Syllabus

Computer Science

Session : 2011-2016 **Class : B.Sc.II (Semester-IV)**

S4- COMPUTER SCIENCE
Advanced C++ and Web Designing

The examination in Computer Science will comprise One theory Paper and Practical examination for each semester. The theory paper will be of 3 Hours Duration and carry 80 marks. The Practical examination will be of 4 Hrs duration and carry 50 marks. The distribution of marks in Practical examination is given as. :

1)Program writing / execution (on group A & B)	: 30 marks
2)Practical / Record	: 10 marks
3)Viva-voce	: 10 marks
Total	50 marks

Unit I : Arrays and Pointers : one-dimensional, two-dimensional arrays, Defining Pointers, arrays of objects, Pointer to objects, this pointer operator overloading : Defining operator overloading, overloading arrays, Binary, and assignment operators, rules for overloading operators.

Unit-II : Inheritance : Introduction, derived classes, Single inheritance, multiple inheritance, Hierarchical and Hybrid inheritance. Templates: Function, class, members and Function temples.

Unit-III : Virtual Functions and Polymorphism :- Introduction, Pointers to derived class, dynamic binding, definition Virtual Functions. Working with Files : Introduction, Hierarchy of File Stream Classes, opening and closing of Files, File modes, File pointers and their manipulations, File Input/output with F-stream class.

Unit-IV : Introduction to XML : History of Markup languages, features of XML, Simple XML document, logical structure of XML elements, Components of XML
documents: The document prolog and document instance. CSS with XML.

Unit-V : Document type Definition (DTD): Introduction, need of DTD, declaring elements, element content models, declaring attributes, attribute types : internal and external DTD, entities and their types.

Unit-VI : XML Schemas : Introduction, features, Comparison with DTD, Schema elements, element type element attributes, XML schema data types, converting DTD to schema, Namespaces : Introduction, declaration, default & prefix namespaces, scope of namespaces collusion &Applications.

Books Recommended :-

1. Object Oriented Programming with C++ : E Balguruswamy-THM
2. Mastering C++ : K.R. Venugopalan
3. Programming with C++ : R.S. Nisar Ali
4. Mastering XML, Ann Navaro, Chuck White, Linda Burman,BPB Publication.
5. Applied XML Solutions, BPB Publications.
6. Inside XML, BPB Publication
7. Essential XML. Box
8. XML and Related Technology, Kahate
9. XML How to Program Deitel.

Practicals:-

Group A : Minimum 08 practicals based on Unit I to III.
Group B : Minimum 08 practicals based on Unit IV to VI