



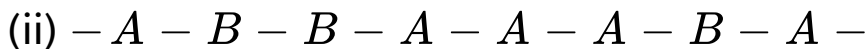
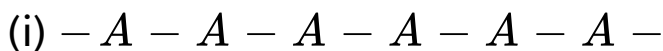
# CHEMISTRY

## BOOKS - NTA MOCK TESTS

### NTA NEET SET 67

#### Chemistry

1. Identify the type of polymer



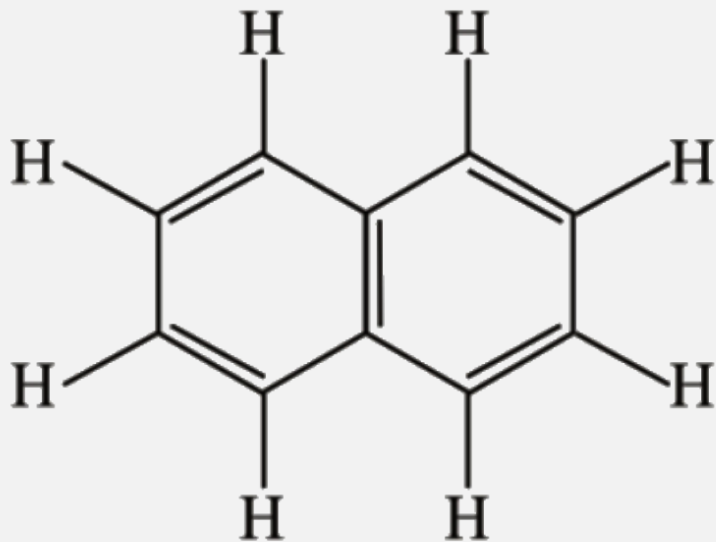
- A. (i) Homopolymer, (ii) Copolymer
- B. (i) Natural polymer, (ii) Synthetic polymer
- C. (i) Linear polymer, (ii) Branched polymer
- D. (i) Fibre , (ii) Elastomer

**Answer: A**



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2. Number of  $\pi$  bonds and  $\sigma$  bonds in the following structure is



A. 6,19

B. 4,20

C. 5,19

D. 5,20

**Answer: C**



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3. If the radius of first Bohr orbit is  $x$  pm, then the radius of the third orbit would be

A.  $(3 \times x)$  pm

B.  $(6 \times x)$  pm

C.  $\left(\frac{1}{2} \times x\right)$  pm

D.  $(9 \times x)$  pm

**Answer: D**



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4. The result of the operation  $2.5 \times 1.25$  should be which of the following on the basis of significant figures?

A. 3.125

B. 3.13

C. 3.1

D. 31.25

**Answer: C**



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5. Which of the following are the examples of non - degradable pollutants ?

I. DDT

II. Nuclear wastes

III. Plastic materials

Select the correct option

A. Both I and II

B. Both II and III

C. I,II and III

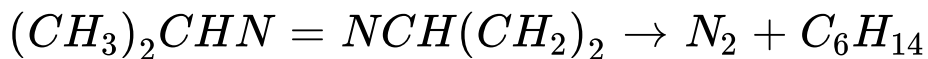
D. Both I and III

**Answer: C**



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6. For a decomposition of azoisopropane at  $270^{\circ}C$  it was found that at  $t = 0$ , the total pressure was found that at  $t = 0$ , total pressure was 33.15 mm of Hg and after 3 minutes the total pressure was found to be 46.3 mm of Hg. Calculate the value of  $K$  for this reaction.



A.  $0.168\text{min}^{-1}$

B.  $0.173\text{min}^{-1}$

C.  $0.18\text{min}^{-1}$

D.  $0.154\text{min}^{-1}$

**Answer: A**



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7. Oxidation numbers of Mn in its compounds

$MnCl_2$ ,  $Mn(OH)_3$ ,  $MnO_2$  and  $KMnO_4$

respectively are:-

A. +2, +4, +7, +3

B. +2, +3, +4, +7

C. +7, +3, +2, +4



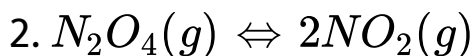
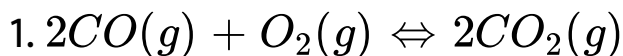
D. + 7, + 4, + 3, + 2

**Answer: B**



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8. What would be the effect of increasing the volume of each of the following system on its equilibrium.



