

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. SEMESTER : VIII
ELECTRONICS AND TELECOMMUNICATION
ENGINEERING

Subject Name: **ADVANCED MICROPROCESSOR**

Sr. No.	Course Contents
1.	Microprocessor and Its Architecture: Internal 8086/8088 microprocessor architecture, Real mode memory addressing, Addressing modes.
2.	Programming The Microprocessor: Data movement instructions, Arithmetic and logic instructions, Program control instructions, string instruction, assembly language programming, assembler directives, program development tools.
3.	8086 Hardware specifications: 8086 pin-outs and pin functions, Clock generator, Bus buffering and latching, Bus timings, Ready and wait stat, minimum/maximum mode operation, Memory interfacing with 8086, address decoding, Introduction to basic I/O interface, I/O port address decoding.
4.	Basic interrupt processing: The purpose of interrupts, Interrupts, Interrupt instructions, the operation of a real mode interrupt, Interrupt flag bits, storing an interrupt vector in the vector table. Hardware interrupts: INTR and INTA
5.	80186, 80188 and 80286 microprocessors: 80186/80188 basic block diagram and basic features, Introduction to 80286 hardware features, additional instructions.
6.	The 80386 and 80486 microprocessor: Introduction to 80386 microprocessor, Special 80386 registers, Memory Management, Moving to protected mode, Virtual 8086 mode, Memory paging mechanism, 80486 microprocessor architecture and memory system.
7.	Pentium, Pentium Pro, Pentium II, Pentium III, Pentium IV and Core2 microprocessors: Introduction to Pentium microprocessor, Special Pentium registers, Basic and additional features of Pentium Pro, Pentium II, Pentium III, Pentium IV and Core2 microprocessors.

Reference Book:

1. The Intel Microprocessors: 8086/8088, 80186/80188, 80286, 80386, 80486, Pentium, Pentium Pro Processor, Pentium II, Pentium III, Pentium 4, and Core2 with 64-bit Extensions, 8th Edition , Barry B. Brey , Pearson Education
2. Microprocessors and Interfacing By Douglas V Hall Revised Second Edition, McGraw Hill Publication
3. The 8088 and 8086 Microprocessors, Programming, Interfacing, Software, Hardware and Applications, Fourth Edition, By Walter A Triebel and Avtar Singh, Pearson Education.

Practical/Term-work:

Practical/Term-work will be based on the topics covered in the syllabus, Programming using Dos and Bios Function Calls and applications.