

Unit I	7
Object oriented programming concepts – objects-classes- methods and messages- abstraction and encapsulation-inheritance- abstract classes- polymorphism.Introduction to C++- objects-classes-constructors and destructors	
Unit II	12
Operator overloading – friend functions- type conversions- templates - Inheritance – virtual functions- runtime polymorphism.	
Unit III	8
Exception handling – Streams and formatted I/O – file handling – namespaces – String Objects – standard template library.	
Unit IV	8
Introduction to JAVA , bytecode, virtual machines – objects – classes – Javadoc – packages – Arrays – Strings	
Unit V	10
Inheritance – interfaces and inner classes – exception handling – threads – Streams and I/O	

TOTAL : 45 PERIODS

TEXT BOOKS

1. B. Trivedi, “Programming with ANSI C++”, Oxford University Press, 2007.
2. Cay S. Horstmann, Gary Cornell, “Core JAVA volume 1”, Eighth Edition, Pearson Education, 2008.

REFERENCES

1. ISRD Group, “Introduction to Object-oriented Programming and C++”, Tata McGraw-Hill Publishing Company Ltd., 2007.
2. ISRD Group, “Introduction to Object-oriented programming through Java”, Tata McGraw-Hill Publishing Company Ltd., 2007.
3. S. B. Lippman, Josee Lajoie, Barbara E. Moo, “C++ Premier”, Fourth Edition, Pearson Education, 2005.
4. D. S. Malik, “C++ Programming: From Problem Analysis to Program Design”, Third Edition, Thomson Course Technology, 2007.
5. K. Arnold and J. Gosling, “The JAVA programming language”, Third edition, Pearson Education, 2000.