CHEMISTRY

BOOKS - UNITED BOOK HOUSE

SET-9

Exercise

1. The packing efficiency in case of a simple cubic lattice is.

A. 0.26

B. 0.48

C. 0.32

D. 0.52

Answer:

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2. The mass of Cu deposited by a current of 2 amp for 425 seconds from a solution of $CuSO_4$ is (At. Wt. of Cu = 64).

A. 6.4 g

B. 64/4825

C. 64/9650

D. 3.2 g

Answer:

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3. Milk is.

A. fat dispersed in water

B. Water dispersed in fat

C. Water dispersed in protein

D. Fat dispersed in fat

Answer:

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4. Sulphur dioxide can behave as:

A. an oxidising agent

B. a reducing agent

C. both of these

D. none of these

Answer:

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5. Which one of the following is paramagnetic in nature.

A. Sc^{3+}

B. Cu^{+}

C. Fe^{2+}

D. Zn^{2+}

Answer:

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6. The co-ordination number of the central metal ion is 6 in.

A. $\left[Ni(NH_3)_6\right]^{2+}$

B. $\left[CO(Cu)_3\right]^{2+}$

C. $\left[Fe(C_2H_4)_3\right]^{3-}$

D. All these

Answer:

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7. In the reaction, 2-Methoxy-2-methyl propane + HI $\rightarrow$ B, B is.

A. terbutyl iodide

B. 2-iodobutane

C. osobutyliodide

D. secbutyl iodide

Answer:

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8. Lucus reagent simultaneously in the presence of 50% NaOH.

A. $(CH_3)_3C.OH$

B. CH_3CH_2OH

C. $(CH_3)_2CHOH$

D. CH_3OH

Answer:

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9. Which one of the following undergoes oxidation & reduction siumultaneously in the presence of 50% NaOH.

A. Acetaldehyde

B. Acetone

C. Benzaldehyde

D. Benzoic acid

Answer:

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10. If diazotisation of aniline is carried out above 278 K, the product is.

A. Phenol

B. benzenediazonium salt

C. diazoaminobenzene

D. none of these

Answer:

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11. Glucose & fructose are.

A. Optical isomers

B. geometrical isomers

C. enantioners

D. functional isomers

Answer:

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12. Valcanisation of rubber is done by heating natural rubber with.

A. S

B. SF_6

C. any of these

D. none of these

Answer:

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13. The sleep inducing drug is called.

A. angalgesic

B. tranquilizer

C. antipyretic

D. antiseptic

Answer:

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14. Commonly used antioxidant is/are.

A. BHT

B. SO_2

C. both of these

D. none of these

Answer:

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15. Why does the conductivity of an electrolytic solution decrease with dilution?

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16. How do size of particles of adsorbent, pressure of gas and prevailing temperature influence the extent of adsorption of gas on a solid

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17. Write the general outer electronic configuration of f block elements.

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18. Cu^+ ion is colourless. Why?

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19. What is the chemical nature of common antacids?

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20. What is an antiseptic?

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21. A solution of 2.44×10^{-3} kg of a nonelectrolyte solute dissolved in 0.075 kg of water boiled at $100.413^{\circ}C$. Calculate the molecular mass of the solute. K_b for water = $0.52 K kg mol^{-1}$

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22. Calculate the osmotic pressure of a 10%. Solution of glucose at $18^{\circ}C$. R = 0.082 lit atm K^{-1}

mol^{-1}.

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23. Write the differences between colloidal solution & true solution.

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24. Explain the effect of addition of an electrolyte to a sol.

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25. Explain the dhydrating nature of concentrated H_2SO_4 with chemical equation.

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26. What happens when Cl_2 gas is passed through hot and concentrated NaOH solution?

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27. Give the IUPAC name of the complex: $\left[Ag(NH_3)_2\right]Cl.$

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28. Calculate the oxidation state of the central metal of the complex $\left[Ni(CN)_4\right]^{2-}$

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29. What are nylons? How is nylon-6, 6 prepared?

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30. What is packing efficiency? How can it be calculated for a bcc lattice?

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31. Define molal elevation constant.

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32. A solution contains 5.6 gm of glucose in 1000 gm of water. Calculate the boiling point of the solution. (k_b for water = $0.52 K kg mol^{-1}$)

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33. Define Van't Hot Factor.

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34. Calculate the amount of ice that will separate out on cooling a solution containing 50g ethylene glycol in 200g water to $-9.3^{\circ}C$.(k_f for water = $1.86Kkgmol^{-1}$)

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35. Define specific conductance. Mention its Unit.

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36. What is cell constant?

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37. What is the unit of electro-chemical equivalent?

