

Full Marks: 80

Answer any five Questions including Q No.1 & 2
 Figures in the right hand margin indicates marks

Time- 3 Hrs

1. Answer All questions

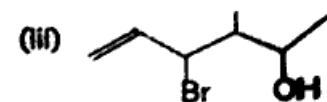
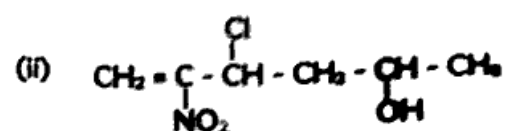
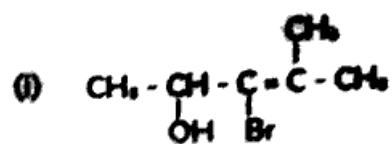
2 x 10

- What is copolymer? Give an example of it.
- What are the components of Brass?
- What are the conjugate acid and conjugate base of H_2O ?
- Give the bond-line representation of 2-Methylbuta-1,3-diene.
- Write down the electronic configurations of Cu and Ni^{2+} ion.
- Define calcination.
- Which chemical substance is added to LPG in order to detect the leakage of the gas?
- Define electrolyte. Give example of a weak electrolyte.
- Define equivalent weight. Find the equivalent weight of Na_2CO_3 .
- Define lubricant. Mention the conditions under which solid lubricants are preferred.

2. Answer Any Six Questions

6 x 5

- Explain in brief the organic ion-exchange process of removal of hardness of water.
- Explain waterline corrosion.
- Give the IUPAC names/structural formulae of the following.



(iv) 4-Bromo-4-chloro-3-methylpent-2-en-2-ol

(v) 3-Chloro-4-nitrohex-3-en-2-ol

- d. ✓ Define electrovalent bonding. Explain the formation of NaCl.
 - e. Give a brief note on Bio-fertilizer.
 - f. ✗ Define and explain Hund's Rule.
 - g. Describe smelting process in metallurgical operation.
-
- 3 a 500 ml of an aqueous solution contains 27.75 gm of CaCl_2 . Calculate molarity and normality of the solution. 5
 - b Distinguish between aliphatic and aromatic hydrocarbons. 5
 - 4 a Explain the composition and uses of PVC. 5
 - b Discuss the purpose of lubrication 5
 - 5 a Define and explain Bronsted-Lowry theory of acids and bases.
 - b How many grams of KOH are required to prepare 2 lit. of its solution having pH 10? 5
 - 6 a Explain the drawbacks of natural rubber. 5
 - b What are the advantages of hot lime soda process over cold lime soda process? 5
 - 7 a Explain froth floatation process of concentration of ores. 5
 - b ✗ Define and explain Huckel's rule of aromaticity. 5