| Course No. | Course Name | L-T-P -Credits | Year of Introduction |
|---|---|---|---|
| EE207 | COMPUTER PROGRAMMING | 2-1-0-3 | 2016 |

**Course Objectives**

To impart knowledge about programming in C

To learn basics of PYTHON.

**Syllabus** Introduction to Programming, Basic elements of C, Control statements in C, Arrays and Strings, Functions, Storage classes ,Structures and Pointers, File Management in C, Introduction to Python

**Expected outcome**. 1. Ability to design programs using C language
2. Ability to develop simple programs using Python

**Text Book:**1)E. Balaguruswamy, *Programming in ANSI C*, Tata McGraw Hill, New Delhi
2) John V Guttag, Introduction to Computation and programming using Python, PHI Learning, New Delhi.

**Data Book ( Approved for use in the examination): Nil**

**References:**

1. P. Norton, *Peter Norton's Introduction to Computers*, Tata McGraw Hill, New Delhi
2. Byron S. Gottfried, Programming with C, Schaun Outlines –McGraw Hill.
3. Ashok Kamthane, Programming with ANSI & Turbo C- Pearson education
4. K.R Venugopal and S.R Prasad, Mastering C - Tata McGraw Hill
5. Kelley, Al & Pohl, *A Book on C- Programming in C*, 4th Ed,, Pearson Education

**Course Plan**

| Module | Contents | Hours | Sem.ExamMarks |
|---|---|---|---|
| I | **Introduction to Programming**: Machine language, assembly language, and high level language. Compilers and assemblers.<br>Flow chart and algorithm – Development of algorithms for simple problems.<br>**Basic elements of C:** Structure of C program –Keywords, Identifiers, data types, Operators and expressions – Input and Output functions | 5hours | 15% |
| II | **Control statements in C:** *if, if-else, while, do-while and for statements, switch, break, continue, go to, and labels. Programming examples.* | 7 hours | 15% |
| | **FIRST INTERNAL EXAMINATION** | | |
| III | **Arrays and Strings**: Declaration, initialisation, processing arrays and strings– two dimensional and multidimensional arrays –application of arrays. Example programs. | 7 hours | 15% |
| IV | **Functions :** Functions – declaring, defining, and accessing functions –parameter passing methods – – passing arrays to functions , Recursion .<br>**Storage classes** – extern, auto, register and static. Example programs. | 7 hours | 15% |
| | **SECOND INTERNAL EXAMINATION** | | |

| | | | |
|---|---|---|---|
| **V** | **Structures** – declaration, definition and initialization of structures, unions<br>**Pointers**: Concepts, declaration, initialization of pointer variables, Accessing a Variable through its Pointer Chain of Pointers, Pointer Expressions, Pointer Increments and Scale Factor, Pointers and Arrays, examples | **8 hours** | 20% |
| **VI** | **File Management** – File operations, Input/Output Operations on Files, Random Access to Files ,File pointer.<br>**Introduction to Python** :Basic Syntax, Operators, control statements, functions-examples. | **8hours** | 20% |
| **END SEMESTER EXAM** | | | |

**QUESTION PAPER PATTERN (End semester exam)**

**Part A**: 8 questions.

One question from each module of Module I - IV; and two each from Module V & VI. Student has to answer all questions. (8 x5)=40

**Part B**: 3 questions uniformly covering modules I&II

Student has to answer any 2 questions: (2 x 10) =20

**Part C**: 3 questions uniformly covering modules III&IV

Student has to answer any 2 questions: (2 x 10) =20

**Part D**: 3 questions uniformly covering modules V&VI

Student has to answer any 2 questions: (2 x 10) =20

**Note:** Each question can have maximum of 4 sub questions, if needed.