

**Chapter 1: Introduction and History**

You will learn:

- Components of a computer system.
- Stored programs.
- Timesharing and multiprogramming.
- Data storage.
- Minicomputer systems.
- On-line communication systems.
- Distributed systems.

**Chapter 2: Programs and Programming Languages**

You will learn:

- Instructions and data.
- Components of a program.
- Types of programming languages.
- Language translation and compilation.
- Features and capabilities of machine languages.
- High-level programming languages.

**Chapter 3: Data Representation**

You will learn:

- Binary and hexadecimal systems.
- EBCDIC codes.
- ASCII codes.
- Hexadecimal conversion.
- Integer conversion.
- Converting hexadecimal to binary numbers.

**Chapter 4: Computer Components**

You will learn:

- Control units.
- Terminals.
- Teleprocessing concepts.
- Types of printer output.
- Storage media.
- DASD switching.
- Other I/O devices.

**Chapter 5: CPU Processing**

You will learn:

- Machine cycles.
- Machine instructions.
- Instruction cycle.
- Instruction counter.
- Execution cycle.

**Chapter 6: Operating System**

You will learn:

- The role and functionality of an operating system.
- Input/output systems.
- JES: Job Entry Subsystem.
- TSO: Time Sharing Option.
- VTAM: Virtual Telecommunications Access Method.
- Real storage and addressing.

**Chapter 7: Dataset Characteristics**

You will learn:

- Dataset components.
- File types.
- Types of storage.
- Sequential and direct processing.
- Access methods functions.
- PDS - partitioned data set.
- VSAM advantages.
- Alternate indexes.

**Chapter 8: Design and Analysis**

You will learn:

- The steps in system analysis and design.
- How to use flowcharts.
- Flowchart symbols.
- Top-down program development.
- How to evaluate program design.
- The programming cycle.
- How to use pseudocode.
- Flow of control: DO, IF-THEN-ELSE, and DO WHILE.