

18. (i) Why C-X bond in haloarene is shorter and stronger?
 (ii) What are ambident nucleophiles
19. A reaction is of first order in reactant A and second order in reactant B. How is the rate of this reaction affected, when (i) concentration of B is increased three times
 (ii) Concentration of A and B is doubled.?
20. Write three special features of chemisorption which are not found in physisorption?
21. Assign reason- (i) Sulphur vapour is paramagnetic .
 (ii) SF₆ is much less reactive than SF₄
 (iii) Of the noble gases only xenon is known to form well established compounds .
22. Explain (i) Fluorine does not exhibit any positive oxidation states.
 (ii) NO₂ dimerise to form N₂O₄.?
 (iii) OF₆ is not known .
23. Name the reagents used in conversion of (i) A primary alcohol to an aldehyde
 (ii) Butan-2-one to Butan-2-ol (iii) Phenol to 2,4,6-tribromophenol
24. Complete the following- (i) C₆H₅N₂Cl + C₆H₅NH₂ → ...
 (ii) C₆H₅N₂Cl + CH₃CH₂OH →..... (iii) R- NH₂ + CHCl₃ + KOH
 →.....
25. What are the essential and non-essential amino acids in human food? Give one example of each type.?
26. Identify the four groups into which the polymers are classified on the basis of the magnitude of intermolecular forces present in them .To which group do polythene and bakelite belong ?
27. Explain- (i) Antibiotics (ii) Antiseptic (iii) Analgesics
28. (a) State Henry's law about the gas phase pressure and solubility of a gas in a solvent and mention two of its applications
 (b) A copper –silver cell is set up. The copper ion concentration in it is 0.10 M . The concentration of silver ion is not known. The cell potential measured is 0.422 V. determine the concentration of silver ion in the cell. $E^0_{Cu^{2+}/Cu} = 0.34 \text{ V}$ and $E^0_{Ag^+/Ag} = 0.80 \text{ V}$

29. (a) Complete the following (i) $\text{MnO}_4^- (\text{aq}) + \text{C}_2\text{O}_4^{2-} + \text{H}^+ \rightarrow \dots\dots\dots$
(ii) $\text{Cu}^{++} + \text{I}^- \rightarrow \dots\dots\dots$
- (b) Explain about transition and inner transition elements-
- (i) There is in general increase in density of elements from Ti to Cu .
(ii) There occurs much more frequent metal –metal bonding in compounds of heavy transition elements in 3d- series.
(iii) The members in the actinoid series exhibit large number of oxidation states than the lanthanoids
30. (a) How would you account
- (i) Aldehydes are more reactive than ketones towards nucleophiles.
(ii) The boiling points of aldehydes are lower than that of the corresponding acids.
(iii) The aldehydes and ketones undergo a number of addition reactions
- (b) Give chemical test to distinguish (i) Acetaldehydes and Benzaldehydes
(ii) Propanone and propanal

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