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Council for Technical Education and Vocational Training
Office of the Controller of Examinations

Sanothimi, Bhaktapur

Regular/Back Exam-2078, Magh/Falgun (Scholarship+Regular)

Program: Diploma in Engineering ALL

Full Marks: 60

Year/Part: I/II (New + Old Course)

Pass Marks: 24

Subject: Chemistry II

Time: 3 hrs

*Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.*

Group 'A'

Attempt All questions.

[6x(5+5)=60]

1. a) What do you mean by hardness of water? How can you remove the temporary hardness of water? [2+3]
b) How nitric acid is manufactured by Ostwald's process? Explain with diagram? [5]
2. a) How is ammonia manufactured by Haber's process? Explain what happens when excess ammonia reacts with chlorine. [4+1]
b) Define acid rain. Explain oxides of carbon as pollutants. [5]
3. a) Explain contact process of manufacture of Sulphuric acid with labelled diagram. [5]
b) How can you prepare hydrochloric acid in laboratory? Explain with figure. [5]
4. a) What do you mean by vital force theory? Why is it failed now? [4+1]
b) What is meant by nitrogen fixation? Describe the nitrogen cycle with flow sheet diagram. [4+1]
5. a) What do you mean by alkali metals? Explain the properties of sodium. [5]
b) Define allotropes. What are the properties of calcium as alkaline earth metal? [5]
6. a) Explain the properties of methane in brief. [5]
b) Write short notes: **(Any Two)** [2x2.5=5]
 - i) Homologous series
 - ii) Functional group
 - iii) Polymer
 - iv) Aromatic compounds

Good Luck !

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