SYSTEM SOFTWARE

Paper Code	**CEN-406**
Course Credits	**4**
Lectures / week	**3**
Tutorial / week	**1**
Course Description	**UNIT – I** Introduction, fundamental of language processing and specification, language processor development tools, Data structure of language processing, scanning and parsing. Machine structure and Machine language: Approach to new machine, state table and diagram, Machine structure, memory, registers, Data, Instructions, special features. Address modifications. **UNIT- II** Elements of assembly language programming, review of instruction format, Addressing modes, Functions of Assembler, Design of Assemblers: single pass assemblers, two pass assembler, Macros processors: Macro instruction, features of macro preprocessor, implementation of Macros. **UNIT- III** Relocation and linking concept, Design of linker, self-relocating program, linking of overlays. Loader: Function of loader, various loading schemes, general loader, relocating loader, Direct linking loader, Dynamic loading, Design of absolute loader, Design of direct linking loader. **UNIT- IV** UNIX basic commands, File system, I/O Redirection and piping, processes in Unix, Communication commands. **UNIT – V** Decision, Loops- while, until and for loops, break and continue, File meta characters, Functions of shell, exporting variables, trapping signals, shell variables $?, $$, $#, $*, $1, system administration.
References / Text	

Books:

- System programming and operating system By D.M. Dhamdere, TMH 2nd Revised edition.
- System programming By John J. Donovan, TMH Reprint 2005.
- Unix programming By Allen Cox , Wrox publication
- Unix Shell Programming By Yashwant Kanetker, BPB Publication

Computer Usage / Software Requires: e.g. Mac or Linux Operating System, Bash Shell, Gedit, GCC