



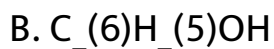
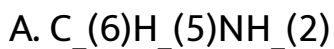
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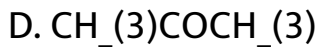
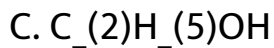
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TEST PAPER 3

Exercise

1. Which one of the following compounds when dissolved in water gives a solution having pH less than seven?





Answer: C



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2. Fraction of the total volume occupied by atoms in a simple cube is :

A. $\pi/2$

B. $\pi/6$

C. $(\sqrt{3} \pi)/8$

D. $\pi/(3\sqrt{2})$

Answer:



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3. How many electrons are there in one coulomb:

A. 6.02×10^{21}

B. 6.24×10^{18}

C. 6.02×10^{16}

D. 6.24×10^{15}

Answer: A::B::D



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4. The EAN of-Ni in $Ni(CN)_4^{2-}$ is:

A. 28

B. 34

C. 35

D. 36

Answer: C::D



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5. Cannizzaro's reaction is given by _____

$(C_6H_5CH_2CH_3, CH_3COCH_3, C_2H_5COCH_3, C_6H_5CHO)$

A. Acetone

B. Acetaldehyde

C. Benzaldehyde

D. Acetic acid

Answer: A::B::D



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6. When CH_3MgI is made to react with acetone and the addition product formed is hydrolysed we get :

A. a primary alcohol

B. a secondary alcohol

C. a tertiary alcohol

D. an ether

Answer: A::C



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7. The ligands in anti-cancer drug cis-platin are:

A. NH_3, Cl

B. $\text{NH}_3, \text{H}_2\text{O}$

C. $\text{Cl}, \text{H}_2\text{O}$

D. NO, Cl

Answer: B::C



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8. What is the general formula of aliphatic amine?

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9. What is the ECE of Ag? (Atomic weight =108)

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10. Write the IUPAC name of $[Pt(NH_3)_4][PtCl_4]$.

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11. write the IUPAC name of $\text{CH}_3\text{COCH}_2\text{CHO}$.

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12. Beri-beri is caused due to deficiency of _____

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13. What happens when phenol is distilled with zinc dust ?

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14. The IUPAC name of $C_2H_5NH_2$ is _____.

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15. Write the assumptions of crystal field theory. Discuss the pattern of splitting of d-orbitals under the effect of an octahedral crystal field.

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16. What is meant by 'doping' in a semiconductor?

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17. Define Raoult's law.



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18. Explain why $\text{FeSO}_4 + \text{Cu} \rightarrow \text{CuSO}_4 + \text{Fe}$ reaction does not occur.



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19. What is Arrhenius equation?



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20. What is hydrometallurgy?



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21. Explain that bleaching action of Cl_2 is permanent, while that of SO_2 is temporary.



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22. The melting and boiling points of Zn, Cd and Hg are low. Explain why?



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23. What are broad spectrum antibiotics? Give two examples

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24. A solution $[Ni(H_2O)_6]^{2+}$ is green while a solution of $[Ni(CN)_4]^{2-}$ is colourless. Explain.

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25. How can you determine the molecular mass of a non-volatile solute from depression of freezing point ?

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26. What are the monomeric repeating units of nylon-6 and nylon-6,6?

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27. How can you prepare formic acid from acetic acid?

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28. Arrange the followings reactivity towards HCN in increasing order HCHO, CH₃CHO, CH₃COCH₃.

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29. How can ketone group be introduced into an aromatic nucleus? Give equations.

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30. What are soaps and detergents?

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31. Name two Antacids and Antibiotics.

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32. Define Osmotic pressure.



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33. Why are Cimetidine and Ranitidine better antacids than sodium hydrogen carbonate or magnesium hydroxide?



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34. Give comparison between Schottky defect and Frenkel defect.



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35. In ideal solution –



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36. Define abnormal molecular mass with one example.



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37. Write notes on

(i) Electroplating

(ii) Electrorefining

(iii) Galvanic cell

(iv) Electrotyping

(v) Electrochemical series.



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38. Write Nernst equation.



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39. Discuss in brief the crystal field theory. How does it differ from valence bond theory?

Explain the fact the $[CoF_6]^{3-}$ is paramagnetic whereas $[Co(NH_3)_6]^{3+}$ is diamagnetic although both are octahedral.



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40. Give one method of preparation and one property of

$K_2Cr_2O_7$



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41. How can you distinguish 1° , 2° and 3° - alcohols by using Lucas reagent?



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42. What is Etard's reaction ?



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43. What is a biodegradable polymer? Give an example of a biodegradable aliphatic polymers.



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44. What are different types of amines? How primary amines are prepared from alkyl halides ?

What happens when methylamine reacts with methyl iodide.



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45. Give any two methods for the preparation of primary amine. How does it react with

CH₃Cl?



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46. How does ethyl amine react with acetyl chloride ?



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