CHEMISTRY

BOOKS - JEEVITH PUBLICATIONS CHEMISTRY (KANNADA ENGLISH)

SURFACE CHEMISTRY

Questions

1. What is adsorption ?

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2. What is adsorbate ?

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3. What is adsorbent ?

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4. Give an example for adsorption process.

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5. Give two differences between adsorption and absorption.

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6. How $\Delta H, \Delta S$ and ΔG changes during adsorption ?

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7. What happens to the entropy of a gas after adsorption?

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8. What is physical adsorption ? Give three characteristics.

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9. What is chemical adsorption ? Give three characteristics.

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10. Give two characteristics of chemisorption ?

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11. Give three differences between physical adsorption and chemisorption.

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12. Out of physisorption and chemisorption which one has lower enthalpy of adsorption?

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13. What is the effect of temperature and pressure on the adsorption of gas over the solid surface?

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14. When is a solid a good adsorbent ?

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15. Give reason "activated charcoal is used in gas mask".

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16. Name the adsorbent used in removal of colouring matter.

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17. Give a Freundlich adsorption isotherm equation.

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18. Give four applications of adsorption.

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19. Give two applications of adsorption.

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20. What is homogeneous catalysis ? Give three examples.

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21. Give an example for homogenous catalysis.

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22. What is homogenous catalysis ? Give an example.

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23. Write the catalyst used in the decomposition of potassium chlorate to get

potassium chlorine and oxygen.

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24. What is heterogeneous catalysis ? Give an example.

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25. Give an example for heterogeneous catalysis.

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26. What are catalytic promoters ? Give examples.

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27. What are catalytic poisons?

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28. What is the activity of the catalyst ?

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29. What is selectivity of the catalyst ? Give an example.

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30. What is shape selective catalysis ? Give an example of such type of catalyst.

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31. Answer any three of the following questions.

a. Define Shape Selective catalysis. Name the Zeolite Catalyst used to convert alcohols to gasoline in petroleum industry

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32. What are enzymes ?

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33. Give four characteristics of enzymes.

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34. Name the enzyme used in the inversion of cane sugar.

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35. Name the enzyme used in the conversion of

(i) Glucose to Ethyl alcohol (ii) Starch to

Maltose

(iii) Maltose to Glucose (iv) Urea to Ammonia

(v) Protein to Amino acids (vi) Milk to Curd

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36. Explain the mechanism of enzyme catalysis.

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37. What is colloid ?

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38. What is sol ? Give example.

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39. What is emulsion ? Give examples.

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40. What is gel ? Give examples.

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41. What is lyophillic colloid ? Give example.

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42. What is lyophobic colloid ? Give example.

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43. Mention any three difference between lyophillic sols and lyophobic sols.

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44. What are multimolecular colloids ? Give examples.

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45. What are macromolecular colloids ? Give example.

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46. What are associated colloids ? Give example.

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47. What is Kraft temperature?

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48. What is CMC (Critical Micelle Concentration) ?

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49. How is Gold-sol prepared by Bredig's-arc method?

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50. What is peptization ? Give an example.

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51. What is dialysis ? Explain ?

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52. What is tyndall effect ? Explain.

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53. What is Brownian movement ? What is the cause for it ?

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54. What is zeta potential ?

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55. What is an electrophoresis ? Explain.

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56. What is coagulation or precipitation of colloids?

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57. Mention the role of alum in the purification of drinking water ?

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58. Name two methods by which a lyophillic sol can be coagulated.

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59. Name the phenomenon/effect for the following.

Colloidal particles are in zig-zag motion.

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60. Name the phenomenon/effect for the following.

When electric potential is applied across the two platinum electrode dipping in colloidal solution , particles move towards one or the other electrodes.

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61. Name the phenomenon/effect for the following.

Scattering of light by colloidal sols.

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62. Give reason for the following.

Brownian movement of colloidal particles.

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63. Give reason for the following.

Stability of colloids.

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64. Give reason for the following.

Brownian movement of colloidal particles.

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65. As_2S_3 sol is negatively charged. Between sodium nitrate and aluminium nitrate which one is needed in large quantity to coagulate the above sol ?

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66. State hardy - Schulze rule.

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67. What is tyndall effect?

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68. In the coagulation of negative sol, arrange the following ions in the ascending order of their flocculating power Ba^{2+}, Na^{+}, Al^{3+}.

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69. For positive sol arrange the coagulation power of the following active ions in the decreasing order,

$Cl-, PO_4^{3-}, \left[Fe(CN)_6\right]^{4-}, SO_4^{2-}$

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70. What is oil dispersed in water (o/w) type emulsion ? Give example.

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71. What is water dispersed in oil (w/o) type emulsion ? Give example.

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72. What are emulsions? Give an example of oil dispersed in water (o/w) type emulsion.

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73. Give four applications of colloids.

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74. How is smoke precipitated using cottrel precipitator.

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75. Give an example of an oil dispersed in water emulsion.

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76. Mention the role of alum in the purification of drinking water ?

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77. Give reason " Potash alum is used in the clarification of water

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78. Give reason :

A solid catalyst is very efficient in the finely

dvided state.

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79. Give reason :

Lyophillic sols are more stable than lyophobic sols.

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