

CHEMISTRY

BOOKS - UNITED BOOK HOUSE

SET-17

Exercise

1. How much quantity of ethylene glycol is added in 200 gm water to reduce the freezing point by 0.93K? $K_f=1.86\text{K. Kg mol}^{-1}$

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2. Calculate the osmotic pressure when 2.5×10^{-2} gm K_2SO_4 is added in 2L water at $25^\circ C$ (Consider complete dissociation of K_2SO_4)

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3. What is Micell? Name two compound which forms micell.

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4. Explain Mechanistic aspects of enzyme catalyst.

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5. What is the hybridisation state of Xe in XeF₄? State its structure.

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6. Complete the reaction-XeF₄ is hydrolysed.

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7. The number of unpaired electrons in Fe^{3+} (Z=26) are

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8. Name the monomers used to form polyhexamethylene adipamide polymers.

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9. What type of semiconductor will be formed when Arsenic is doped in silicon?

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10. Copper forms face centred cubic lattice with side length 362 pm. Calculate its density (Cu=63.55).

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11. What is Frenkely defect?

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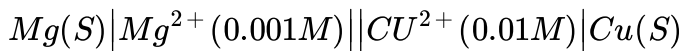
12. A metal forms body centred cube. If the radius of the metal atom be 125 pm then find the edge length?

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13. Calculate the boiling point of 1(M) KCl soln density 1.04 gm/cc
($K_b = 0.52K. Kg. mol^{-1}$)

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14. Calculate the E.M.F. for the cell given below and identify the cathod and anode.



$$E_{Mg^{2+}/Mg} = -2.36V \text{ and } E_{Cu^{2+}/Cu} = +0.34V.$$

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15. What is equivalent conductance? State Kohlrauseh law.

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16. What is the role of lime stone and coke in th eextract orf Iron? What is leaching?

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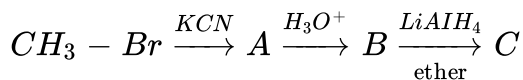
17. State the product when KCl, $K_2Cr_2O_7$ and concentrated H_2SO_4 is strongley heated.

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18. What do you mean by d-d transition?

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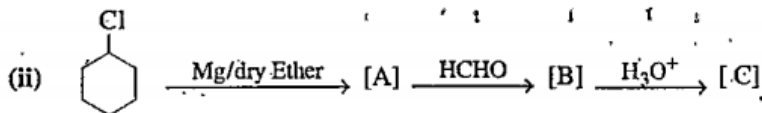
19. In the following sequence of reactions,



the end product (C) is

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20.



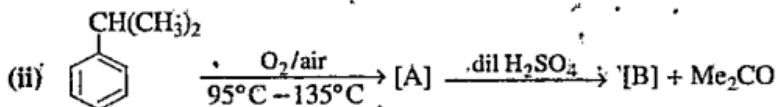
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21.

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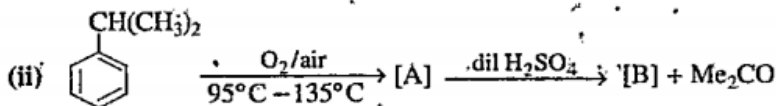
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22. How would you synthesise the following ether by williumson synthesis?



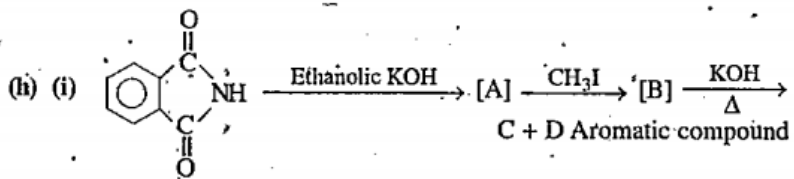
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23. How would you synthesise the following ether by williumson synthesis?



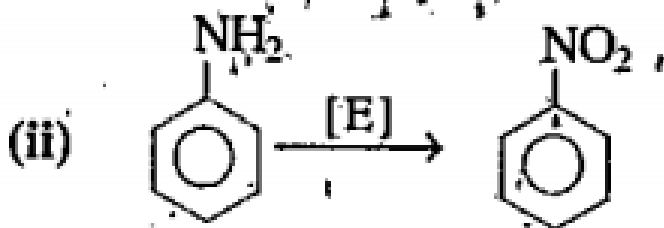
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24.



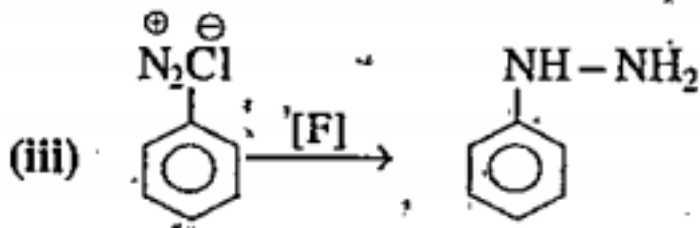
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25.