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38. Establish a relationship between electro chemical equivalent & chemical equivalent of an element.

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39. Differentiate between the following: Calcination and roasting

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40. What is slag?

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41. Write the principle of self reduction press with an example?

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42. What is anode mud?

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43. Why do transition elements have a greater tendency to form co-ordinate compounds?

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44. Write the electronic configuration of copper.

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45. Write the general outer electronic configuration of f block elements.

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46. Calculate the magnetic moment of Fe^{3+} ion.

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47. What is mischmetal?

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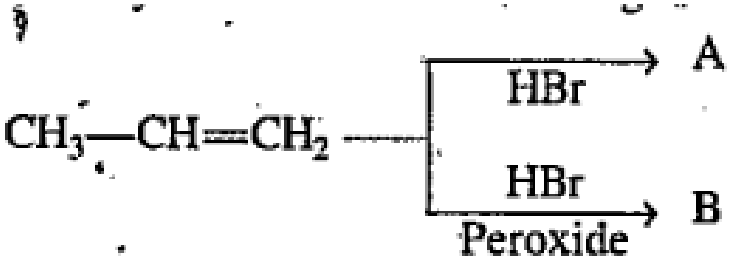
48. Identify A & B in the following:



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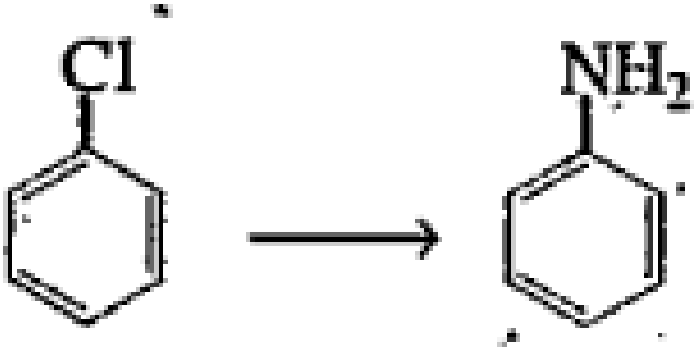
49. Carry out the conversion:



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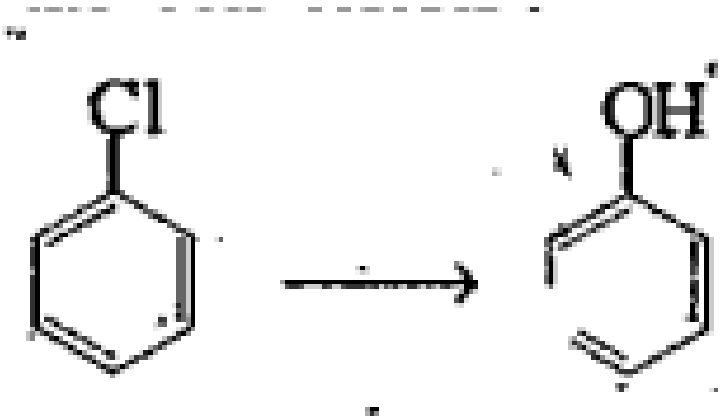
50. Carry out the conversion:



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51. Write down the mechanism of alkaline hydrolysis of tertiary butly bromide?

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52. How can you prepare t-butyl alcohol using CH_3MgBr?

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53. How can you introduce -OH gr into benzene ring?

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54. How can you prepare primary amine by Hoffmann degradation reaction?

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55. Aniline does not respond to Friedel craft reaction. Why?

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56. Give the name of monomer of proteins.

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57. Write down the zwitterion structure of glycine.

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58. What is called peptide bond?

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59. Define instantaneous rate & activation energy.

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60. Differentiate between molecularity and order.

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61. Write the unit of constant of nth order reaction.

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62. Show that half life period of a first order reaction is independent of the initial concentration of the reactant.

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63. Calculate the rate constant for a first order reaction if 90% of the reactant is converted to product in 100 minutes.

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64. What happens when write with balanced equation IF_7 is hydrolysed?

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65. Fluorine has anomalous behaviour as compared to other halogens why?

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66. Write the structure of sulphurous acid.

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67. How can you introduce -CHO group into benzene ring?

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68. Carry out the conversion:

$$CH_3 - C \equiv CH \rightarrow CH_3 - \underset{\underset{O}{||}}{C} - CH_3$$

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69. How can you distinguish between HCOOH & CH_3COOH by a chemical test?

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70. Identify A, B, C and give IUPAC name of each:

$$(CH_3COO)_2Ca + (HCOO)_2Ca \xrightarrow[distillation]{Dry} A + B + C$$

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71. How can you distinguish between CH_3CHO and $CH_3 - COCH_3$ by a chemical test?

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