Council for Technical Education and Vocational Training
Office of the Controller of Examinations
Sanothimi, Bhaktapur
Regular/Back Exam - 2074, Falgun / Chaitra

Program: Diploma in Information Technology / Computer Engineering — Full Marks: 80
Year/Part: III/I [New + Old Course] — Pass Marks:32
Subject: **Microprocessor** — Time: 3 hrs

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

Attempt Any five Questions.

1. a] What is microprocessor, Microcomputer and Microcontroller? Explain in detail. [8]
   b] Draw the general architecture of a microcomputer system showing control buses and explain in brief. [8]
2. a] Define register. Explain about flag register of 8085 with necessary diagram in detail. [8]
   b] What is addressing modes? Explain the addressing mode in 8085 with suitable examples. [8]
3. a] What is subroutine? Explain stock operation in 8085 microprocessor? [8]
   b] Write an assembly language, to multiply two 8-bits numbers 8EH and 2FH. Store the result in memory location C000H and C001H. Also exchange the result of register C to register B from the Accumulator. [8]
4. a] Draw the timing diagram of 8085 OPcode fetch cycle and explain it in detail. [8]
   b] What do you mean by address decoding? Interface 8kX8 RAM memory with 8085 microprocessor. [4+4]
5. a] Define interrupt. Explain about 8085 vectored interrupt with clear diagram. [8]
   b] Draw the block diagram of programmable peripheral interface 8255 and explain it brief. [8]
6. Write short notes on: [4×4]
   a] Maskable and non-maskable interrupt
   b] Von-Neumann architecture of a computer
   c] DMA Operation
   d] 8251 (USART)
   e] SAP1 and SAP2 computer

Good Luck!