QB365 Student Learing Managemnet System
Exam Name: Pre Quarterly -Practice
Std: 12th Standard - Chemistry
Chapter: Metallurgy, p - Block Elements - II, p - Block Elements - I, Transition and Inner Transition Elements, Coordination Chemistry, Solid State, Chemical Kinetics, Ionic Equilibrium, Electro Chemistry, Surface Chemistry, Hydroxy Compounds and Ethers, Carbonyl Compounds and Carboxylic Acids, Organic Nitrogen Compounds, Biomolecules, Chemistry In Everyday Life

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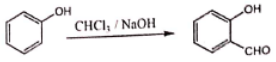
Answers Key:

I. Multiple Choice Question

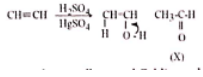
1. (d) Electromagnetic separation
2. (c) $\left(\frac{\Delta G^0}{\Delta T}\right)$ is negative
3. (a) H_3PO_3
4. (c) $Cu(NO_3)_2$ and NO_2
5. (a) Tetrahedral
6. Yb^{2+} - $4f^{14}$ - no unpaired electrons - diamagnetic
7. In all the complexes, the central metal ion is Co^{3+}, among the given ligands CN^- is the strongest ligand, which causes large crystal field splitting i.e maximum Δ_0
8. a) Fe^{2+} b) Fe^{3+} c) Fe^0
9. Packing efficiency = 68%
   ∴empty space percentage = 100 - 68 = 32%
10. Given:
    At low pressure the reaction follows first order therefore,
    Rate α [reactant]^1
    Rate α (surface area)
    At high pressure due to the complete coverage of surface area, the reaction follows zero order.
    Rate α [reactant]^0
    Therefore the rate is independent of surface area.
11. (rate constant K is equal to collision frequency A if $E_a = 0$)
    In zero order reactions, increase in the concentration of reactant does not alter the rate.
    So statement (i) is wrong.
    $k = Ae^{-\left(\frac{E_a}{RT}\right)}$
    if $E_a = 0$ so, statement (ii) is correct, and statement (iii) is wrong
    $k = Ae^0$
    $k = A$
    $\ln k = \ln A - \left(\frac{E_a}{R}\right)\left(\frac{1}{T}\right)$
    This equation is of the form of a straight line y = mx+c
    A plot of ln k Vs $\left(\frac{1}{T}\right)$ gives a straight line with a negative slope
    So statement (iv) and (v) are wrong.
12. (d) +3
13. (c) Van-Arkel process
14. (b) 31.6
15. $PbI_{2(s)} \rightleftharpoons Pb^{2+}_{(aq)} + 2I^-_{(aq)}$
    $K_{sp} = (s)\ (2s)^2$
    $3.2 \times 10^{-8} = 4s^3$
    $s = (3.2 \times 10^{-8}/4)^{1/3}$
    $= (8 \times 10^{-9})^{1/3}$
    $= 2 \times 10^{-3}$ M
16. $\frac{m_1}{m_2} = \frac{E_1}{E_2}$
    $\frac{0.504}{m_2} = \frac{1.008}{31.77}$
    $m_2 = 15.885$ g
17. (a)

A	B	C	D
iv	i	ii	iii

Riemer Tiemann reaction



18. trichloro methane
19. (c) Williamson reaction



20.
21. (d) acetanilide
22. (b) pentan – 2- amine
23. (d) α–helical backbone.
24. (a) polyamide
25. (d) Phluroglucinol
26. (d) Glycerine
27. (b) $W_{max} = \Delta G$
28. (c) ammoniacal silver nitrate
29. (a) $[B_4O_5.(OH)_4]^{2-}$
30. (c) $mol^{-2}L^2s^{-1}$

QB 365 Study Material
QUESTION BANK 365