

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

B. E. COMPUTER ENGINEERING

B. E SEMESTER – III (CE)

(Effective From June 2006)

CE 305: DIGITAL ELECTRONICS & FUNDAMENTALS OF MICROPROCESSORS

TEACHING SCHEME:

THEORY 04 HRS/WEEK

PRACT 02 HRS/WEEK

TOTAL 06 HRS/WEEK

EXAM SCHEME:

THEORY 100 MARKS(3 HRS)

PRACT 25 MARKS

TW/VIVA 25 MARKS

TOTAL 150 MARKS

- ❖ Data And Number Representation - Binary - Complement Representation Bcd - ASCII, ASCII
- ❖ Boolean Algebra, Logic Gates, Minimization, Use Of Programs Such As Espresso In Minimization
- ❖ Digital Circuit Technologies, RTL / DTL / DCTL / TTL / MOS / CMOS / ECL, Analysis Of Basic Circuits In These Families, Internal Architecture Of Programmable Logic Devices
- ❖ Combinational Design, Design With MUXES
- ❖ Sequential Circuits, Flip-Flops, Counters, Shift Registers, MultiVibrators, State Diagrams -Sequential Circuit Design From State Diagrams - Computer Aids In Synthesis
- ❖ Memory System - RAM, ROM, EPROM, PAL, PLDS, PGAS
- ❖ Bus Structures, Transmission Line Effects, Line Termination.
- ❖ Ad And Da Conversion Techniques And Selected Case Studies.
- ❖ Cad Tools, FPGA Based Design Exercises
- ❖ Introduction To VLSI Design, Custom And Semi-Custom Design
- ❖ 8085 Microprocessor Architecture And Memory Interfacing.
 - Microprocessor Architecture and its Operations.
 - Memory and I/O Devices.
- ❖ Interfacing I/O Devices :
 - Basic Interfacing Concepts.
 - Interfacing Output Devices.
 - Interfacing Input devices.
 - Memory-Mapped I/O.
- ❖ Fundamental of Microprocessor Programming
- ❖ Interfacing Peripherals :
 - Interrupts.
 - General Purpose Programmable Peripheral Devices.

REFERENCE BOOKS:

1. Digital Design {By Morris Mano}
2. Designing With Fpgas And Cplds {By Jesse Ii Jenkins}
3. Digital Integrated Electronics {By H Taub & D Schilling}
4. VHDL {By Douglas L Perry}
5. Introduction To Vlsi Systems {By C Mead And I Conway}
6. Electronics For Scientists And Engineers {By T.R.Viswanathan , G.K.Mehta And Rajaraman}
7. Integrated Electronics, Analog And Digital Circuits And Systems {By J . Millman And Halkias}
8. Microprocessors Architecture Programming And Applications With The 8085. {By Ramesh S. Gaonkar.} Penram International Publishing (India).