A. 1 in forward and 2 in backward

B. both forward

C. both backward

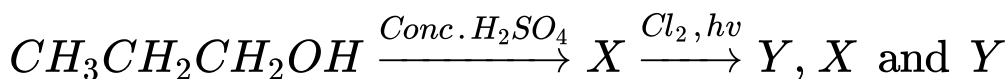
D. 1 is backward and 2 in forward direction

**Answer: D**

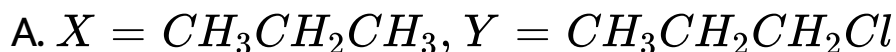


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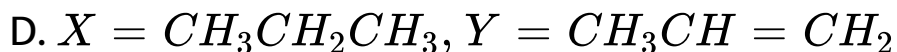
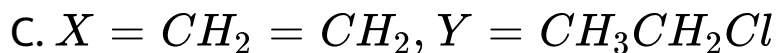
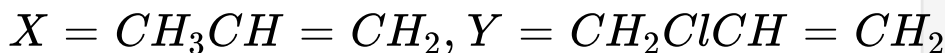
**9.**



are



B.

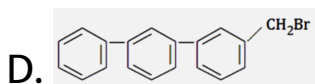
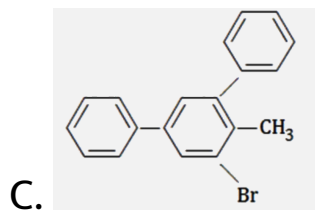
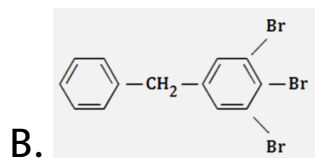
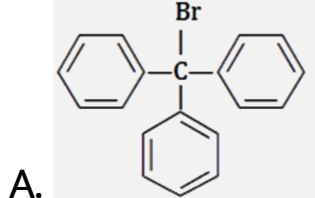


**Answer: B**



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10. The correct structure for triphenylbromomethane is



**Answer: A**



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11. If  $pK_b$  for fluoride ion at  $25^\circ C$  is 10.83, the ionisation constant of hydrofluoric acid in water at this temperature is

A.  $1.74 \times 10^{-5}$

B.  $3.52 \times 10^{-3}$

C.  $6.76 \times 10^{-4}$

D.  $5.38 \times 10^{-2}$

**Answer: C**



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12. Which of the following statements is true about hydrogen bonding?

A. Cl and N have comparable electronegativities

yet there is no H - bonding in HCl because  
size of Cl is large

B. Intermolecular H - bonding results in  
decrease in m.p and b.p.

C. Ice has maximum density at  $0^{\circ}C$  due to H -  
bonding

D.  $KHCl_2(HCl_2^-)$  exists but  $KHF_2(HF_2^-)$   
does not exist due to lack of H - bonding in

HCl

Answer: A



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13. Which of the following expressions represents the value and unit of van der Waals constant  $a$ ?

A.  $a = \frac{V}{n}, \text{Lmol}^{-1}$

B.  $a = \frac{PV}{n}, \text{atmL}^2\text{mol}^{-1}$

C.  $a = \frac{PV^2}{n^2}, \text{atmL}^2\text{mol}^{-2}$

D.  $a = \frac{p}{n}, \text{atmmol}^{-1}$

**Answer: C**



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**14.** What mass of sodium chloride would be decomposed by 9.8 g of sulphuric acid if 12 g of sodium bisulphate and 2.75 g of hydrogen chloride were produced in a reaction?

