

Course code	Course Name	L-T-P - Credits	Year of Introduction
MR201	C Programming	3-1-0 -4	2016
Pre requisites : Nil			
Course Objectives <ul style="list-style-type: none"> To impart the basic concepts of computer and information technology To develop skill in problem solving concepts through learning C programming with a practical approach. 			
Syllabus Introduction to Computers- Evolution and comparative study of processors- Machine language, assembly language, and high level language- Concept of Program and data, System software- Windows, and Linux. Compilers and assemblers, Computer networks: LAN, WiFi- Basic elements of C- Input and Output functions- Functions and Program structures- Structures -Recursion- Arrays- Pointers-Concept of a file- Example programs.			
Expected outcome <ol style="list-style-type: none"> Students will acquire knowledge on the components and working of computers. Students will get knowledge in computer networks and operating systems. Students will understand the role of compilers, pointers, arrays etc in C programming. 			
Text Book: <ol style="list-style-type: none"> P. Norton, <i>Peter Norton's Introduction to Computers</i>, Tata McGraw Hill, New Delhi. E. Balaguruswamy, <i>Programming in ANSI C</i>, 3rd ed., Tata McGraw Hill, New Delhi, 2004 			
References: <ol style="list-style-type: none"> B. Gottfried, <i>Programming with C</i>, 2nd ed, Tata McGraw Hill, New Delhi, 2006 B. W. Kernighan, and D. M. Ritchie, <i>The C Programming Language</i>, Prentice Hall of India, New Delhi, 1988 K. N. King. <i>C Programming: A Modern Approach</i>, 2nd ed., W. W. Norton & Company, 2008 P. Norton, <i>Peter Norton's Computing Fundamentals</i>, 6th ed., Tata McGraw Hill, New Delhi, 2004. S. Kochan, <i>Programming in C</i>, CBS publishers & distributors M. Meyer, R. Baber, B. Pfaffenberger, <i>Computers in Your Future</i>, 3rd ed., Pearson Education India 			
Course Plan			
Module	Contents	Hours	Sem. Exam Marks
I	Introduction to Computers: CPU, Memory, input-output devices, secondary storage devices, Processor Concepts - Evolution and comparative study of processors. Machine language, assembly language, and high level language. Inside a PC, Latest trends and technologies of storage, memory, processor, printing etc	9	15%
II	Concept of Program and data, System software - BIOS, Operating System- Definition-Functions-Windows, and Linux. Compilers and assemblers, Computer networks: LAN, WiFi.	9	15%
FIRST INTERNAL EXAMINATION			

III	Basic elements of C: Flow chart and algorithm – Development of algorithms for simple problems. Structure of C program – Operators and expressions – Procedure and order of evaluation – Input and Output functions. while, do-while and for statements, if, if-else, switch, break, continue, goto, and labels. Programming examples.	10	15%
IV	Functions and Program structures: Functions – declaring, defining, and accessing functions – parameter passing methods – Recursion – Storage classes – extern, auto, register and static. Library functions. Header files – C pre-processor. Example programs.	9	15%
SECOND INTERNAL EXAMINATION			
V	Arrays: Defining and processing arrays – passing arrays to functions – two dimensional and multidimensional arrays – application of arrays. Example programs.	10	20%
VI	Structures – declaration, definition and initialization of structures, unions, Pointers: Concepts, declaration, initialization of pointer variables simple examples Concept of a file – File operations File pointer.	9	20%
END SEMESTER EXAM			

QUESTION PAPER PATTERN

Maximum Marks : 100

Exam Duration: 3 hours

PART A: FIVE MARK QUESTIONS

8 compulsory questions – 1 question each from first four modules and 2 questions each from last two modules (8 x 5 = 40 marks)

PART B: 10 MARK QUESTIONS

5 questions uniformly covering the first four modules. Each question can have maximum of three sub questions, if needed. Student has to answer any 3 questions (3 x 10 = 30 marks)

PART C: 15 MARK QUESTIONS

4 questions uniformly covering the last two modules. Each question can have maximum of four sub questions, if needed. Student has to answer any two questions (2 x 15 = 30 marks)