

OBJECT ORIENTED PROGRAMMING

Paper Code: ETCS-210

Paper: Object Oriented Programming

L	T/P	C
3	0	3

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks

Objective: To learn object oriented concepts to enhance programming skills.

UNIT – I:

Objects, relating to other paradigms (functional, data decomposition), basic terms and ideas (abstraction, encapsulation, inheritance, polymorphism). Review of C, difference between C and C++, cin, cout, new, delete operators.

[T1,T2][No. of hrs. 11]

UNIT – II:

Encapsulation, information hiding, abstract data types, object & classes, attributes, methods. C++ class declaration, state identity and behavior of an object, constructors and destructors, instantiation of objects, default parameter value, object types, C++ garbage collection, dynamic memory allocation, metaclass/abstract classes.

[T1,T2][No. of hrs. 11]

UNIT – III:

Inheritance, Class hierarchy, derivation – public, private & protected; aggregation, composition vs classification hierarchies, polymorphism, categorization of polymorphic techniques, method polymorphism, polymorphism by parameter, operator overloading, parametric polymorphism, generic function – template function, function name overloading, overriding inheritance methods, run time polymorphism.

[T1,T2][No. of hrs. 11]

UNIT – IV:

Standard C++ classes, using multiple inheritance, persistent objects, streams and files, namespaces, exception handling, generic classes, standard template library: Library organization and containers, standard containers, algorithm and Function objects, iterators and allocators, strings, streams, manipulators, user defined manipulators, vectors, valarray, slice, generalized numeric algorithm.

[T1,T2][No. of hrs. 11]

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 . Parsons, “Object Oriented Programming with C++”,BPB Publication.

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