CHEMISTRY

BOOKS - NCERT FINGERTIPS CHEMISTRY (HINGLISH)

PRACTICE PAPER -3

Practice Paper 3

1. Which of the following is an addition polymer ?

A. Terylene

B. Bakelite

C. Polyesters

D. Teflon

Answer: D

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2. Which one of the following reactions of xenon compounds is not feasible ?

A. $XeO_3 + 6HF \rightarrow XeF_6 + 3H_2O$

B. $3XeF_4 + 6H_2O \rightarrow 2Xe + XeO_3 + 12HF + 1.5O_2$

C. $2XeF_2 + 2H_2O \rightarrow 2Xe + 4HF + O_2$

D. $XeF_6 + RbF \rightarrow Rb[XeF_7]$

Answer: A

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3. Match of the Column I with column II and mark the appropriate choice.

Column I		Column II	
(A)	Ascorbic acid	(i)	Beri-beri
(B)	Retinol	(ii)	Cracked lips
(C)	Riboflavin	(iii)	Scurvy
(D)	Thiamine	(iv)	Night blindness

A. $A \to ii, B \to iii, C \to ivD \to i$

B. $A \to iii, B \to I, C \to ii, D \to iv$

C. $A \to I, B \to ii, C \to iii, D \to iv$

D. $A \to iii, B \to iv, C \to ii, D \to i$

Answer: D

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4. Four metals and their methods of refinement are given

(i) Ni, Cu,Zr,Ga

(ii) electrolysis, van Arkel process, zone refining , Mond's process

Choose the right method for each.

A. Ni : Electrolysis, Cu : van Arkel process,

Zr : Zone refining , Ga : Mond's process

B. Ni : Mond's process, Cu: Electrolysis ,

Zr : van Arkel process, Ga : Zone refining

C. Ni : Mond's Porcess, Ga : Zone refining

Zr : Zone refining , Ga : Electrolysis

D. Ni : Electrolysis , Cu : Zoe refinig ,

Zr : van Arkel process, Ga : Mond's process

Answer: B

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5. If initial concentration is doubled, the time for half-reaction is also doubled, the order of reaction is

A. zero

B. first

C. second

D. third

Answer: A

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6. Which of the following compounds is found abundantly in nature?

A. Fructose

B. Glucose

C. Starch

D. Cellulose

Answer: D

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7. In the following question, a statement of assertion is followed by a statement of reason . Mark the correct choice.

Assertion : $\left[Cu(NH_3)_4\right]^{2+}$ is coloured while $\left[Cu(CN)_4\right]^{3-}$ is colourless .

Reason : $\left[Cu(NH_3)_4\right]^{2+}$ has dsp^2 hydridisation

A. Both assertion and reason are true and reason is the correct explanation of assertion .

B. Both assertion and reason are true but reason . Is not the correct explanation of assertion.

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

Answer: B

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8. Which base is not present in nucleic acids?

A. Cytosine

B. Adenine

C. Thymine

D. Guanidine

Answer: D

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9. Half-life period of a zero order reaction is

A. Proportional to initial concentrations of reactants

B. independent of initial concentrations of reactants

C. inversely proportional to initial concentrations of reactions

D. inversely proportional to the square of intioal concentrations of reactants .

Answer: A

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10. Types of drugs that mimic that natural messenger by switching on the receptor are called

A. antagonists

B. chemical messengers

C. receptors

D. agonists

Answer: D

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11. Identify 'Z' in the reaction given below:

$$CH_3CHO \xrightarrow[dil.\,H_2SO_4]{MnO_4^-} X \xrightarrow{SOCl_2} Y \xrightarrow{CH_3COONa} Z$$

A. CH_3COCH_2COONa

B. $(CH_3CO)_2O$

C. $CH_3CO-O-COCH_2CI$

D. $CH_3CO-O-COCHCI_2$

Answer: B

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12. White phosphorus when reacts with nitric acid gives

A. $H_4P_2O_6$

B. H_3PO_2

C. H_3PO_4

D. H_3PO_3

Answer: C

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13. In the process of extraction of gold.

Roasted gold ore $+CN^- + H_2O \xrightarrow{O_2} [X] + OH^-$

$[X] + Zn \rightarrow [Y] + Au$

Identify the complexes $[X]$ and $[Y]$.

