

3. (a) Define flux and slag with suitable example of each. 2
- (b) Explain froth-flotation method of concentration of ore. 5
- (c) Define alloy. Write the composition and uses of Brass, Bronze and Duralumin. 7
4. (a) To which class the hydrocarbon $C_{10}H_{20}$ belongs and how? 2
- (b) Write the IUPAC names/structural formulae of the following compounds : 5
- (i) $CH_3 - \underset{\substack{| \\ Cl}}{CH} - CH = \underset{\substack{| \\ OH}}{C} - CH_2 - CH_3$
- (ii) $(CH_3)_2CH - CH = CH_2$
- (iii) $CH \equiv C - CH_2 - CH = CH_2$
- (iv) 4, 5 - dichloropent - 3 - en - 2 - ol.
- (v) iso-pentane.

- (c) Define monomer, polymer, homopolymer and co-polymer. Explain the composition and uses of bakelite. 2 + 5
5. (a) When can we refer a contaminant as a pollutant? 2
- (b) Write a short note on "Ozone layer depletion". 5
- (c) Explain Various sources of water pollution. Discuss the methods to control water pollution. 7
6. (a) Which chemical substances are responsible for the permanent hardness of water? 2
- (b) Write down the advantages of hot lime-soda process over cold lime-soda process. 5
- (c) Explain cold lime-soda process with a neat and labelled diagram. 7
7. (a) Define lubricant. Give an example of semisolid lubricant. 2