A. 14.75 g

B. 3.8 g

C. 5.85 g

D. 2.2 g

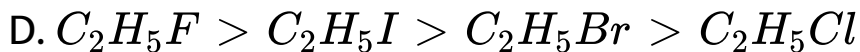
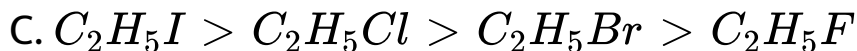
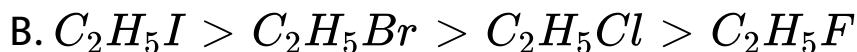
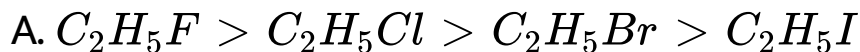
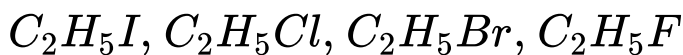


Answer: C



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15. Arrange the following alkyl halides in order of dehydrohalogenation,



**Answer: B**



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**16.** In which of following sets the carbohydrates are reducing sugar

A. glucose , fructose , sucrose ,

B. maltose , lactose , sucrose

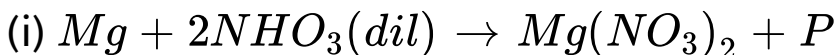
C. cellulose , sucrose , starch

D. maltose , lactose , fructose

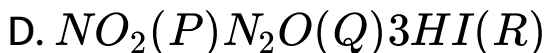
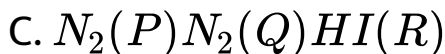
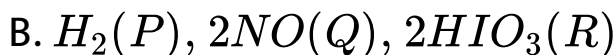
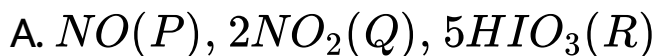
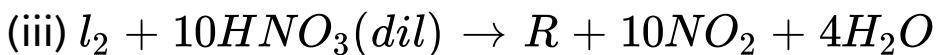
**Answer: D**



17. Complete the given equations



(ii)



**Answer: B**



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**18.** Which of the following cannot be used as a test for  $H_2O_2$  ?

- A. A paper dipped in PbS (black) turns white when brought in contact with  $H_2O_2$
- B. It liberates iodine from KI solution which gives blue colour with starch solution
- C. It gives blue colour with  $K_4[Fe(CN)_6]$

D. It decolourises acidified  $KMnO_4$  solution

**Answer: C**



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**19.** Which of the following statements is/are correct?

(i) In octahedral complexes,  $t_{2g}$  orbitals possess low energy as compared to  $e_g$  orbitals

(ii) In tetrahedral complexes,  $t_2$  orbitals possess high energy as compared to  $e$  orbitals

(iii) In octahedral complexes ,  $e_g$  orbitals possess low energy as compared to  $t_{2g}$  orbitals

A. (ii) only

B. (iii) only

C. (i) and (ii)

D. (i) and (iii)

**Answer: C**



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20. Acetic acid can be halogenated in presence of phosphorus and chloride . Formic acid cannot be halogenated with same way because of

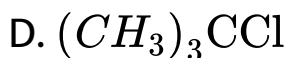
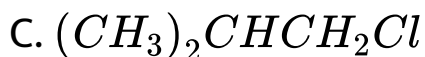
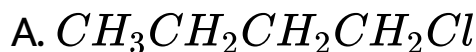
- A. presence of  $\alpha$  - H - atom in formic acid
- B. absence of  $\alpha$  - H - atom in formic acid
- C. absence of  $\alpha$  - H - atom in  $CH_3COOH$
- D. higher acidic strength of acetic acid than formic acid

**Answer: B**



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21. In two separate experiments equal quantities of alkyl halide,  $C_4H_9Cl$ , were treated at the same temperature with equal volume of 0.1 molar and 0.2 molar solutions of NaOH respectively. In the two experiments,  $t_{1/2}$  of the two reaction were the same. The most likely structure of halide is



**Answer: D**





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22. The ionization energies of Li and Na are  $520\text{kJmol}^{-1}$  and  $495\text{kJmol}^{-1}$  respectively. The energy required to convert all the atoms present in 7 mg of Li vapours and 23 mg of sodium vapours to their respective gaseous cations respectively are :

