Syllabus for session 2011-2012

B.Sc. V Semester

Paper – I

CS-501

OBJECT ORIENTED PROGRAMMING USING C++ – I

Max Marks 35

Min Marks 12

Unit – I

Introduction to OOP's Languages, Difference between procedure oriented and object oriented languages, characteristics of OOP's languages, application of OOP's, basic program structure, preprocessor directives.

Unit - II

Data types in C++, Data type conversion and casting, explicit and implicit type conversion, Block, Local and Global variables, Qualifiers effecting scope and visibility of variables : Static, Auto, Extern and Register variables. Operators in C++, manipulator, C++ Stream class.

Unit – III

OOP's paradigm & concepts: Objects, Class, A sample C++ program with class, Defining member function, Data abstraction, Data encapsulation, Inheritance, polymorphism, message passing, Difference between structure and class.

Unit – IV

Scope resolution operator, Building and Destroying objects (Constructors and Destructors), Types of constructors: Default, Parameterized, copy constructors.

Unit – V

Access- specifier in C++ : Public, Private and Protected data member and member functions, Defining a member function of a class outside the class using scope resolution operator, inline function , difference between macro, inline and simple function, limitations of inline functions.

Text book :

- C++ : The Complete Reference by Herbert Schildt Reference Books
- Let us C++ By Kanetkar
- Object Oriented Programming with C++ : E. Balagurusamy
- C++ Primer : Stanley Lippman & Lajoi
- C++ Programming Language : Bjarne Stroustrup
- .C++ Programming Bible : Al Stevens & Clayton Walnum

Syllabus for session 2011-2012

B.Sc. V Semester

Paper – II

CS-502

DATA AND NETWORK COMMUNICATION FUNDAMENTALS

Max Marks 35

Min Marks 12

Unit – I

Overview: Data Communications and Networking Overview, Protocol Architecture(OSI, TCP/IP)

Unit – II

Data Communications : Data Transmission, Guided and Wireless Transmission, Signal Encoding Techniques, Data Link Control, Multiplexing

Unit – III

Wide Area Networks : Circuit Switching and Packet Switching, Routing in Switched Networks, Cellular Wireless Networks

Unit – IV

Local Area Networks: Local Area Network Overview, High-speed LANs, Wireless LANs, Repeaters, Hubs, Bridges, Switches, Routers, Gateway

Unit – V

Distributed Applications: Electronic mail, Hypertext Transfer Protocol, FTP, Telnet, Network Management. Internet: History of Internet,Applications of Internet, types of Internet Connections.

Text Book(s) :

1 William Stallings : Data and Computer Communications, Seventh Edition. Pearson Education.

Recommended Books:

1 Andrew S. Tanenbaum : Computer Networks, Fourth Edition. Pearson Education.

2 Behrouz A. Forouzan : Data Communications & Networking, Fourth Edition. McGraw-Hill, Inc.

3 Douglas E. Comer : Computer Networks and Internets, Fifth Edition. Prentice-Hall.