AMHE12 SYSTEM SOFTWARE

UNIT-1 ASSEMBLERS

1.1 Overview of the assembly process
1.2 Machine dependent assembler features
1.3 Machine independent assembler features
1.4 Design of two pass assembler-single pass assembler.

UNIT-2 LOADERS AND LINKERS

2.1 Loader functions
2.2 Program relocatability
2.3 Absolute and bootstrap loader
2.4 Overview of linkage editing-linking loader
2.5 Dynamic linking
2.6 Design of the linkage editor.

UNIT-3 MACROPROCESSORS

3.1 Macro definition and usage,
3.2 Schematics for Macro expansion,
3.3 Generation of unique labels,
3.4 Conditional macro expansion,
3.5 Recursive macro expansion
3.6 Design of a Macro pre-processor Design of a Macro assembler.

UNIT-4 OPERATING SYSTEMS

4.1 Basic Operating Systems functions,
4.2 Types of Operating Systems
4.3 User Interface, Run-time Environment.
4.4 Operating Systems Design Options
4.5 Hierarchical Structures
4.6 Virtual Machines
4.7 Multiprocessor Operating Systems
4.8 Distributed Operating Systems
4.9 Object Oriented Operating Systems.

References Books:

1. Leland L.Beck, “System Software - An Introduction to System Programming”, 3rd edition, Addison Wesely
2. John J. Donovan, “Systems Programming”, McGraw Hill, 2009
3. D.M.Dhamdhere, "System Programming and Operating Systems”, 2nd edition. Tata McGraw Hill