MSc (IT) 3rd Semester

Subject Code: MS 32

Subject Name: Client Server Computing

Block 1 – Introduction to Client/Server

Unit 1- **Introduction to Client/Server:** Introduction to Client/Server, Characteristics of the Client and the Server, Merits and Demerits of the Client Server, Multiple Tiers in Client Server.

Unit 2- **Client/Server Architecture and Servers:** Types of Servers, ORB, Client Server Architectures, The knowledge about the Fat Servers and the Fat Clients, The Architectures, Stored Procedure, Remote Procedure Call (RPC), InterProcess Communication.

Unit 3- **Client Side Services:** Services, Print Services, Remote Services, Utility Services, Message Services, Network Services, Application Services, Database Services, Dynamic Data Exchange (DDE), Object Linking and Embedding (OLE), GUI Clients, Non-GUI Clients, OOUI (Object Oriented User Interface) Clients.

Unit 4- **Server Side Services:** Server Functionality, The Role of the Server, Request Processing, Print Services, Database Services, Security Services, File Services, Communication Services.

Block 2 – Network and Protocol Basics

Unit 1- **Network and Protocol Basics:** Communication Network, Local Area Network, Metropolitan Area Network, Wide Area Network, Network Structure, OSI Model, TCP/IP Architecture, TCP/IP Protocols.

Unit 2- **CORBA:** Common Request Broker Architecture (CORBA), OMG (Object Management Group), CORBA ……. what is it?, Who is using CORBA already, What is CORBA good for, ORB and CORBA

Architecture , Technical Details of CORBA, CORBA Object Services, CORBA Common Facilities, CORBA 3.0: Next Generation, CORBA Style Interfaces, DCOM Objects, COM Servers.

Unit 3- **Client Server Security:** Introduction, Client/Server Development Risks, Work Station Risk, The Network Wire Risk, File Server Risk, The DBMS Risk, Network Component Risk, Mainframe Connection Risk, Administration Risk, Security Administration Risk, Dialup Risk, Contingency Planning Risk.

Block 3 – Client/Server Software Testing

Unit 1- **Client/Server Software Testing:** Introduction to Client/Server Software Testing**,** Testing Plan for Client/Server Computing, Client/Server Testing in Different Layers, Testing on the Client Side—Graphic User Interface Testing, Complexity for Graphic User Interface Testing, GUI testing techniques, Testing on the Server Side—Application Testing, Client/Server loading testing, Volume testing, Stress testing, Performance testing, Other server side testing related to data storage, Examples for automated server testing tools, Networked Application Testing, Special Concerns for Internet Computing —Security Testing.

Unit 2- **Client Server Database and Distributed Database:** Introduction, Client Server Database, Distributed Database, The Distributed Database Concept, Distributing the Data, Concurrency Control in Distributed Database, Distributed Joins, Partitioning or Fragmentation, Distributed Directory Management, Distributed DBMS Advantages and Disadvantages, Centralized Database—Like, Dispersing Tables on the

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Network (without replication or partitioning)—Like Figure, Targeted Data Replication—Like, Advantages in addition to the advantages of dispersed tables, Disadvantages in addition to the disadvantages of dispersed tables.

Unit 3- **Client-Side Scripting vs. Server-Side Scripting:** Introduction, Client sides, Server sides, Differences, Common Pitfalls, Scripted Links, “mailto:” forms, Scripted Forms, Security Considerations, Bottom Line, Comparative Study, Client-side scripting, Server-side scripting, Server-Side vs. Client-Side Scripting, Client-side summary, Client-Side Web Scripting, Server-side summary, PHP Server Session.