

IT8074 SERVICE ORIENTED ARCHITECTURE

DETAILED SYLLABUS

OBJECTIVES:

- To learn fundamentals of XML
- To provide an overview of Service Oriented Architecture and Web services and their importance
- To learn web services standards and technologies
- To learn service-oriented analysis and design for developing SOA based applications

UNIT I XML

XML document structure – Well-formed and valid documents – DTD – XML Schema – Parsing XML using DOM, SAX – XPath - XML Transformation and XSL – Xquery

UNIT II SERVICE ORIENTED ARCHITECTURE (SOA) BASICS

Characteristics of SOA, Benefits of SOA, Comparing SOA with Client-Server and Distributed architectures – Principles of Service Orientation – Service layers

UNIT III WEB SERVICES (WS) AND STANDARDS

Web Services Platform – Service descriptions – WSDL – Messaging with SOAP – Service discovery – UDDI – Service-Level Interaction Patterns – Orchestration and Choreography

UNIT IV WEB SERVICES EXTENSIONS

WS-Addressing - WS-Reliable Messaging - WS-Policy – WS-Coordination – WS - Transactions - WS-Security - Examples

UNIT V SERVICE ORIENTED ANALYSIS AND DESIGN

SOA delivery strategies – Service oriented analysis – Service Modelling – Service oriented design – Standards and composition guidelines -- Service design – Business process design – Case Study

TEXTBOOKS:

1. Thomas Erl, — Service Oriented Architecture: Concepts, Technology, and Design, Pearson Education, 2005
2. Sandeep Chatterjee and James Webber, —Developing Enterprise Web Services: An Architect's Guidell, Prentice Hall, 2004

REFERENCES:

1. James McGovern, Sameer Tyagi, Michael E Stevens, Sunil Mathew, —Java Web Services Architecture, Elsevier, 2003.
2. Ron Schmelzer et al. — XML and Web Services, Pearson Education, 2002.
3. Frank P. Coyle, —XML, Web Services and the Data Revolution, Pearson Education, 2002