

## Weekly Lesson Plan of the 4<sup>th</sup> semester (OOPS)

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<b>Designation:</b>	Assistant Professor
<b>Discipline:</b>	Computer Science and Engg
<b>Semester:</b>	4 <sup>th</sup> sem
<b>Subject:</b>	<b>Object oriented programming using C++</b>
<b>Subject Code:</b>	<b>PCC-CSE-208G</b>
<b>Work Load per week in hours:</b>	Lectures- 03, Practical 03

Week	Theory	
	Lecture Day	Topic
		<b>Unit – I</b>
1.	1	Introduction, comparison between procedural programming paradigm and object-oriented programming paradigm
	2	Basic concepts of object- oriented programming concepts of an object and a class
	3	Interface and implementation of a class
2.	4	Operations on objects, relationship among objects
	5	Abstraction, encapsulation
	6	Data hiding, inheritance, overloading
3.	7	Polymorphism, messaging, <b>Assignment</b>
	8	Specifying a class, creating class objects
	9	Accessing class members, access specifiers
4.	10	Static members, use of const keyword
	11	Friends of a class, empty classes,
	12	Nested classes, local classes
5.	13	Abstract classes, container classes
	14	Bit fields and classes
		<b>Unit – II</b>
	15	Inheritance Introduction, defining derived classes forms of inheritance
6.	16	Ambiguity in multiple and multipath inheritance Virtual base class
	17	Object slicing
	18	Overriding member functions

	19	Object composition and delegation,
7	20	Order of execution of constructors and destructors
	21	Pointers and Dynamic Memory Management Declaring and initializing pointers
8	22	Accessing data through pointers
	23	Pointer arithmetic, memory allocation (static and dynamic)
	24	Dynamic memory management using new and delete operator
9.	25	Pointer to an object, this pointer ,pointer to an object,
	26	This pointer
	27	REVISION
10.	28	Pointer related problems - dangling/wild pointers
	29	Null pointer assignment, memory leak and allocation failures
		<b>Unit – III</b>
	30	Constructors and Destructors Need for constructors and destructors
11	31	Dynamic constructors, explicit constructors, destructors,
	32	Constructors and destructors with static members, Initializer lists. <b>Assignment</b>
	33	Operator Overloading and Type Conversion Overloading operators, rules for overloading operators, overloading of various operators,
12.	34	Type conversion - basic type to class type, class type to basic type class type to another class type
	35	Virtual functions & Polymorphism Concept of binding - early binding and late binding
	36	Virtual functions, pure virtual functions,
13.	37	Abstract classes, virtual destructors.
		<b>Unit – IV</b>
	38	Exception Handling Review of traditional error handling,
	39	Basics of exception handling, exception handling mechanism
14.	40	Throwing mechanism, catching mechanism rethrowing an exception,
	41	Specifying exceptions , <b>Class test</b>
	42	Template concepts
15.	43	Class templates, <b>Assignment</b>
	44	Function templates, illustrative examples.
	45	Revision