MIDDLEWARE TECHNOLOGIES
(ELECTIVE-II)

Course code: 13CS2115 **L P C**
4 0 3

Prerequisites: Scripting languages, Web Technologies.

Course Educational Objectives:

The objective of the course is to teach the role of middleware in the distributed environment and its common services.

Course Outcomes:

- To study the set of services that a middleware system constitutes of.
- To understand how middleware facilitates the development of distributed applications in heterogeneous environments.
- To study how it helps to incorporate application portability, distributed application component interoperability and integration.
- To learn the object oriented middleware basics through the example of the following CORBA objects.
- To understand the basics of Web services that is the most oft-used middleware technique.

UNIT-I

Introduction to client server computing: Evolution of corporate computing models from centralized to distributed computing, client server models. Benefits of client server computing, pitfalls of client server programming. **CORBA with Java:** Distributed programming with Java RMI; Overview of CORBA, CORBA IDL, Client/server programming with CORBA & Java.

UNIT-II

XML TECHNOLOGY AND SOAP : XML Technology XML – Name Spaces – Structuring With Schemas and DTD – Presentation Techniques – Transformation – XML Infrastructure. SOAP: Overview of SOAP – HTTP – XML-RPC – SOAP: Protocol – Message Structure – Intermediaries – Actors – Design Patterns And Faults – SOAP With Attachments.

UNIT-III

WEBSERVICES OVERVIEW : XML Technology XML – Name Spaces – Structuring With Schemas and DTD – Presentation Techniques – Transformation – XML Infrastructure.SOAP: Overview of SOAP – HTTP – XML-RPC – SOAP: Protocol – Message Structure – Intermediaries – Actors – Design Patterns And Faults – SOAP With Attachments.

UNIT-IV

AGENT COMMUNICATION AND COLLABORATION : Agent Communication and Collaboration: Overview of Agent Oriented Programming - Agent Communication Language - Agent Based Framework of Interoperability - Agents for Information Gathering - Open Agent Architecture - Communicative Action for Artificial Agent

UNIT-V

AGENT ARCHITECTURE

Agent Architecture: Agents for Information Gathering - Open Agent Architecture – Communicative Action for Artificial Agent

Text Books:

1. Frank. P. Coyle , "XML, Web Services and The Data Revolution", 1st Edition, Pearson Education, 2002.

2. Jeffrey M. Bradshaw , "Software Agents", 1st Edition, PHI, 2010.

References:

1. M.L.Liu , "Distributed Computing, Principles and applications", 1st Edition, Pearson Education, 2008.

2. Ramesh Nagappan, Robert Skoczylas and Rima Patel Sriganesh , "Developing Java Web Services" , 1st Edition, Willey Publishing , 2004.