

# GUJARAT TECHNOLOGICAL UNIVERSITY

## PDDC Electrical Engineering

### Semester: IV

Subject Name: **Microprocessor and Interfacing**

Sr. No.	Course content
1.	Introduction to Microprocessor, Microprocessor systems with bus organization, Microprocessor 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 8080,8 085 and Z-80 Programming, Interfacing and Troubleshooting b y John E. Uffenbeck.
3. Microprocessor and Microcontroller fundamentals. The 8085 and 8051 Hardware and Software by William Kleitz.