

**Course: Major
C Language**

Semester: I	Credits: 4	Subject Code: BCMAJCLA123140	Lectures: 60
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Course Outcomes:

At the end of this course the learner will be able to:

- CO1: Relate the basics of computer programming languages.
- CO2: Understand the C programs on windows platform and graphics Programming
- CO3: Develop an in-depth understanding of functional and logical concepts of C Programming using files.
- CO4: Analyze the problem and find the logical solution by using C language.
- CO5: Evaluate various system defined function for string handling and I/O.
- CO6: Create programs, applications in C language and use them in solving various problems.

Unit 1: Introduction to C language and Control structure	15
<ul style="list-style-type: none"> • History • Basic structure of C Programming • Language fundamentals : Character set, tokens, Keywords and identifiers , Variables and data types • Operators: Types of operators: Precedence and associativity, Expression, Managing I/O operations; Console based I/O and related built-in I/O functions, printf(), scanf(), getch(), getchar(), Formatted input and formatted output • Decision Making and Conditional statements: Introduction, Decision making structure, If statement , If-else statement, Nested if-else statement, Conditional operator , Switch statement • Loop control structures: while loop, Do-while loop , For loop, Nested for loop, Jump statements , break , continue, goto, exit 	

Unit 2: Function , Array and String	15
<ul style="list-style-type: none"> • Introduction to function: Purpose of function, Function definition, Function declaration, Function call, Types of functions , Call by value and call by reference, Storage classes • Introduction to Array: Definition : Declaration , Initialization • Accessing and displaying array elements • Finding smallest and largest number from array • Reversing array • Introductions to Strings :Definition, Declaration, Initialization, Standard library Functions , Implementations without standard library functions. 	



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Unit 3 : File Handling and Command Line argument	15
<ul style="list-style-type: none"> File : Def., File Opening Modes, Types of files - text and binary. Functions: fopen(), fclose(), fgetc(), fputc(), fgets(), fputs(), fscanf(), fprintf(), getw(), putw(), fread(), fwrite(), fseek(), ftell() etc. File Management : Opening/Closing a File ,Input/Output operations on Files Error Handling During I/O Operations , Command Line ,Arguments. 	

Unit 4 : Graphics programming in C	15
<ul style="list-style-type: none"> Introduction of graphics Graphical functions Simple Programs Vector Raster graphics Segments in Computer graphics Image formats Examples 	

Recommended Text Books:

- Byron S Gottfried, *Programming with C*, McGraw Hill, 2018
- Kiran Gurbani, Vinaya Keshkar, *C Programming*, Himalaya Publication House, 2015
- Brian W. Kernighan, *The C Programming*, Pearson, 2015
- S.K.Srivastava, *C in Depth*, BPB Publication

Reference Books:


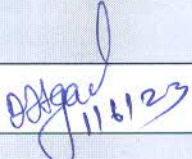
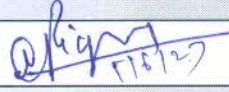
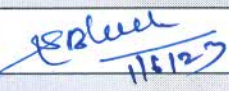
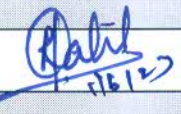
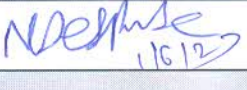
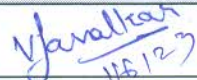
- Yashwant Kanetkar , *Let us C* ,Abrams, M.H. A Glossary of Literary Terms. Prism: Bangalore; 2004., BPB publication;
- Balagurusamy, *Ansi C*, MC Graw Hill Eductaion, 2017
- Yashwant Kanetkar , *Understanding Pointers in C*, BPB publication 2002.
- Herbert Schildt , *The Complete Reference C*, Tata McGraw-Hill publication 3 rd edition 2008.

Websites:

- <https://www.tutorialspoint.com/>
- www.w3schools.com
- <https://www.studytonight.com/c/>



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Faculty	Asst. Prof. Monika Rajguru		
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Industry Expert	Mr. Nilkanth Deshpande		
Alumni	Ms. Vaishanvi Javalkar		



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