

## **MC5012 SERVICE ORIENTED ARCHITECTURE**

### DETAILED SYLLABUS

#### **OBJECTIVES**

- To learn XML concepts and exposed to build applications based on XML
- To gain knowledge about SOAP, HTTP and UDDI to create web services
- To understand the SOA architecture and principles of Service Oriented Architecture.
- To learn about the role of SOA in J2EE, .NET and web services.
- To know about the Cloud Computing architecture and services.

#### **UNIT I XML AND WEB SERVICES**

XML structure – Elements – Creating Well-formed XML - Name Spaces – Schema Elements, Types, Attributes – XSL Transformations – Parser – Web Services Overview – Architecture.

#### **UNIT II WSDL, SOAP and UDDI**

WSDL - Overview Of SOAP – HTTP – XML-RPC – SOAP: Protocol – Message Structure – Intermediaries – Actors – Design Patterns And Faults – SOAP With Attachments – UDDI.

#### **UNIT III SOA BASICS**

Roots of SOA – Characteristics of SOA - Comparing SOA to client-server and distributed internet architectures – Anatomy of SOA- How components in an SOA interrelate - Principles of service orientation – Service Layers. 68

#### **UNIT IV SOA in J2EE and .NET**

SOA platform basics – SOA support in J2EE – Java API for XML-based web services (JAXWS) - Java architecture for XML binding (JAXB) – Java API for XML Registries (JAXR) - Java API for XML based RPC (JAX-RPC) – JAX-RS SOA support in .NET – ASP.NET web services.

#### **UNIT V CLOUD COMPUTING**

Vision of Cloud computing – Cloud Definition – Characteristics and Benefits – Virtualization – Cloud computing Architecture – Cloud Reference Model, Types of Clouds – Cloud Platforms in Industry.

## REFERENCES

1. Dan woods and Thomas Mattern, "Enterprise SOA designing IT for Business Innovation", O'REILLY, First Edition, 2006.
2. Frank. P. Coyle, "XML, Web Services And The Data Revolution", Pearson Education, 2002
3. Heather Williamson, "XML, The Complete Reference", McGraw Hill Education, 2012.
4. Newcomer, Lomow, "Understanding SOA with Web Services", Pearson Education, 2009.
5. Rajkumar Buyya, Christian Vecchiola, S. Thamarai Selvi, "Mastering Cloud Computing", McGraw Hill Education, 2013.
6. Sandeep Chatterjee, James Webber, "Developing Enterprise Web Services. An Architect's Guide", Pearson Education, 2009
7. Thomas Erl, "Service-Oriented Architecture: Concepts, Technology, and Design", Pearson Education, 2008.