

**Savitribai Phule Pune University**  
**Syllabus for B.B.A (CA) (CBCS 2019 Pattern)**  
**Semester II - Subject Code: - 207**  
**Subject Name -: Advance C Programming**

Total Contact Hours: -30

Total Credits: - 2

Pre requisite: Basics of C, Array, Structure, Pointer.

Objectives:

- To study advanced concepts of programming using the 'C' language.
- To understand code organization with complex data types and structures.
- To work with files

Credit Distribution: - 1 credit for theory (15 Lectures) and 1 credit for Practical.

Unit No.	Contents	Lectures
1	Union and Enumeration 1.1 Union 1.1.2. Def, Syntax. 1.2 Working with union 1.3 Initializing union 1.4 Advantages of union 1.3 Structures versus union 1.5 Advantages of union  Enumeration 1.6 Enum keyword 1.7 typedef keyword 1.8 Working with Enum	3
2	File handling: 2.1 File 2.1.1 Def 2.1.2 File Opening Modes 2.1.3 Types of files - text and binary,  2.2 Functions: fopen(), fclose(), fgetc(), fputc(), fgets(), fputs(), fscanf(), fprintf(), getw(), putw(), fread(), fwrite(), fseek(),ftell() etc  2.3 File Management  2.3.1 Opening/Closing a File 2.3.2. Input/Output operations on Files  2.3.3. Error Handling During I/O Operations 2.3.4. Command Line Arguments  2.4. Random Access File	4

3	<p>Graphics programming</p> <p>3.1 Introduction of graphics</p> <p>3.2 Graphical functions</p> <p>3.3 Simple Programs</p>	2
4	<p>Hardware Interfacing with C</p> <p>4.1.Introduction</p> <p>4.1.1 The C Standard(s)</p> <p>4.2. Embedded C Fundamentals</p> <p>4.2.1.Fixed-Width Integers</p> <p>4.2.2 Binary Data Manipulation</p> <p>4.2.3.Fixed and Floating Point Math</p> <p>4.2.4 Performance Improvement</p> <p>4.2.5 Data Storage and Lifetimes</p> <p>4.2.6 The World Before main()</p> <p>4.3. Peripheral Control</p> <p>4.3.1. Peripheral Registers</p> <p>4.3.2.Memory-Mapped I/O</p> <p>4.3.3.Struct Overlays</p> <p>4.3.4.Volatile Keyword</p> <p>4.3.5. Bitmasks vs. Bitfields</p> <p>4.3.6. Device Drivers</p> <p>4.4. Interrupt Handling</p> <p>4.4.1. Interrupt Service Routines</p> <p>4.4.2.Vector Tables</p> <p>4.4.3.Hardware Hurdles</p> <p>4.4.4. Disabling Interrupts</p> <p>4.4.5.Interrupt Latency</p>	6

References:

1. C: the Complete Reference, Schildt Herbert, 4 th edition, McGraw Hill
2. A Structured Programming Approach Using C, Behrouz A. Forouzan, Richard F. Gilberg, Cengage Learning India
3. The 'C' programming language, Brian Kernighan, Dennis Ritchie, PHI
4. Programming in C ,A Practical Approach, Ajay Mittal , Pearson
5. Programming with C, B. Gottfried, 3rd edition, Schaum's outline Series, Tata McGraw Hill.
6. Programming in ANSI C, E. Balagurusamy, 7th Edition, McGraw Hill
7. Let Us C by Yashwant Kanetkar