P.G.D.C.A. Semester – II

DCA - 201 : Advanced Programming Language 'C'

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
4	---	40	4	30	----	70	---	100	---

Unit – I	**[17 Marks]**
User-Defined Functions: Introduction, Need for user-defined functions, The form of C function, Return values and their types, Calling a function, category of functions, No arguments and no return values, Argument with no return values, Arguments with return values, Handling of non-integer functions, Nesting of functions, Recursion, Functions with arrays, The scope and Lifetime of variables in functions	
Unit – II	**[18 Marks]**
Structures and Unions: Introduction, Structure definition, Giving values to members, Structure initialization, Comparison of structures variables, Arrays of structures, Arrays within structures, Structures within Structures, Structures and functions, Unions.[1]	
Unit – III	**[17 Marks]**
Pointers: Introduction, Understanding pointers, Accessing the address of a variable, Declaring and initializing pointers, Accessing a variable through its pointer, Pointer expressions, Pointer increments and scale factor, Pointers and arrays, Pointers and character strings, Pointers and Functions, Pointers and structures.	
Unit – IV	**[18 Marks]**
File Management in C: Introduction, Defining and opening a file, Closing a file, Input / Output operations on files, Error handling during I/O operations, Random access files, Command line arguments. **Dynamic Memory Allocation** Introduction, Dynamic Memory allocation, Memory allocation functions	

Text Book:

1. **Programming in ANSI C**, Balagurusamy, Tata McGraw-Hill

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[1]

Reference Books:

1. Programming in C, by Pradip Dey & Manas Ghosh, Publisher – Oxford
2. The Complete Reference, Herbert schildt Fourth Edition
3. Let Us C , Yashwant Kanetkar, BPB Publications
4. Programming in C, by Reena thareja Publisher – Oxford

Question Paper Scheme:

University Examination Duration : 3 Hours.

Q.1 - Unit-I   (12 Marks)
      Descriptive/ Long questions.
Q.2 - Unit-II   (12 Marks)
      Descriptive/ Long questions.
Q.3 - Unit-III   (12 Marks)
      Descriptive/ Long questions.
Q.4 - Unit-IV   (12 Marks)
      Descriptive/ Long questions.
Q.5 -
      A. Unit I ,II,III and IV – Objectives Questions (12 Marks)
      B. Program related to syllabus of above subject (10 Marks)

Note: Options should be given in all questions.