

**UNIT I THE 8086 PROCESSOR - SOFTWARE ASPECTS 9**

Evolution of Microprocessors - 8086 architecture – Addressing modes- Instruction set and assembler directives – Assembly language programming – Interrupts and interrupt service routines.

**UNIT II 8086 SYSTEM DESIGN 9**

8086 signals description – Basic configurations - System bus timing –System design using 8086 – Minimum mode /Maximum modes 8086 system and timings.

**UNIT III INTERFACING CONCEPTS 9**

Memory Interfacing and I/O interfacing - Parallel communication interface – Serial communication interface – Timer – Keyboard /display controller – Interrupt controller – DMA controller – Programming and applications.

**UNIT IV ADVANCED PROCESSORS 9**

Intel 80286 – Internal Architecture – Register Organization – Modes of operation – Real Address Mode – Protected Virtual Address mode – Privilege levels – Protection features - Architectural features and Register Organization of i386, i486 and Pentium processors.

**UNIT V BUILDING SYSTEMS 9**

Bus Concepts – Bus Standards –The Peripheral Component Interconnect (PCI) Bus – Universal Serial Bus (USB) – Platform Architectures.

**TOTAL = 45****REFERENCES**

1. A. K. Ray & K. M. Bhurchandi, “Advanced Microprocessors and peripherals- Architectures, Programming and Interfacing”, Tata McGraw Hill, 2002.
2. Barry B. Brey, “ Intel Microprocessors, The 8086/8088, 80186/80188, 80286, 80386, 80486, Pentium, PentiumPro Processor, PentiumII, PentiumIII, PentiumIV, Architecture, Programming & Interfacing”, Seventh Edition, PHI Learning / Pearson Education, 2006.
3. Peter Abel, “IBM PC Assembly language and programming”, Prentice Hall of India Pvt. Ltd., 5<sup>th</sup>. Edition, 2001.