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Unit - III Analysis of Finished Products - II

- (a) Chemical Analysis of cement-silica, NH_4OH group, ferric oxide, alumina, lime, magnesia, Sulphide Sulphur, K_2O , Na_2O , free CaO in Cement and Clinker, SO_3 and loss on ignition.
- (b) Analysis of oils - saponification number, iodine number, and acid number..
- (c) Analysis of soaps - moisture, volatile matter, total alkali, total fatty matter, free caustic alkali or free fatty acids, sodium silicate, chloride.
- (d) Analysis of paints-vehicle and pigment, BaSO_4 , total lead and lead chromate

Unit - IV Assessment of water Quality

Sources of water, classification of water for different uses, types of water pollutants and their effects,
analytical methods for the determination of the following ions in water:

anions: CO_3^{2-} , HCO_3^- , F^- , Cl^- , SO_4^{2-} , PO_4^{3-} , NO_3^- , NO_2^- , CN^- , S^{2-}
cations: Fe^{2+} , Fe^{3+} , Ca^{2+} , Mg^{2+} , Cr^{3+} , As^{5+} , Pb^{2+} , Hg^{2+} , Cu^{2+} , Zn^{2+} , Cd^{2+} , Co^{2+} ,
Determination of Dissolved oxygen(D.O), Biochemical Oxygen Demand(BOD) and
Chemical Oxygen Demand(COD), standards for drinking water.

Text books

1. Handbook of Analytical Control of Iron and Steel Production, Harrison John, Wiley 1979
2. Standard methods of Chemical Analysis, Welcher
3. Technical Methods of Analysis, Griffin, Mc Graw Hill
4. Commercial Methods of Analysis, Foster Dee Snee and Frank M. Griffin, Mc Graw Hill Book Co.
5. Water Pollution, Lalude, Mc Graw Hill
6. Environmental Chemistry, Anil Kumar De, Wiley Eastern Ltd.
7. Environmental Analysis, S.M Khopkar (IIT Bombay)

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