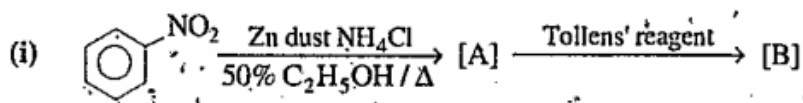
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26.



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27.



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28.



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29. Arrange as per increasing basicity p-nitroaniline, O-nitroaniline, aniline, m-nitroaniline.

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30. Write reaction between Glucose and excess of phenyl hydrazine.

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31. Draw the Zwitterion of Glycine.

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32. Establish the rate equation of a zero order reaction with single reactant.

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33. The reaction $A \rightarrow B+C$ shows the result given show that it is a first order reaction-

t(see)	0	900	1800
[A] (Mol. L ⁻¹)	50.8	19.7	7.62

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34. $4NH_3(g) + 5O_2(g) \rightarrow 4NO(g) + 6H_2O(g)$ express instant reaction rate in terms of change of concentration of reactants and products.

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35. For a reaction the specific reaction rate constant at $35^\circ C$ and $65^\circ C$ are $6.65 \times 10^{-5} s^{-1}$ and $2.24 \times 10^{-3} s^{-1}$ calculate frequency factor for the reaction.

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36. What do you mean by pseudo first order reaction? Explain with proper example.

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37. State with balanced Chemical equation what will happen when white phosphorus is heated with caustic soda solution?

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38. Explain why NI_3 gets hydrolysed but not NF_3 .

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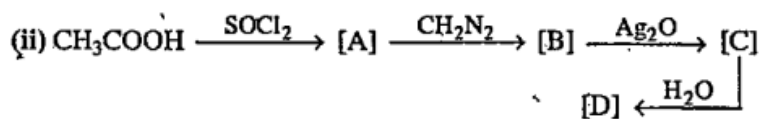
39. Write name and formula of an interhalogen compound of type AX_5 .

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40. Give example of the following reactions Parkin, Clasicen Schmidt, Benzoin condensation.

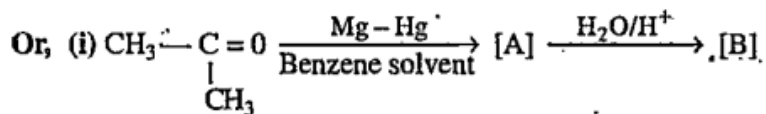
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41.



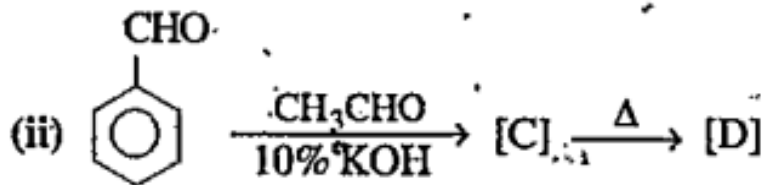
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42.



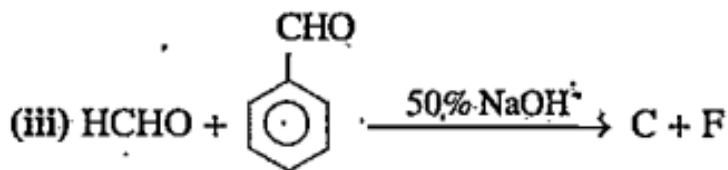
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43.



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44.

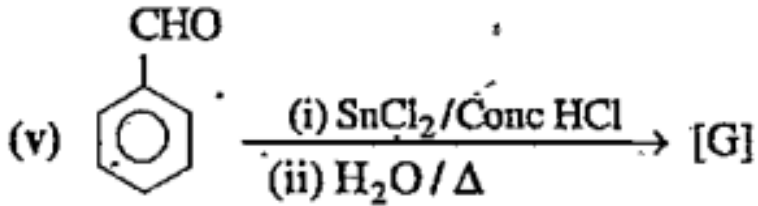


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45. What is Rochellie's salt?

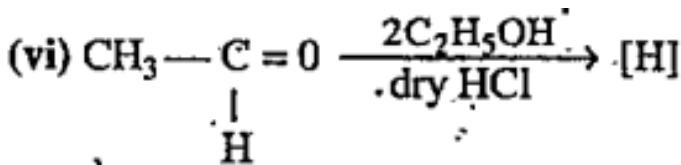
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46.



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47.



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48. Calculate the efficiency in body centred cubic crystal.

A. 0.74

B. 0.68

C. 0.5

D. 0.53

Answer:

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49. Which one is correct for electrolysis of $CuSO_4$ solution using Cu electrode.