- A. 52 J, 49.5 J
- B. 520 J, 495 J
- C. 49.5 J, 52 J
- D. 495 J, 520 J

**Answer: B**



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**23.** Molar heat capacity of water in equilibrium with ice at constant pressure is

A. negative

B. zero

C. infinity

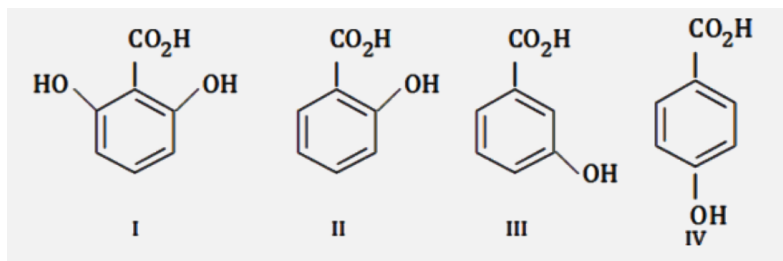
D.  $40.45 \text{ kJ K}^{-1} \text{ mol}^{-1}$

**Answer: C**



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24. The correct order of acidity for the following compound is



A.  $I > II > III > IV$

B.  $III > I > II > IV$

C.  $III > IV > II > I$

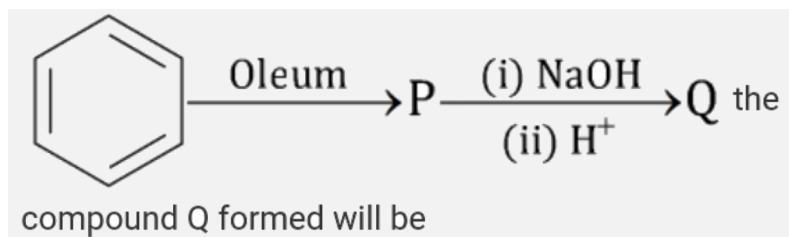
D.  $I > III > IV > II$

Answer: A



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25. In the following sequence of reaction,



compound Q formed will be

A. aniline

B. phenol

C. benzaldehyde

D. benzene sulphonic acid

**Answer: B**



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**26.** The volume of atom present in a face-centred cubic unit cell of a metal ( $r$  is atomic radius ) is

A.  $\frac{12}{3}\pi r^3$

B.  $\frac{16}{3}\pi r^3$

C.  $\frac{20}{3}\pi r^3$

D.  $\frac{24}{3}\pi r^3$

**Answer: B**



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27. Which fo the following statements about zeolites is not correct ?

A. Zeolites are open structures of silica in which trivalent aluminum is substituted by a fraction of silicon atoms

B. Shape selectivity fo zeolites depends upon porous structures of the catalyst

C. Zeolites are synthetic microporous aluminosilicates which do not exist naturally

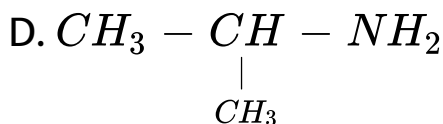
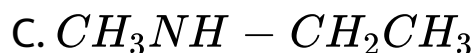
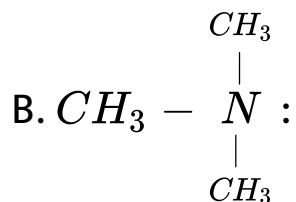
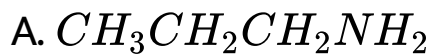
D. Zeolites are aluminosilicates having three dimensional network

**Answer: C**



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**28.** A compound Z with molecular formula  $C_3H_9N$  reacts with  $C_6H_5SO_2Cl$  to give a solid, insoluble in alkali. Identify Z.



**Answer: C**



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**29.** Identify a reagent from the following list which can easily distinguish between 1-butyne and 2-butyne.



