



CHEMISTRY

BOOKS - SHARAM PUBLICATION

SOLVED PAPER 2

Exercise

1. The compound, which is added to soap to impart antiseptic properties is

- A. Sodium lauryl sulphate
- B. Sodium dodecyl benzene sulphonate
- C. rosin
- D. bithional

Answer:



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2. The ease of dehydrohalogenation of alkyl halides with alc KOH is

A. $3^\circ < 2^\circ < 1^\circ$

B. $3^\circ > 2^\circ > 1^\circ$

C. $3^\circ < 2^\circ > 1^\circ$

D. $3^\circ > 2^\circ < 1^\circ$

Answer:



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3. The boiling point of ethyl alcohol is much higher than that of dimethyl ether, though both have the same molecular weight. The reason for this is :

A. Ether is insoluble in water

B. Ethyl groups are attached to oxygen in ether

C. Dipole moment of ethyl alcohol is less

D. There is H-bonding in ethyl alcohol

Answer:

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4. Sulphide ores are common for the metals

A. *Ag, Cu, Pb*

B. *Ag, Cu, Sn*

C. *Ag, Mg, Pb*

D. *Al, Cu, Pb*

Answer:

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5. For a first order reaction time required for 99.9% completion of the reaction is

- A. 10 times than that required for completion of half of the reaction
- B. 100 times than that required for completion of 2/3rd of reaction
- C. 10 times than that required for completion of 1/4th of reaction
- D. 20 times than that required for completion of half of the reaction

Answer:



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6. The cleaning action of soap is due to

- A. Viscosity of water
- B. Surface tension of water
- C. Polarity of water
- D. High b.p of water

Answer:

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7. Structurally a biodegradable detergent should contain a :

- A. normal alkyl group
- B. branched alkyl chain
- C. Phenyl side chain
- D. Cyclohexyl side chain

Answer:

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8. Which inert gas is used in Magnetic Resonance Imaging (MRI) systems for clinical diagnosis ?

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9. Which alkali is used in Cannizarro's reaction?

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10. What is the electronic configuration of first row transition elements?

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11. Write four uses of Helium.

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12. Write two factors which influence the solubility of solid in a liquid .

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13. What is an electrochemical cell?

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14. Which compound is obtained when sulphuric acid is added to sugar?

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15. Ionic solids conduct electricity in molten state but not in solid state.

Explain.

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16. Vapour pressure of water at 293K is 17.51mm . Lowering of vapour pressure of a sugar solution is 0.0614mm . . Calculate relative lowering of vapour pressure and vapour pressure of solution.

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17. Arrange the following acids in their increasing order of acidity with reasons.



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18. Buna-N and buna-s.

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19. What are the ambidentate ligands ? Give examples.

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20. What is the action of SO_2 with quick lime?

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21. 0.5 N solution of an electrolyte placed between two platinum electrodes 2.0 cm apart and area of cross section 4.0 sq. cm has a resistance of 250 ohm . Calculate the equivalent conductance of the solution.

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22. What happens when chlorobenzene undergoes Friedel Craft's alkylation.

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23. What happen when iodine reacts with *ConC. HNO₃* ?





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24. What happens when acetone is treated with $NaHSO_3$?



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25. Explain the action of nitrous acid on primary, secondary and tertiary amines. How aniline differs from methyl amine in its reaction with nitrous acid?



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26. Discuss the effect of pressure on solubility of gases in liquid.



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27. Write a note on interhalogen compounds.



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28. Distinguish between the terms homopolymer and copolymer. Give one example of each.

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29. Give an example of Van Arkel method of refining.

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30. Define specific conductance and molar conductance. Give their unit. What is the relation between them?

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31. The compounds of first row transition elements are usually coloured but not that of Zinc. Explain with reason.



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32. Give a chemical test to distinguish between ethyl amine and aniline,



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33. Distinguish between lyophilic and lyophobic colloids.



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34. What do u mean by packing efficiency? Calculate the packing efficiency in a simple cubic cell.



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35. What is the difference between Schottky defect and Frenkel defect.



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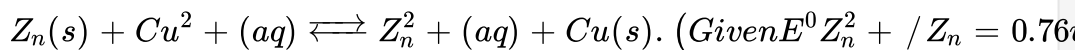
36. For the Daniel Cell derive the relation

$$E_{cell} = E_{cell}^0 - \frac{0.0591}{2} \frac{\log[Zn^{2+} + (aq)]}{Cu^{2+} + (aq)}$$

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37. Calculate the standard free energy change of the reaction taking place

in the cell



and $E^0_{Cu^{2+} / Cu} = +0.34V, F = 96500$)

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38. Discuss Haber's process of manufacture of NH_3

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39. What happens when

NH_3 is passed through $CuSO_4$ solution ?

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40. What happens when NH_3 is passed over molten sodium ?

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41. Give a method of distinction of 1° , 2° and 3° alcohol.

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42. What happens when ethyl alcohol is treated with Conc. H_2SO_4 at $160 - 170^\circ C$ and write the mechanism of this reaction.

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43. what happens when

aniline is treated with $CHCl_3$ and alc. KOH.



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44. Give a method of preparation of aniline from benzamide, what happens when

Conc. H_2SO_4 at 455-475K.



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45. Between CH_3NH_2 and $C_6H_5NH_2$ which is more basic and why?



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