

**Subject Code: 10CS44**  
**Hours/Week : 04**  
**Total Hours : 52**

**L.A. Marks : 25**  
**Exam Hours: 03**  
**Exam Marks: 100**

**PART - A**

**UNIT - 1** **6 Hours**  
The Unix Operating System, The UNIX architecture and Command Usage,  
The File System

**UNIT - 2** **6 Hours**  
Basic File Attributes, the vi Editor

**UNIT - 3** **7 Hours**  
The Shell, The Process, Customizing the environment

**UNIT - 4** **7 Hours**  
More file attributes, Simple filters

**PART - B**

**UNIT - 5** **6 Hours**  
Filters using regular expressions,

**UNIT - 6** **6 Hours**  
Essential Shell Programming

**UNIT - 7** **7 Hours**  
awk - An Advanced Filter

**UNIT - 8** **7 Hours**  
perl - The Master Manipulator

**Text Book:**

1. Sumitabha Das: UNIX – Concepts and Applications, 4<sup>th</sup> Edition,  
Tata McGraw Hill, 2006.  
(Chapters 1,2, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 18, 19)

**Reference Books:**

1. Behrouz A. Forouzan and Richard F. Gilberg: UNIX and Shell  
Programming, Cengage Learning, 2005,
2. M.G. Venkateshmurthy: UNIX & Shell Programming, Pearson  
Education, 2005.

**MICROPROCESSORS**



**H. O. D.**

**Dept. Of Computer Science & Engineering**  
**Alva's Institute of Engg. & Technology**  
**Mijar, MOODBIDRI - 574 225**

(Common to CSE & ISE)

Subject Code: 10CS45  
Hours/Week : 04  
Total Hours : 52

I.A. Marks : 25  
Exam Hours: 03  
Exam Marks: 100

**PART A**

**UNIT - 1**

**7 Hours**

**Introduction, Microprocessor Architecture - 1:** A Historical Background, The Microprocessor-Based Personal Computer Systems. The Microprocessor and its Architecture: Internal Microprocessor Architecture, Real Mode Memory Addressing.

**UNIT - 2**

**7 Hours**

**Microprocessor Architecture - 2, Addressing Modes:** Introduction to Protected Mode Memory Addressing, Memory Paging, Flat Mode Memory Addressing Modes: Data Addressing Modes, Program Memory Addressing Modes, Stack Memory Addressing Modes

**UNIT - 3**

**6 Hours**

**Programming - 1:** Data Movement Instructions: MOV Revisited, PUSH/POP, Load-Effective Address, String Data Transfers, Miscellaneous Data Transfer Instructions, Segment Override Prefix, Assembler Details. Arithmetic and Logic Instructions: Addition, Subtraction and Comparison, Multiplication and Division.

**UNIT - 4**

**6 Hours**

**Programming - 2:** Arithmetic and Logic Instructions (continued): BCD and ASCII Arithmetic, Basic Logic Instructions, Shift and Rotate, String Comparisons. Program Control Instructions: The Jump Group, Controlling the Flow of the Program, Procedures, Introduction to Interrupts, Machine Control and Miscellaneous Instructions.

**PART B**

**UNIT - 5**

**6 Hours**

**Programming - 3:** Combining Assembly Language with C/C++: Using Assembly Language with C/C++ for 16-Bit DOS Applications and 32-Bit Applications. Modular Programming, Using the Keyboard and Video Display, Data Conversions, Example Programs



H. O. D.

Dept. Of Computer Science & Engineering  
Alva's Institute of Engg. & Technology  
Mijar, MOODBIDRI - 574 225

**UNIT - 6****7 Hours**

**Hardware Specifications, Memory Interface – 1:** Pin-Outs and the Pin Functions, Clock Generator, Bus Buffering and Latching, Bus Timings, Ready and Wait State, Minimum versus Maximum Mode.  
Memory Interfacing: Memory Devices

**UNIT – 7****6 Hours**

**Memory Interface – 2, I/O Interface – 1:** Memory Interfacing (continued): Address Decoding, 8088 Memory Interface, 8086 Memory Interface.  
Basic I/O Interface: Introduction to I/O Interface, I/O Port Address Decoding.

**UNIT 8****7 Hours**

**I/O Interface – 2, Interrupts, and DMA:** I/O Interface (continued): The Programmable Peripheral Interface 82C55, Programmable Interval Timer 8254.

Interrupts: Basic Interrupt Processing, Hardware Interrupts: INTR and INTA; Direct Memory Access: Basic DMA Operation and Definition.

**Text Book:**

1. Barry B Brey: The Intel Microprocessors, 8<sup>th</sup> Edition, Pearson Education, 2009.  
(Listed topics only from the Chapters 1 to 13)

**Reference Books:**

1. Douglas V. Hall: Microprocessors and Interfacing, Revised 2<sup>nd</sup> Edition, TMH, 2006.
2. K. Udaya Kumar & B.S. Umashankar : Advanced Microprocessors & IBM-PC Assembly Language Programming, TMH 2003.
3. James L. Antonakos: The Intel Microprocessor Family: Hardware and Software Principles and Applications, Cengage Learning, 2007.

**COMPUTER ORGANIZATION**  
(Common to CSE & ISE)

**Subject Code:** 10CS46  
**Hours/Week :** 04  
**Total Hours :** 52

**I.A. Marks :** 25  
**Exam Hours:** 03  
**Exam Marks:** 100

**PART – A**

**UNIT - 1****6 Hours**

**Basic Structure of Computers:** Computer Types, Functional Units, Basic Operational Concepts, Bus Structures, Performance – Processor Clock, Basic

25



H. O. D.

Dept. Of Computer Science & Engineering  
Alva's Institute of Engg. & Technology  
Mijar, MOODBIDRI - 574 225