B. Tech. 4th Sem (CSE)

Objected Oriented Programming

Paper Code: ETCS-210 (Lesson Plan)

First Tem		
S.No.	**Topic**	**Lectures**
1	Programming Paradigms: Monolythic Programming, Procedural Programming, structural and Object Based Programming	1
2	Introduction to OOPs: Introducing Object Oriented Approach related to other paradigms (Functional, Data Decomposition)	2
3	Object Oriented Languages: Charateristics and Features of Object Oriented Languages	1
4	Basic Terms and Ideas: Abstraction , encapsulation, Information Hiding, Inheritance, Polymorphism	2
5	Review of C: Difference between c and C++, new , delete & differentiating it with malloc and calloc methods of C, differences between cin, cout	2
6	Classes and Objects: Abstract data type, state identity and behaviour of object, Defining a class, creating objects	2
7	Constructors and Destructors: Objective of Constructors and their types, constructor overloading, Destructors	3
8	Object Instantiation: Instantiation of objects, Default parameter value, in-line functions	2
9	Static and Constant Keyword: Static data members, static member functions, constant data members, constant member functions, constant objects, abstract class	3
Second Term		
10	Garbage Collection:C++ Garbage collection	1
11	Inheritance: Features of Inheritance, types of inheritance, access specifiers, public, private and protected derivations,class heriarcy	3
12	Aggregation and Containership: Aggregation, Composition vs Classification	2
13	Polymorphism: Types of Polymorphism- Compile time & Run time, Method Polymorphism	4
14	Operator Overloading: overloading operators	2
15	Templates: Generic functions and classes	3
16	Exception Handling: Compile time & run time errors. Keywords used for exception handling, try, catch and throw, rethrowing an exception	3

Third Term		
17	Namespaces: features of namespaces, creating and using own namespaces	1
18	File Handling: Persistant objects, stream and files, opening and closing a file, reading from afile and writing to afile, different file operations	3
19	Standard Template Library: overview of standard template library, containers, alogorithm and function objects,iterators, allocators, string, streams	2
20	Manipulators, vectors, valarray, slice, generalized numeric algorithm.	2
	Total Lectures	44

Text Books:

[T1] Rumbaugh et. al. "Object Oriented Modelling & Design", Prentice Hall

[T2] A.R.Venugopal, Rajkumar, T. Ravishanker "Mastering C++", TMH

Reference Books:

[R1] A.K. Sharma, "Object Oriented Programming using C++", Pearson

[R2] G . Booch "Object Oriented Design & Applications", Benjamin,Cummings.

[R3] E.Balaguruswamy, "Objected Oriented Programming with C++", TMH

[R4] S. B. Lippman & J. Lajoie, "C++ Primer", 3rd Edition, Addison Wesley, 2000.

[R4] R. Lafore, "Object Oriented Programming using C++", Galgotia.

[R5] D . Parasons, "Object Oriented Programming with C++",BPB Publication.

[R6] Steven C. Lawlor, "The Art of Programming Computer Science with C++", Vikas Publication.