



BABU MADHAV INSTITUTE OF INFORMATION TECHNOLOGY, UTU
Integrated M.Sc.(IT)

Semester-II

060010210 | CC5 Object Oriented Programming |
Lesson Plan

Unit	Sub Unit	No. of Lecture(s)	Topics	Reference Chapters/ Additional Reading	Evaluation Parameter
1		7	Introduction to Object Oriented Programming		Unit Test: 01
	0.1	1	Object – Oriented Programming Paradigm Basic	TB1 - Ch.1. Pg. 1 – 9	
	1.1		Structured Programming Vs. Object Oriented Programming	TB1 - Ch.1. Pg. 9 – 11	
	1.2	2	Object Oriented Programming Concepts	TB1 - Ch.1. Pg. 11 – 21	
	1.3	1	Advantages and Application of OO Methodology	TB1 - Ch.1. Pg. 25 – 26	
	1.4	1	Classes and Object:	TB10 - Ch.10. Pg. 316 – 319	
			1.4.1 Defining Class		
			1.4.2 Access Specifier		
			1.4.3 Creating Object		
	1.5	2	Modular programming with functions:	TB1 - Ch.7. Pg. 191 – 201	
			1.5.1 Return by reference	TB1 - Ch.7. Pg. 209 – 210	
			1.5.2 Default argument	TB1 - Ch.7. Pg. 210 – 212	
			1.5.3 Inline functions	TB1 - Ch.7. Pg. 213 – 214	
1.5.4 Arrays and functions			TB1 - Ch.7. Pg. 220 – 221		



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			1.5.5	Storage class	TB1 - Ch.7. Pg. 225 – 228	
			1.5.6	Function with variable number of arguments	TB1 - Ch.7. Pg. 228 – 231	
2		7	Object Initialization and Cleanup			Unit Test: 01
	2.1	1	Friend Function and Class		TB1 - Ch.10. Pg. 342 – 349	
	2.2	1	Static Data Members and Member Functions		TB1 - Ch.10. Pg. 354 – 358	
	2.3	2	Constructor:		TB1 - Ch.11. Pg. 364 – 368	
			2.3.1	Type of Constructor	TB1 - Ch.11. Pg. 368 – 370, Pg. 385 – 387	
			2.3.2	Constructor Overloading	TB1 - Ch.11. Pg. 373 – 375	
			2.3.3	Constructor with Default Argument	TB1 - Ch.11. Pg. 377 – 380	
	2.4	1	Destructor		TB1 - Ch.11. Pg. 371 – 370	
	2.5	1	Nameless Object		TB1 - Ch.11. Pg. 380 – 381	
	2.6	1	Dynamic Memory Allocation		TB1 - Ch.11. Pg. 381 – 383	
3		7	Operator Overloading and Type Conversion			Unit Test: 02
	3.1	1	Introduction to Operator Overloading: Need		TB1 - Ch.13. Pg. 432 – 433	
	3.2	1	Unary and Binary Operator Overloading:		TB1 - Ch.13. Pg. 434 – 439, 445 – 446	
			3.2.1	Overloading Using Member Functions		
			3.2.2	Overloading Using Friend Functions	TB1 - Ch.13. Pg. 480 – 488	
	3.3	2	Overloading Special Operators:		TB1 - Ch.13. Pg. 441 – 445	
			3.3.1	Increment and Decrement Operators		



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			3.3.2	Subscript Operator	TB1 - Ch.13. Pg. 477 – 479	
			3.3.3	Memory Management Operators	TB1 - Ch.13. Pg. 462 – 464	
	3.4	1		Overloading << and >> Operators	TB1 - Ch.13. Pg. 485 – 488	
	3.5	1		Type Conversion	TB1 - Ch.13. Pg. 464	
	3.6	1		User Defined Conversion:	TB1 - Ch.13. Pg. 464 – 477	
			3.6.1	Basic Type to Class Type		
			3.6.2	Class Type to Basic Type		
			3.6.3	One Class Type to Another Class Type		
4		9		Inheritance		Unit Test: 02
	4.1	1	4.1.1	Advantage and Disadvantage of Inheritance	TB1 - Ch.14. 499 – 500, Pg. 567	
			4.1.2	Derived class declaration	TB1 - Ch.14. Pg. 503 – 605	
	4.2	1		Accessibility of Base Class Members	TB1 - Ch.14. Pg. 510, Pg. 511 - 515	
	4.3	3		Types of Inheritance	TB1 - Ch.14. Pg. 510 - 511	
	4.4	1		Virtual Base Class	TB1 - Ch.14. Pg. 552 - 558	
	4.5	1		Order of Calling of Constructor and Destructor	TB1 - Ch.14. Pg. 516 - 524	
	4.6	1		Function Overriding	TB1 - Ch.14. Pg. 530	
	4.7	1		Object Composition – Delegation	TB1 - Ch.14. Pg. 562 – 566	
5		7		Polymorphism and Generic Programming with Templates		Internal Exam
	5.1	1		Dynamic Polymorphism:	TB1 - Ch.15. Pg. 570 – 574	
			5.1.1	Need		



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		5.1.2	Advantages		
	5.2	1	Rules for Virtual Function, Definition	TB1 - Ch.15. Pg. 593 – 594, Pg. 578 – 581	
	5.3	1	Pure Virtual Function	TB1 - Ch.15. Pg. 584 – 585	
	5.4	1	Abstract Classes	TB1 - Ch.15. Pg. 585 – 588	
	5.5	1	Function Templates	TB1 - Ch.16. Pg. 596 – 605	
	5.6	1	Class Templates	TB1 - Ch.16. Pg. 610 – 615	
	5.7	1	Class Template with Overloaded Operators	TB1 - Ch.18. Pg. 626 – 627	
6		11	Streams I/O Operations		Internal Exam
	6.1	2	Managing Console I/O Operations:	TB1 - Ch.17. Pg. 629 – 635	
		6.1.1	Unformatted I/O Operations	TB1 - Ch.17. Pg. 635 – 640	
		6.1.2	Formatted I/O Operations	TB1 - Ch.17. Pg. 640 – 648	
	6.2	1	Hierarchy of File Stream Classes	TB1 - Ch.18. Pg. 665 – 667	
	6.3	2	Opening And Closing a File	TB1 - Ch.18. Pg. 667 – 672	
	6.4	2	Reading And Writing a File	TB1 - Ch.18. Pg. 682 – 691	
	6.5	2	File Pointer and Their Manipulators for Random Access	TB1 - Ch.18. Pg. 678 – 685, Pg. 691 – 695	
	6.6	2	File Error Handling During File Manipulations	TB1 - Ch.18. Pg. 696 – 699	



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Text Books:

1. Mastering C++, By Venugopal, Rajkumar and Ravishankar - Tata McGraw Hill.

Reference Books:

1. Computer Science – A Structured Approach Using C++, By Forouzan B. Gilberg R. - Cengage Learning.
2. Let us C++, By Yashwant Kanetkar - BPB Publications.
3. Programming with ANSI C++, By Bhushan Trivedi - Oxford University Press.