UNIT 1 – INTRODUCTION TO SYSTEM SOFTWARE

1. Define system software.
2. System software and machine architecture.
3. Loader – basic functions.
4. Machine dependent loader features.
5. Machine independent loader features.
6. Loader design options.
7. Types of loaders.

UNIT 2 – MACHINE AND COMPILER

1. Machine dependent compiler features.
2. Intermediate form of a program.
3. Machine dependent code optimization.
4. Machine independent compiler features.
5. Compiler design options.
6. Division of compiler into passes.
7. Interpreters.
8. P-code compilers.
9. Compiler-compilers.

UNIT 3 – OPERATING SYSTEM

1. Definition and functions of an Operating System.
2. Process concept.
3. Process states and transitions.
4. Interrupt processing.
5. Classes of interrupts.
6. Real storage management.
7. Contiguous vs non-contiguous storage allocation.
8. Single user contiguous allocation.
9. Fixed partition multiprogramming.
10. Variable partition multiprogramming.

UNIT 4 – VIRTUAL STORAGE & PROCESSOR MANAGEMENT

1. Virtual storage concept.
2. Virtual storage management strategies.
3. Demand paging.

4. Page replacement strategies.

5. Working set model.

6. Page size.

7. Processor scheduling.

8. Preemptive vs non-preemptive scheduling.

9. Priority scheduling.

10. Deadline scheduling.

UNIT 5 – DEVICE & INFORMATION MANAGEMENT

1. Device management concepts.

2. Disk performance optimization.

3. Moving head disk operation.

4. Need for disk scheduling.

5. Seek optimization techniques.

6. File system – definition and functions.

7. File organization methods.

8. Space allocation and free space management.

9. File descriptor.

10. Access control matrix.