

# AMCN-12 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 Wesley
2. John J. Donovan, "Systems Programming", McGraw Hill, 2009
3. D.M.Dhamdhere, "System Programming and Operating Systems", 2nd edition. Tata McGraw Hill