A. Bromine water

B. Baeyer's reagent

C. Dilute  $H_2SO_4 + HgSO_4$

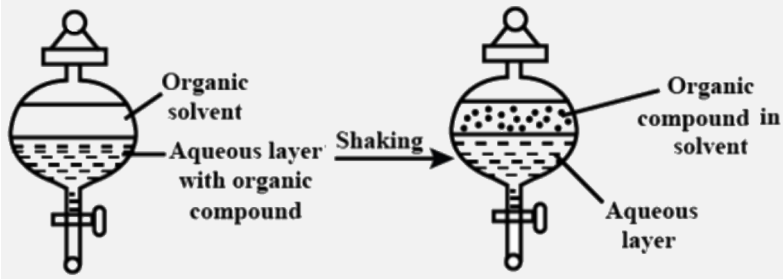
D. Ammoniacal  $Cu_2Cl_2$

**Answer: D**



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30. The process of separation of an organic compound from its aqueous solution by shaking with a suitable is termed . Solvent extraction or differential extraction.



The organic compound present in aqueous layer moves to the organic solvent because

- A. the organic substance is more soluble in the organic solvent
- B. organic compound being lighter moves in the upper layer
- C. organic solvent is insoluble in water hence organic compound moves up

D. form the supersaturated aqueous solution

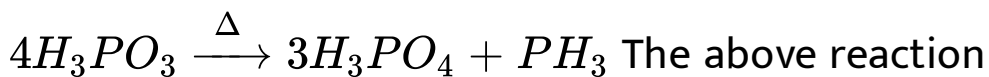
the solute starts diffusing

**Answer: A**



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**31.** Phosphorous acid on heating gives the following products:



is an example of

A. oxidation

B. thermal decomposition

C. disproportionation

D. reduction

**Answer: C**



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**32.** Why is benzene diazonium chloride not stored and is used immediately after its preparation?

A. it slowly evaporates on storage

B. it is very unstable and dissociates to give nitrogen

C. it gets oxidized in air hence cannot be stored

D. it reacts with all the containers which it is stored

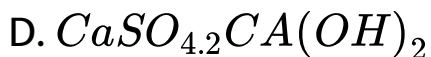
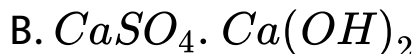
**Answer: B**



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**33.** when plaster of paris comes in contact with water it sets into a hard mass. The composition of

the hard mass is

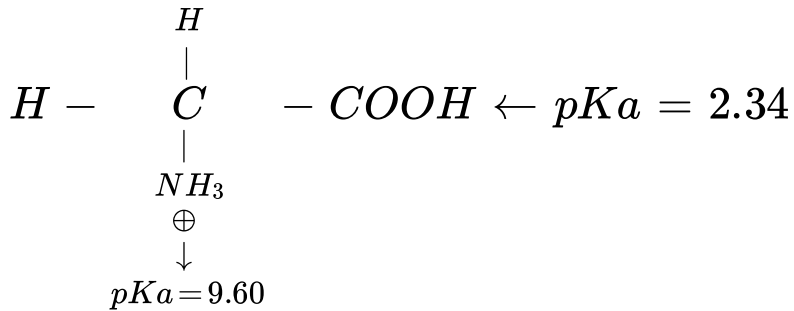


**Answer: C**



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**34.** What is the pI of glycine ? The structure and pKa values are shown below.



A. 2.26

B. 5.97

C. 3.63

D. 11.94

**Answer: B**



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35. The solubility product of AgCl is  $1.8 \times 10^{-10}$ .

Precipitation of AgCl will occur only when equal volumes of solutions of :

A.  $10^{-8} \text{M Ag}^+$  and  $10^{-8} \text{M Cl}^-$  ions

B.  $10^{-3} \text{M Ag}^+$  and  $10^{-3} \text{M Cl}^-$  ions

C.  $10^{-6} \text{M Ag}^+$  and  $10^{-6} \text{M Cl}^-$  ions

D.  $10^{-10} \text{M Ag}^+$  and  $10^{-80} \text{M Cl}^-$  ions

**Answer: B**



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36.  $SbF_5$  reacts with  $XeF_4$  to form an adduct. The shapes of cation and anion in the adduct are respectively :

