.

D. All of these

**Answer: D**

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**30.** Identify the product in the following reaction.



A. 3, 4, 5 - Tribromo nitroaniline

B. 1, 2, 3- Tribromobenzene

C. 3, 4, 5 - Tribromophenol

D. 2, 4, 6- Tribromobenzene

**Answer: B**

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**31.** Half life of a reaction becomes half when initial concentrations of reactants are made double. The order of the reaction will be:

A. 1

B. 2

C. 0

D. 3

**Answer: B**

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**32.** In which of the following crystals alternate tetrahedral voids are occupied?

A.  $NaCl$

B.  $ZnS$

C.  $CaF_2$

D.  $Na_2O$

**Answer: B**



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**33.** A gas is heated in such a way that its pressure and volume both become double. Now by decreasing temperature, some of air molecules were introduced into the container to maintain the increased volume and pressure. Assuming  $1/4^{th}$  of the initial number of moles has been given for this purpose. By what fraction of temperature has been raised finally of initial absolute temperature.

A. 4 times

B.  $\frac{16}{5}$  times

C.  $\frac{4}{5}$  times

D.  $\frac{1}{5}$  times

**Answer: B**



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**34.** A mixture of salts was treated to determine the barium content. A 0.230 g sample was dissolved and treated with excess potassium chromate. The precipitate of  $BaCrO_4$  was dissolved in dil HCl to convert  $BaCrO_4$  to  $Cr_2O_7^{2-}$  anion. The solution treated with excess sodium iodide and triiodide produced was titrated with 21 mL of 0.095 M sodium thiosulphate. Calculate the % of  $BaCl_2 \cdot 2H_2O$  in the sample. [Given Molar mass of  $BaCl_2 \cdot 2H_2O = 244$ ]

A. 70.5 %

B. 30.25 %

C. 15.12 %



D. 110 %

**Answer: A**

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**35.** It is more convenient to obtain the molecular weight of an unknown solute by measuring the freezing point depression than by measuring the boiling point elevation because

- A. Freezing point depression is a colligative property whereas boiling point elevation is not.
- B. Freezing point depressions are larger than boiling point elevations for the same solution.
- C. Freezing point depressions are smaller than boiling point elevations for the same solution.
- D. Freezing point depression depends more on the amount of the solute than boiling point elevation.

**Answer: B**

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36. If  $\lambda_0$  and  $\lambda$  be the threshold wavelength and the wavelength of incident light, the speed of photo-electrons ejected from the metal surface is:

A.  $\sqrt{\frac{2hc}{m} \left( \frac{\lambda_0 - \lambda}{\lambda \lambda_0} \right)}$

B.  $\sqrt{\frac{2hc}{m} ((\lambda_0 - \lambda))}$

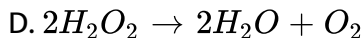
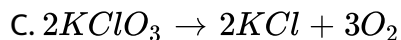
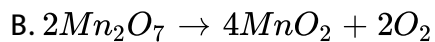
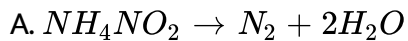
C.  $\sqrt{\frac{2h}{m} (\lambda_0 - \lambda)}$

D.  $\sqrt{\frac{2h}{m} \left( \frac{1}{\lambda_0} - \frac{1}{\lambda} \right)}$

**Answer: A**

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37. Which of the following is not an intramolecular redox reaction?



**Answer: D**



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**38.** Alizarine dye obtained from the root of madder plant is Anthraquinone derivative. Its structure corresponds to -

A. 1, 2- dihydroxy anthraquinone

B. 2, 3- dihydroxy anthraquinone

C. 1, 4- dihydroxy anthraquinone.

D. 1 - hydroxyl anthraquinone.

**Answer: A**

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39. Given that  $E^\circ$  values of  $Ag^+ / Ag$ ,  $K^+ / K$ ,  $Mg^{2+} / Mg$  and  $Cr^{3+} / Cr$  are  $0.08V$ ,  $-2.93V$ ,  $-237V$  and  $-0.74V$  respectively.

Therefore the order for the reducing power of the metal is .

A. Ag gt Cr gt Mg gt K

B. Ag lt Cr lt Mg lt K

C. Ag gt Cr gt K gt Mg

D. Cr gt Ag gt Mg gt K

**Answer: B**

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40. addition of phosphates and nitrates/fertilizers into water leads to

A. Decreased growth of decomposers

- B. Reduced algal growth
- C. Increased Biological Oxygen Demand
- D. Nutrient enrichment (eutrophication)

**Answer: D**

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41. When  $3.06\text{g}$  of solid  $\text{NH}_4\text{HS}$  is introduced into a two-litre evacuated flask at  $27^\circ\text{C}$ ,  $30\%$  of the solid decomposes into gaseous ammonia and hydrogen sulphide. (i) Calculate  $K_c$  and  $K_p$  for the reaction at  $27^\circ\text{C}$ . (ii) What would happen to the equilibrium when more solid  $\text{NH}_4\text{HS}$  is introduced into the flask?

- A.  $8.1 \times 10^{-4}$  and  $3.9 \times 10^{-2}$
- B.  $0.8 \times 10^{-5}$  and  $4.9 \times 10^{-5}$
- C.  $9.1 \times 10^{-3}$  and  $4.9 \times 10^{-3}$
- D.  $8.1 \times 10^{-5}$  and  $4.9 \times 10^{-2}$

**Answer: D**

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42. The  $[H^+]$  of a resulting solution that is 0.01 M acetic acid ( $K_a = 1.8 \times 10^{-5}$ ) and 0.01 M in benzoic acid ( $K_a = 6.3 \times 10^{-5}$ ):

A.  $9 \times 10^{-4}$

B.  $81 \times 10^{-4}$

C.  $9 \times 10^{-5}$

D.  $2.8 \times 10^{-3}$

**Answer: A**

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43. The correct order of molar conductivity at infinite dilution of *LiCl*, *NaCl* and *KCl* is

A.  $LiCl > KCl > NaCl$

B.  $KCl > NaCl > LiCl$

C.  $LiCl > NaCl > KCl$

D.  $NaCl > KCl > LiCl$

**Answer: B**

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44. Equilibrium constant  $K_p$  for the reaction

$CaCO_3(s) \rightleftharpoons CaO(s) + CO_2(g)$  is 0.82 atm at  $727^\circ C$ .

If 1 mole of  $CaCO_3$  is placed in a closed container of 20 L and heated to this temperature, what amount of  $CaCO_3$  would dissociate at equilibrium?

A. 0.2 g

B. 80 g

C. 20 g

D. 50 g

**Answer: C**



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45. For the hypothetical reaction  $A_2(g) + B_2(g) \rightleftharpoons 2AB(g)$

If  $\Delta_r G^\circ$  and  $\Delta_r S^\circ$  are  $20JK^{-1}mol^{-1}$  respectively at 200 K.

$\Delta_r C_p$  is  $20JK^{-1}mol^{-1}$  then  $\Delta_r H^\circ$  at 400K is :

A. 20 kJ/mol

B. 7.98 kJ/mol

C. 28 kJ/mol

D. 16 kJ/mol

**Answer: A**



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