A. Cu will be dissolved in cathode

B. Cu will be dissolved from anode

C. O_2 will be released at anode

D. Cu will be accumulated

Answer:

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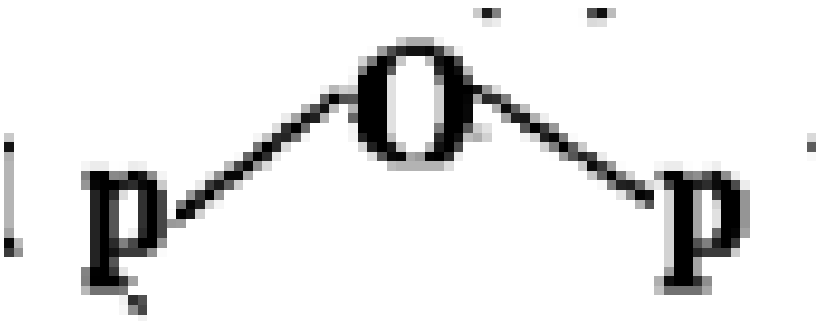
50. Physisorption is

- A. Unidirectional
- B. Reversible
- C. reaction specific
- D. all of these

Answer:

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51. In which acid



bond present.

- A. Hypophosphorous acid

B. Phosphoric acid

C. Hypophosphoric acid

D. Orthophosphoric acid

Answer:

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52. H_2O_2 when shaken with acidified $K_2Cr_2O_7$ soln in ether the ether layer turns blue due to formation of

A. Cr_2O_3

B. CrO_6^{2-}

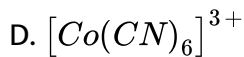
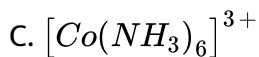
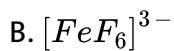
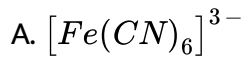
C. $Cr_2(SO_4)_3$

D. CrO_5

Answer:

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53. Which one is an extra bitter compound ?



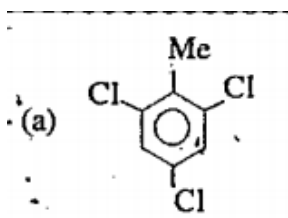
Answer:



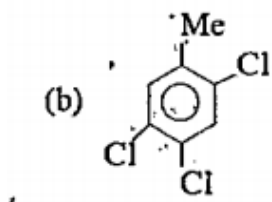
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54. When excess of Cl_2 passed through the solution of boiling toluene the compound which form.

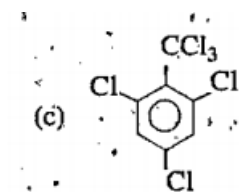
A.



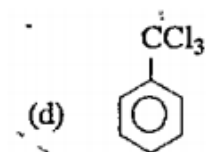
B.



C.



D.



Answer:



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55. In which reaction C-C bond is formed.

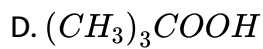
- A. Reimer-Tiemann
- B. Cannizaro
- C. *pce* – 1° alcohol reaction
- D. Hydroboration-Oxidation reaction

Answer:

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56. The acid which does not respond in HVZ reaction.

- A. CH_3COOH
- B. CH_3CH_2COOH
- C. $(CH_3)_2CHCOOH$

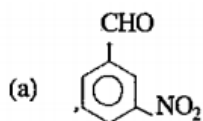


Answer:

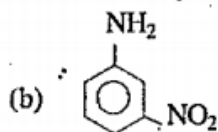
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57. Can't be identified by Mullikan Barkar Test.

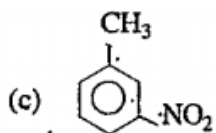
A.



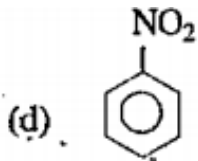
B.



C.



D.



Answer:

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58. Which base is absent in DNA

A. Adenine

B. Thymene

C. Cytosin

D. Urasil

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59. Which one polymer contains ester linkage

- A. Nylon
- B. Bakelite
- C. Terylene
- D. PVC

Answer:



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60. Equanil is

- A. Artificial sweetening agent
- B. Tranquilizer
- C. Anti histamine
- D. Anti fertility

Answer:



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61. Polyethylene Glycol is used to synthesise detergent of type.

- A. Cationic
- B. Anionic
- C. non ionic
- D. soap

Answer:



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62. Which cell is used in satellite or spaceship?



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63. What is the range of nano scale.

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64. Arrange as per increasing acidic nature MnO , Mn_2O_7 , MnO_2

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65. What is used as an antioxidant in edible oil or fat preservation?

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66. State one difference between Drug and Medicine.

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