



CHEMISTRY

BOOKS - OSWAAL PUBLICATION CHEMISTRY (KANNADA ENGLISH)

Sample Paper 6

Exercise

1. On mixing equal volumes of acetone and ethanol, what type of deviation from Raoult's law is expected?

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2. Temperature coefficient of a reaction is 2. What does it mean?

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3. What is an electrophoresis ? Explain.

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4. Write the catalyst used in the decomposition of potassium chlorate to get potassium chloride and oxygen.

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5. How are anti-bonding molecular orbitals formed ?

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6. How does the pH of ammonium hydroxide solution change when solid ammonium chloride is dissolved in it?

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7. Write the general equation for the formation of Grignand reagent.

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8. Which of the final product formed when methenamine is heated with excess of iodomethane in a sealed tube?

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9. Name an effect which involves partial displacement of electrons.

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10. Which is the nitrogen base present only in RNA but not in DNA ?

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11. Define radius ratio. Give the limiting radius ratio value for a coordination number of 6.

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12. Mention any two factors which affects the conductivity of electrolytic solution.

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13. Define half life period for a reaction. How is it related to the order of a reaction?

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14. What is lanthanoid contraction? Mention the cause for it.

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15. How is the phenol converted into picric acid? Give the equation for the reaction?

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16. Explain Clemmensen reduction with an example.

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17. What are antihistamines ? Give examples.

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18. Explain saponification of oils/fats with equation.

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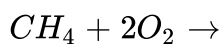
19. (a) Write chemical reactions taking place in the blast furnace at reduction zone, slag formation zone and combustion zone during the extraction of Iron.

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20. For the manufacture of Ammonia by Haber's process, write the equation and optimum conditions for maximum yield of ammonia.

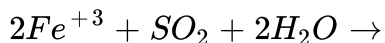
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21. complete the following equations:



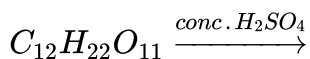
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22. complete the following equations:



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23. complete the following equations:



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24. Describe Ramsay and Rayleigh's method for the isolation of a mixture of noble gas from air.

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25. Name the metal of the 1st row transition series that has maximum no. of unpaired electrons in its ground state.



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26. Name the metal of the 1st row transition series that has zero spin only magnetic moment in its +2 oxidation state.



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27. Name the metal of the 1st row transition series that Exhibits maximum number of oxidation states.



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28. Explain the manufacture of Potassium dichromate from chromite ore.



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29. Draw the energy level diagram of carbon molecule. Calculate its bond order also.

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30. With the help of VBT explain the hybridisation in tetracarbonyl nickel and sketch the shape of the complex.

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31. Calculate the packing efficiency in a simple cubic lattice.

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32. What is Frenkel defect? Give an example.

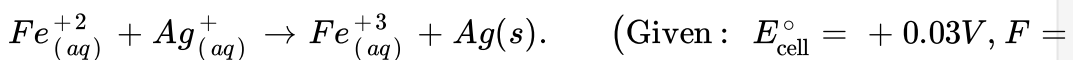
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33. Draw a neat labeled diagram of Standard Hydrogen Electrode (SHE).

Write its Half-Cell reaction.

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34. b) Calculate $\Delta_r G^\circ$ for the following reaction:



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35. Define osmotic pressure.

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36. Calculate the lowering of vapour pressure caused by addition of 100 g of sucrose (molecular mass -342) to 1 kg of water if the vapour pressure

of water at $25^{\circ}C$ is 23.8 mm in mercury.

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37. State Raoult's law of relative lowering of vapour pressure of a solution.

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38. The rate constant of a first order reaction at 300 K and 310 K are respectively $1.2 \times 10^3 s^{-1}$ and $2.4 \times 10^3 s^{-1}$. Calculate the energy of activation. ($R = 8.314 JK^{-1} mol^{-1}$)

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39. Derive the relationship between half-life period and rate constant for a first order reaction.

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

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41. Name the type of colloid obtained when a liquid is dispersed in a solid.

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42. Name the type of colloid obtained when.

(i) A liquid is dispersed in a solid

(ii) A liquid is dispersed in a liquid.

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43. Define f-centre.

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44. How is phenol converted into salicylic acid? Name the reaction.

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45. How is ethanol converted into iodoethane.

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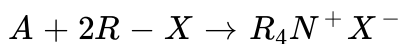
46. Explain the mechanism of Acylation of Benzene

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47. What is mesomeric effect? What type of mesomeric effect is shown by NH_2 group in aniline?

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48. Identify the reactant 'A' in the following reaction



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49. Explain Hoffmann's bromamide degradation reaction for the preparation of methanamine.

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50. Which is more basic among aqueous solutions of aniline and ammonia? Give one reason.

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51. Show that presence of three double bonds in benzene.

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52. Show that six hydrogen atoms in benzene are identical.

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53. Explain Clemmensen reduction with an example.

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54. Give two biological function of the following proteins: Haemoglobin.

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55. Give two biological function of the following proteins: Collagen

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56. Write the general formula of a triglyceride.



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57. What is copolymerization? Give an example with equation.



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58. Give an example for a polyester fibre.



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59. Give an example for thermosetting polymer.



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