# Hemchandracharya North Gujarat University, Patan

**B.E. SEMESTER – IV (CE)**

**CE403: MICROPROCESSOR AND INTERFACING**

| **Teaching Scheme** | **Examination Scheme** |
|---|---|
| Theory 4 hrs/week | Theory 100 Marks |
| Tutorial - | Practical 25 Marks |
| Practical 02 hrs/week | Term Work 25 Marks |
| Total 06 hrs/week | Total 150 Marks |

1. Introduction to Microprocessor, Microprocessor systems with bus organization, icroprocessor Architecture & Operations, Memory, I/O Device, Memory and I/O Operations
2. 8085 Microprocessor Architecture, Address, Data And Control Buses, Pin Functions, Demultiplexing of Buses, Generation of Control Signals, Instruction Cycle, Machine Cycles, T- States, Memory Interfacing.
3. Assembly Language Programming Basics, Classification of Instructions, Addressing Modes, 8085 Instruction Set, Instruction And Data Formats, Writing, Assembling & Executing A Program, Debugging The Programs, Decision Making, Looping, Stack & Subroutines, Developing Counters And Time Delay Routines, Code Conversion, BCD Arithmetic And 16-Bit Data Operations.
4. Interfacing Concepts, Ports, Interfacing Of I/O Devices, Interrupts In 8085, Interfacing of Data Converters (D-To-A And A-To-D), Programmable Interfacing Devices Like 8279 Keyboard/Display Interface, 8255A PPI, 8253/8254 Timer, 8259A PIT, 8237 DMA Controller, Serial I/O Concepts, SID And SOD, 8251A USART. Interfacing of above chips with 8085, Programming them In Deferent Modes, Practical Applications

**Reference Books**:


1. Microprocessor Architecture, Programming, and Applications with the 8085 - Ramesh S. Gaonkar Pub: Penram International.
2. Microcomputers and Microprocessors: The 8080, 8085 and Z-80 Programming, Interfacing and Troubleshooting by John E. Uffenbeck.
3. Microprocessor and Microcontroller fundamentals. The 8085 and 8051 Hardware and Software by William Kleitz.