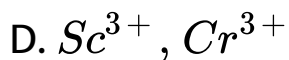
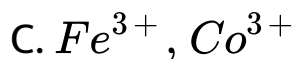
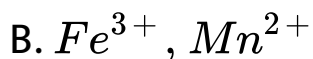
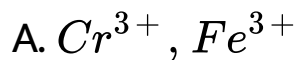
- A. square planar, trigonal bipyramidal
- B. T - shaped , octahedral
- C. square pyramidal , octahedral
- D. square planar, octahedral

**Answer: B**



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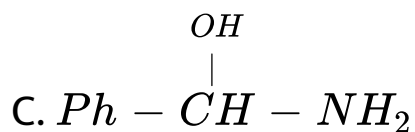
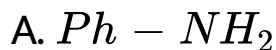
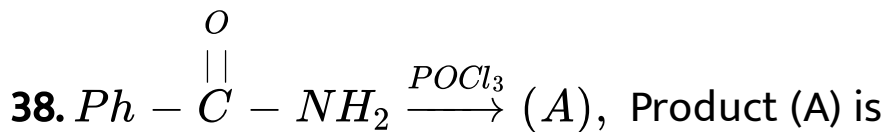
37. Which of the following pairs of ions have the same electronic configuration ?



**Answer: B**



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**Answer: D**



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39. Which of the following is not correctly matched

?

A. Acidic oxides  $P_2O_5$ ,  $NO_2$ ,  $Cl_2O_7$

B. Basic oxides  $Na_2O$ ,  $CaO$ ,  $MgO$

C. Neutral oxides  $CO_2$ ,  $CO$ ,  $BeO$

D. Amphoteric oxides  $ZnO$ ,  $SnO$ ,  $Al_2O_3$

**Answer: C**



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40.  $K_1$  &  $K_2$  for oxalic acid are  $6.5 \times 10^{-2}$  and  $6.1 \times 10^{-5}$  respectively . What will be the  $[OH^-]$  in a  $0.01M$  solution of sodium oxalate

A.  $9.6 \times 10^{-6}$

B.  $1.4 \times 10^{-6}$

C.  $1.28 \times 10^{-6}$

D.  $1.3 \times 10^{-8}$

**Answer: C**



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41. The number of unpaired electrons in  $Ni(CO)_4$  is

A. one

B. two

C. three

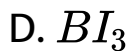
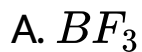
D. zero

**Answer: D**



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42. Which is the strongest Lewis acid?



**Answer: D**



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**43.** Why partial roasting of sulphide ore is done in the metallurgy of copper ?

- A. Auto reduction of  $\text{CuO}$  formed is carried out by remaining  $\text{CuS}$  in the reaction
- B.  $\text{Cu}$  is separated out by partial reduction due to sedimentation
- C. Due to difference in gravity  $\text{CuO}$  and  $\text{CuS}$  are separated
- D. Complete roasting cannot be done in one step hence partial roasting is done

**Answer: A**



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44. If hydrogen and oxygen are mixed and kept in the same vessel at room temperature, the reaction does not take place to form water because

A. activation energy for the reaction is very high at room temperature

B. molecules have no proper orientation to react to form water

C. the frequency of collisions is not high enough for the reaction to take place

D. no catalyst is present in the reaction mixture

**Answer: A**



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**45.** Match the column I with column II and mark the appropriate choice.

Column I

(p) Alitame

(q) Iodoform

(r) Prontosil

(s) Terfenadine

Column II

(i) Antihistamine

(ii) Artificial sweetener

(iii) Antibacterial agent

(iv) Antiseptic

A. (p) – (i), (q) – (ii), (r) – (iv), (s) – (iii)

B. (p) – (ii), (q) – (iv), (r) – (iii), (s) – (i)

C. (p) – (ii), (q) – (i), (r) – (ii), (s) – (iv)

D.  $(p) - (iv), (q) - (iii), (r) - (i), (s) - (ii)$

**Answer: B**



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