

PMC104: FUNDAMENTALS OF COMPUTER SCIENCE AND C-PROGRAMMING

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3	0	4	5

Course Objectives: To impart the basic knowledge of computers and C-programming.

Computer's General Concepts: Definition, Historical overview, Technological advancement in computers, Shape of today's computer, Computer as a system.

Hardware and Software: CPU, Primary memory, Secondary storage devices, input devices, Output devices, Significance of software in computer system, Categories of software – system software, Application software, Compiler, Interpreter, Utility program, Binary arithmetic for integer and fractional numbers, Operating system and its significance.

C Programming: Introduction to algorithm, Flow charts, Problem solving methods, Need of programming languages. C character set, Identifiers and keywords, Data types, Declarations, Statement and symbolic constants, Input-output statements, Preprocessor commands, Operators, expressions and library functions, Control statements: Conditional, Unconditional, Bi-directional, Multi-directional and loop control structures, Functions, Arrays, Strings, Introduction to Pointers, Structure and union, Files.

Laboratory Work:

Laboratory experiments will be set in consonance with the materials covered in theory.

Course Learning Outcomes (CLO):

Students will have understanding of

1. Basics of computer and its components.
2. C Programming.

Recommended Books:

1. Norton, Peter, *Introduction to Computers*, Tata McGraw Hill, (2008).
2. Kernighan, B.W. and Ritchie, D.M., *The C programming language, ANSI C Version*, (2008).
3. Kanetka, R Yashawant, *Let us C, BPB*, (2007).
4. Rajaraman, V., *Fundamentals of Computers*, Prentice-Hall of India, (2004).