

The weaknesses stated show that the manufacture of sodium hydroxide by use of electrolysis is not well known. Once more this is a question on application of electrolysis in real life situation. As stated above, examples of the use of particular reactions in real life situations should be emphasized.

Expected Responses

- a) Add aqueous sodium carbonate to precipitate calcium and magnesium ions as insoluble carbonates and then filter.
- b) i) I $2\text{H}^+_{(\text{aq})} + 2\text{e} \rightarrow \text{H}_{2(\text{g})}$
II $2\text{Cl}^-_{(\text{aq})} \rightarrow \text{Cl}_{2(\text{g})} + 2\text{e}$
ii) I NaOH (Sodium hydroxide)
II Graphite
III NaCl (Sodium chloride)
iii) - To prevent mixing of chlorine gas with sodium hydroxide.
- To allow free movement of ions
- c) - In paper industry as a digester of pulp.
- Manufacture of soaps, detergents
- Manufacture of bleaching agents eg. sodium hypochlorite.
- Purification of bauxite
- Manufacture of weed killers (sodium chlorate)

9.3 PRACTICAL PAPER (233/3)

Examinations on practicals test on a candidate's ability to:

- select appropriate apparatus and chemicals as demanded by the set tasks.
- assemble the apparatus properly so that accurate results can be obtained.
- organize the results properly so that meaningful deductions/conclusions can be drawn from them.

Question 1

You are provided with:

- Magnesium ribbon, solid **A**
- 0.7M hydrochloric acid, solution **B**
- 0.3M sodium hydroxide, solution **C**
- distilled water.