

Lecture Plan – Introduction to Programming
2nd Semester (Even Semester Jan – May)
Academic Year 2013-14

ETCS – 128

Total No. of Lectures : 32

L T P
3 0 3

Sl. No.	CONTENTS	No. of LECTURE
	<u>First Term</u>	
1	Basic concepts of algorithm and flow charts with suitable examples, concepts of translators (compiler, interpreter and assembler) and their purpose, key terms associated with translators (loader, linker, scheduler, dispatcher).	3
2	Introduction to programming languages, characteristics of C language, basic structure of a C program.	1
3	How to write program in C language, writing basic programs, overview of compilation / execution process, explanation of key terms associated with compilation / execution (errors, bugs , run time error, logical errors etc).	4
4	Programming using C: Preprocessor Directives, Header Files, Main Function and, Macro.	1
5	Formatted and unformatted I/O statements, Data Types including enumeration, Tokens (keywords, Identifiers, Variables, Constants etc.).	2
6	Operators: Relational, Logical, Arithmetic, Conditional, Bitwise etc, Evaluation of expressions, Precedence and Associativity of operators with examples.	1
7	Conditional Executing using IF, Else, Switch (Case), Goto, Break and Continue Statements.	2
8	Loops: Concept of Loops, For Loop, While Loop, Do – While and Nested For Loops, Comparison of Loops.	2

	<u>Second Term</u>	
9	<p>Storage Class: Auto, Register, Static and Extern.</p> <p>Arrays: Declaring, initialising and accessing array elements using 2 – Dimensional and 3 – Dimensional Arrays, Matrix Computation by using Arrays.</p>	3
10	<p>Functions: Concepts of functions, declaring and using predefined functions, Parameter passing in functions (call by value and call by reference), Passing the array in function, Recursion.</p>	3
11	<p>Pointers: Concept of pointers, Relationship between array and pointer, Passing array as argument, Array of pointers, Dynamic memory allocation using malloc(), use of free (), Pointer Arithmetic.</p>	3
12	Structure and Union, String and C string library.	2
	<u>Third Term</u>	
13	File handling in C using file pointers fopen(), fclose(), input and output using file pointers.	1
14	Character input and output with files, String input and output functions.	2
15	Formatted input / output functions, Block input / output functions.	1
16	Sequential Vs Random Access Files, Positioning the File Pointer.	1
	<u>Books</u>	
	<p>Text: [T1] Herbert Schildt, “C: The Complete Reference”, OsbourneMcgraw Hill, 4th Edition, 2002. [T2] Forouzan Behrouz A. “Computer Science: A Structured Programming Approach Using C, Cengage Learning 2/e</p>	
	<p>References: [R1] Kernighan & Ritchie, “C Programming Language”, The (Ansi C version), PHI, 2/e [R2] R.S. Salaria "Application Programming in C " , Khanna Publishers4/e [R3] Yashwant Kanetkar “ Test your C Skills ”, BPB Publications [R4] http://www.codeblocks.org/ [R5] http://gcc.gnu.org/</p>	
	Dr. Shafiq ul Abidin	

--	--	--