A. $[Au(CN)_2]^-$, $[Zn(CN)_4]^{2-}$

B. $[Au(CN)_4]^{3-}$, $[Zn(CN)_4]^{2-}$

C. $[Au(CN)_2]^{2-}$, $[Zn(CN)_6]^{4-}$

D. $[Au(CN)_4]^-$. $[Zn(CN)_4]^{2-}$

Answer: A

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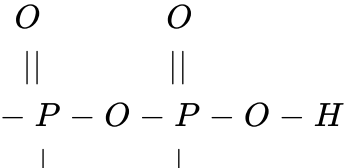
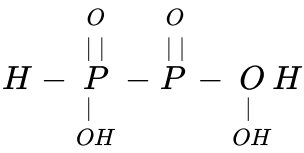
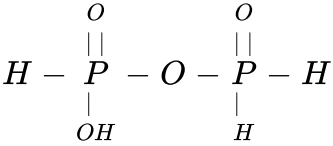
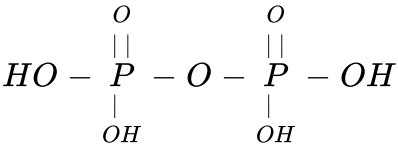
14. Which of the following represents the isopolyacid of phosphorus ?

A. 

B. 

C. 

D. 

Answer: D

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15. In an antiflourite structure, cations occupy

A. octahedral voids

B. centre of cube

C. tetrahedral voids

D. corners of cube

Answer: C

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16. Primary , secondary and tertiary alcohols can be distinguished hy

A. Baeyer's reagent

B. Fehling's solution

C. sulphuric acid

D. Lucas reagent

Answer: D

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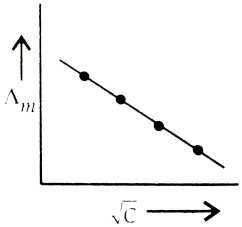
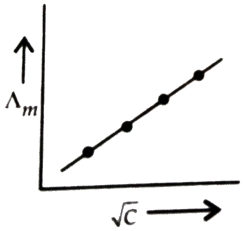
17. Which of the following curve gives the variation of $\Lambda_m \text{with} \sqrt{C}$ for CH_3COOH ?

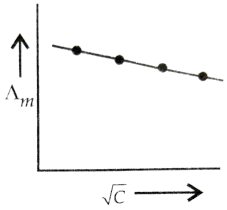
A.



B.



C.



D. None of these

Answer: D

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18. Depression of freezing point of which of the following solutions does represent the cryoscopic constant of water ?

A. 6% by mass of urea in aqueous solution

B. 100 g of aqueous solution containing 18 g of glucose

C. 59 g of aqueous solution containing 9 of glucose

D. 1 M KCI solution in water

Answer: C

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

A. alanine

B. valine

C. proline

D. serine

Answer: B

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20. Match the column I with column II and mark the appropriate choice

Column I		Column II	
(A)	Metalloid	(i)	Selenium
(B)	Radioactive	(ii)	Silver
(C)	Transition	(iii)	Arsenic
(D)	Chalcogen	(iv)	Uranium

A. $A \to I, B \to ii, C \to iii, D \to iv$

B. $A \to iii, B \to iv, C \to ii, D \to i$

C. $A \to iv, B \to ii, C \to iii, D \to i$

D. $A \to ii, B \to iii, C \to iv, D \to i$

Answer: B

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21. The pyrimidine bases present in DNA are

A. cytosine and adenine

B. cytosine and guanine

C. cytosine and thymine

D. cytosine and uracil

Answer: C

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22. When acyl chloride is heated with Na Salt of a carboxylic acid the product is

A. an aldehyde

B. an alkene

C. an anhydride

D. an ester.

Answer: C

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23. Schottky defect is likely to be found in

A. AgI

B. NaCl

C. ZnS

D. ZnO

Answer: B

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24. The cell in which the following reaction occurs :

$2Fe_{aq}^{3+} + 2I_{aq}^{-} \rightarrow 2Fe_{aq}^{2+} + I_{2(s)}\,\text{has}\,E_{\text{cell}}^{o} = 0.236V\,\text{at}\,298K$

