

CHEMISTRY

BOOKS - SHARAM PUBLICATION

SET - 20

Exercise

1. What is the name of the chemical that causes allergy?



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2. When aldehydes and ketones are reduced by heating them with hydrazine and KOH in ethylene glycol corresponding hydrocarbons are formed. What is the name of this reaction?



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3. Name one ionic solid, which shows both Frenkel defect and Schottky defects.



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4. When $CuSO_4$ solution is electrolysed using platinum electrode, _____ gas is liberated at the anode.



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5. What is the sign of ΔH , when activation energy of a backward reaction is more than that of the forward reaction?



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6. Among halogens, which one is the strongest oxidising agent.



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7. Write the IUPAC name of



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8. The depression in freezing point for 1M urea

1M glucose and 1M NaCl are in the ratio

A. 1 : 2 : 3

B. 3 : 2 : 2

C. 1 : 1 : 2

D. None of these

Answer:



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9. Which inert gas is used as cryogenic agent for carrying out various experiments at low temperature?

A. Ne

B. Ar

C. He

D. Kr

Answer:



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10. When dispersed phase is solid and dispersion medium in gas the colloidal system is called

A. Foam

B. Sol

C. Solid Sol

D. Aerosol

Answer:



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11. The number of unpaired electrons in gaseous species of Mn^{2+} , Cr^{3+} and V^{2+} respectively are

A. 4, 3 and 2

B. 4, 3 and 1

C. 3, 3 and 2

D. 5, 3 and 3

Answer:



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12. The addition of HBr gives the same product in the presence or absence of peroxide when the alkene is

A. But-1-ene

B. 2-methyl propene

C. Propene

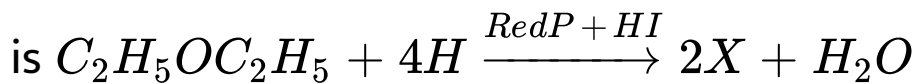
D. But-2-ene

Answer:



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13. In the following reaction, the compound X



A. Ethane

B. Ethyne

C. Butane

D. Prop-2-ene

Answer:



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14. Which of the following is a copolymer formed by condensation polymerization?

A. Terylene

B. Buna-S

C. Buna-N

D. Neoprene

Answer:



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15. What is Sandmeyer's reaction? Give an example.



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16. What are analgesics? Give two examples.



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17. What happens when ethyl amine is treated with $CHCl_3$ and alcoholic KOH solution?



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18. Calculate the number of lattice points in one unit cell of face centred cubic and body centred cubic arrangement.



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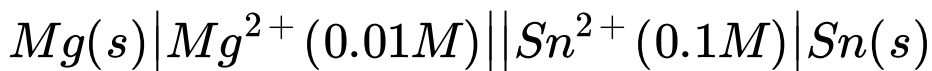
19. When 1.3 g of a solute is dissolved in 169 g of water the boiling point of the solution is $100.025^{\circ}C$ at one atmospheric pressure. If K_b

of water is $0.52 \text{ K kg mol}^{-1}$. Calculate the molecular mass of the solute.



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20. Calculate the emf at 25°C for the cell



(Given $E_{\text{Mg}^{2+} | \text{Mg}}^0 = -2.34V$ &

$E_{\text{Sn}^{2+} | \text{Sn}}^0 = -0.136V$)



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21. What are the various factors affecting the rate of reaction.



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22. How does nitrogen differ from other elements of Gr-15?



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23. With the help of crystal field theory, predict the number of unpaired electrons in $[Fe(CN)_6]^{4-}$ and $[Fe(H_2O)_6]^{2+}$ complex.



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24. Why is NH_3 more basic than PH_3 ?



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25. Write a note on calcination and roasting.



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26. How does Cl_2 and SO_2 act as bleaching agent? In which case the bleaching action is permanent?



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27. How can NH_3 be prepared in the laboratory from NH_4Cl ? What happens when this gas is passed over molten sodium?





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28. State and explain Kohlrausch's law. How can this law be used to find equivalent conductance of acetic acid at infinite dilution?



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29. Match the reaction given in column I with the statements given in column II.

Column I	Column - II
(i) Ammonolysis	(a) Amine with less number of carbon atom
(ii) Carbylamine reaction	(b) Reaction of alkylhalide with ammonia
(iii) Hofmann bromamide reaction	(c) Detection test for primary amine



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30. Calculate the packing efficiency of a metal crystal for a simple cubic lattice.



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31. Why is the Frenkel defect not found in pure alkali metal halides?



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32. Write the differences between true solution, colloidal solution and suspension.



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33. Write the mechanism of S_N1 reaction.

Arrange the following alkyl halides in the decreasing order of their reactivity towards S_N1 reaction:

1° alkyl halide, 3° alkyl halide, 2° alkyl halide, methyl halide.



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34. An organic compound A (molecular formula $C_8H_{16}O_2$) was hydrolysed with

dilute sulphuric acid to give a carboxylic acid B and an alcohol C. Oxidation of C with chromic acid also produced B. On dehydration C gives but-1-ene. Write the equations for the reactions involved.



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35. Give the method of preparation of O_3 by Siemen's ozoniser. What happens when it reacts with acidified $SnCl_2$



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36. Give the method of preparation of O_3 by Siemen's ozoniser. What happens when it reacts with KI solution.



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37. Give the method of preparation of O_3 by Siemen's ozoniser. What happens when it

reacts with



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38. What do you mean by abnormal colligative properties.



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39. What is physical and chemical adsorption?

Give an example of each.



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40. Why are powdered substances more effective adsorbent than their crystalline form ?



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41. Account for the following:

Hydrophobic colloids are easily coagulated.



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42. Account for the following:

By passing electric current colloidal solutions either move towards anode or cathode.



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43. Account for the following:

When a beam of light is passed through the colloidal solution, the path of light becomes visible.



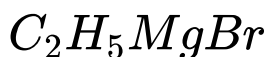
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44. Give a method of preparation of primary amine from alkyl cyanide.



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45. What happens when methyl amine reacts with



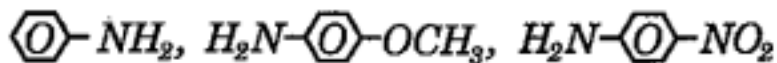
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46. What happens when methyl amine reacts with Acetaldehyde.



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47. Arrange the following compounds in order of decreasing basicity.



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48. Give the method of preparation of CH_3CHO from CH_3COCl . What happens when CH_3CHO reacts with dil NaOH?



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49. Give the method of preparation of CH_3CHO from CH_3COCl . What happens when CH_3CHO reacts with hydroxyl amine?



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