MA 406: COMPUTER PROGRAMMING (2-0-4:4)

Theory: Introduction to Computers: The Von Neumann architecture, machine language, assembly language, high level programming languages, compiler, interpreter, loader, linker, text editors, algorithms and flowcharts.

Basic features of programming (Using C): data types, variables, enums, operators, expressions, statements, control structures, functions, input/output.

Advanced programming features: arrays and pointers, recursion, records (structures), unions, memory management, file operations,standard library functions.

Fundamental data structures: arrays, stacks, queues, non-linear data structures.

Lab: Programming laboratory will be set in consonance with the material covered in lectures. This will include assignments in C programming language in GNU Linux environment. The laboratory assignments will emphasize on documentation, well-structured programs and use of assertions.

Text Books and References:

1. Y. Kanetkar, “Let Us C”, BPB Publications
2. E. Balagurusamy, “Programming in C”, Tata McGraw-Hill Publishing Company Limited
3. B. W. Kernighan and D. M. Ritchie, “The C Programming Language”, Prentice Hall