The equilibrium constnat of the cell reaction is

A. 6.69×10^{-7}

B. 9.69×10^{-7}

C. 9.69×10^{7}

D. 6.69×10^{7}

Answer: C

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25. The two isomers X and Y with the formula $Cr(H_2O)_5CIBr_2$ were taken for experiment on depression in freezing point. It was found that one mole of X gave depression corresponding to 2 moles of particles and one mole of Y gave depression due to 3 moles of particels . The structural formulae of x and Y respectively are

A. $\left[Cr(H_2O)_5CI\right]Br_2,\ \left[Cr(H_2O)_4Br_2\right]CI.\ H_2O$

B. $\left[Cr(H_2O)_5CI\right]Br_2,\ \left[Cr(H_2O)_3CIBr_2\right].2H_2O$

C. $\left[Cr(H_2O)_5Br\right]BrCI,\ \left[Cr(H_2O)_4CIBr\right]Br.\ H_2O$

D. $\left[Cr(H_2O)_4Br_2\right]CI.\ H_2O,\ \left[Cr(H_2O)_5CI\right]Br_2$

Answer: D

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26. A glucose solution is to be injected into the blood stream. It must have the same....as the blood stream

A. molarity

B. vapous pressure

C. osmotic pressure

D. viscosity

Answer: C

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27. Which of the following has highest boiling point ?

A. Benzene,

B. Phenol

C. Toluene

D. Ethylbenzene

Answer: B

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28. The correct order of equivalent conductance at infinite dilution of LiCI, NaCI and KCI is

A. LiCI gt NaCI gt KCI

B. KCI gt NaCI gt LiCI

C. NaCI gt KCI gt LiCI

D. LiCI gt KCI gt NaCI

Answer: B

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29. Match the defects gives in column I with statements given in column II and mark the appropriate choice.

Column I		Column II	
(A)	Simple vacancy defect	(i)	shown by non-ionic solids and increases the density of the solid.
(B)	Simple interstitial defect	(ii)	shown by ionic solids and decreases the density of the solid.
(C)	Frenkel defect	(iii)	shown by non-ionic solids and decreases the density of the solid.
(D)	Schottky defect	(iv)	shown by ionic solids and density of the solid remains the same.

A. $A \to iv, B \to iii, C \to ii, D \to i$

B. $A \to iii, B \to iv, C \to I, D \to ii$

C. $A \to iii, B \to I, C \to iv, D \to ii$

D. $A \to I, B \to iii, C \to iv, D \to ii$

Answer: C

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30. IUPAC name of $K_3\left[Fe(C_2O_4)_3\right]$ is

A. potassium trioxalatoferrate (I)

B. potassium tetraoxalatoferrate (III)

C. Potassium trioxalatoferrate (III)

D. Potassium trioxalatoferrate (II)

Answer: C

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31. Dyeting of fibre involves the process of

A. adsorption

B. absorption

C. sorption

D. all of these

Answer: D

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32. The time for 90% of a first order reaction to complete is approximately

A. 1.1 times that of half-life

B. 2.2 times that of half- life

C. 3.3 times that of half-life

D. 4.4 times that of half-life.

Answer: C

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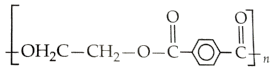
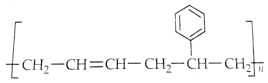
33. In which of the following polymers ethylene gylcol is one of the monomer units?

A. 

B. $\left(- \ - CH_2 - CH_2 - \ - \right)_n$

C. 

D.

$$\left[- \ - O - \underset{\underset{CH_3}{|}}{C}H - CH_2 - \underset{\underset{O}{||}}{C} - O - \underset{\underset{CH_2CH_3}{|}}{C}H - CH_2 - \underset{\underset{O}{||}}{C} - \ - \right]_n$$

Answer: A

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34. Which one of the following statements is incorrect ?

A. Specific conductivity decreases with dilution ,.

B. Equivalent and molar conducities increases with dilution .

C. Λ_m° for a weak electrolyte cannot be found by extrapolation of Λ_m to zero concentration .

D. Molar conductivity of a strong electrolyte increases with dilution because ionization

Answer: D

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35. Pick up to correct statement .

A. Boiling points of alkly halides are greater than those of the corresponding alkanes.

B. In water , the soluubility decreases as

$CH_3OH > C_2H_5OH > C_6H_5OH$

C. Aniline is a weaker base than ammonia.

D. All of the these

Answer: D

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36. How many p =O bonds and P - OH bonds (respectively)are present in orthophosphoric acid ?

A. 2,1

B. 3,3

C. 1,3

D. 4,3

Answer: C

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37. When phenol is treated with Br_2-water, the product is

A. o- and p - bromophenol

B. 2,3,4 -tribromophenol

C. 2,4,6- tribromophenol

D. none of these

Answer: C

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38. Match the column I with column II and mark the appropriate choice .

Column I		Column II	
(A)	Methanol	(i)	Conversion of phenol to *o*-hydroxybenzoic acid
(B)	Kolbe's reaction	(ii)	Heated copper at 573 K
(C)	Williamson's synthesis	(iii)	Wood spirit
(D)	Conversion of 2° alcohol to ketone	(iv)	Reaction of alkyl halide with sodium alkoxide

A. $A \to iii, B \to iv, C \to I, D \to ii$

B. $A \to iii, B \to I, C \to iv, D \to ii$

C. $A \to ii, B \to iii, C \to I, D \to iv$

D. $A \to iv, B \to I, C \to iii, D \to ii$

Answer: B

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39. Which of the following reaction will not give primary amine ?

A. $CH_3CONH_2 \xrightarrow{Br_2 / KOH}$

B. $CH_3CN \xrightarrow{LiAlH_4}$

C. $CH_3NC \xrightarrow{LiAlH_4}$

D. $CH_3CONH_2 \xrightarrow{LiAlH_4}$

Answer: C

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40. In the following question, a statement of assertion is followed by a statement of reason. Mark the correct choice.

Assertion : Square planar complexes do not show optical isomerism.

Reason : Optional isomerism is due to the absence of elements of symmetry .

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true but reason is not the correct explanation of assertion .

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

Answer: B

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41. Which of the following is not a colloid ?

A. Foam

B. Cloud

C. Rooh Afza syrup

D. Egg

Answer: C

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42. Which of the following is not a natural polymer ?

A. Starch

B. Nucleic acid

C. Polystryrene

D. Protein

Answer: C

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43. 45 g of ethylene glycol $(C_2H_6O_2)$ is mixed with 600 g of water. The freezing point of the solution is (K_f for water is 1.86 K kg mol^{-1})

A. 273.95 K

B. 270.95 K

C. 370 . 95 K

D. 373.95 K

Answer: B

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44. Which of the following pairs of compounds is expected to exhibit same colour in aqueous solution ?

A. $FeCI_2, CuCI_2$

B. $VOCI_2, CuCI_2$

C. $VOCI_2, FeCI_2$

D. $FeCI_2, MnCI_2$

Answer: B

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45. A solid has a $b.c.c.$ structure . If the distance of closest approach between the two atoms is 1.73Å. The edge length of the cell is :

A. 199 pm

B. $\sqrt{3/2}$ pm

C. 142.2 pm

D. $\sqrt{2}$ pm

Answer: A

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46. Which of the following statement is incorrect ?

A. XeF_2 is a powerful reducing agent .

B. XeF_2 is obtained by the direct reaction between Fe_2 and Xe at high pressure.

C. XeF_2 undergoes alkaline hydrolysis to give O_2 and Xe

D. XeF_2 contains two bond pairs and three lone pairs.

Answer: A

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47. 1% aqueous solution of $Ca(NO_3)_2$ has freezing point

A. $0^\circ C$

B. less than $0^\circ C$

C. $1^\circ C$

D. $2^\circ C$

Answer: B

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48. XeF_4 reacts violently with water to give

A. $Xe + O_2$

B. $XeO_3 + O_2 + HF$

C. $Xe + O_2 + HF + XeO_3$

D. $XeOF_4$

Answer: C

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49. Pick up the correct statement

A. Boiling points of alkly halides are greater than those of the corresponding alkanes.

B. In water , the soluubility decreases as

$CH_3OH > C_2H_5OH > C_6H_5OH$

C. Aniline is a weaker base than ammonia.

D. All of the these

Answer: D

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50. Which of the following has highest coagulating power for As_2S_3 sol ?

A. SO_4^{2-}

B. AI^{3+}

C. PO_4^{3-}

D. K^+

Answer: B

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