



## **C. U. SHAH UNIVERSITY – WADHWAN CITY**

### **FACULTY OF TECHNOLOGY AND ENGINEERING DEPARTMENT OF COMPUTER ENGINEERING M. TECH. SEMESTER: - II**

**SUBJECT NAME: Service Oriented Architecture (SOA)**

**SUBJECT CODE: 5TE02SOA1**

**Teaching & Evaluation Scheme: -**

Subject Code	Subject Name	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
		Th	Tu	Pr	Total		Theory				Practical (Marks)			Total
							Sessional Exam		University Exam		Internal		University	
							Marks	Hours	Marks	Hours	Pr/Viva	TW	Pr	
5TE02SOA1	Service Oriented Architecture	4	0	2	6	5	30	1.5	70	3.0	-	20	30	150

#### **Objectives:**

To learn basic architecture concept about service orientation and web service

#### **Prerequisites:**

Basic Knowledge of Web Programming, Database Concept and Enterprise Application

#### **Course outline:**

Service Oriented Architecture is a Design concept. The course deals with Architecture concept of SOA and web services. The Course also related with XML based protocol and web services protocol for enterprise and rapid business solution.

Sr. No.	Course Contents
1	Basic Concept of Service Orientation Concept, Fundamental SOA, Common characteristics of contemporary SOA, Common misperceptions about SOA, Common tangible benefits of using SOA, Common pitfalls of adopting SOA, Web Service Protocol Stack, Basic Concept of XML like DTD, XML Schema
2	What Is Service-Oriented Architecture?, Business-Driven SOA, SOA and Other Architectures, What Is a Service?, SOA Reference Architecture
3	Enterprise architectures -Integration versus interoperation , J2EE ,.NET, Model, Driven Architecture, Legacy System
4	Web Services and Primitive SOA, The Web services framework, Services as Web services, Service descriptions with WSDL, Messaging with SOAP,
5	Web Services and Contemporary SOA, Message exchange patterns, Service, activity, Coordination, Atomic transactions, Business activities, Orchestration, Choreography, Addressing, Reliable messaging, Correlation, Policies, Metadata exchange, Security,

	Notification and eventing
6	Principles of Service-Orientation, Service-orientation and the enterprise, Anatomy of a service-oriented architecture, Common principles of service-orientation, How service-orientation principles inter-relate, Service-orientation and object-orientation, Native Web service support for service-orientation principle,
7	Service Layers, Service-orientation and contemporary SOA, Service layer abstraction, Application service layer, Business service layer, Orchestration service layer, Agnostic services, Service layer configuration scenarios
8	SOA Planning and Analysis, SOA Delivery Strategies, Service-Oriented Analysis, Service-Oriented Analysis
9	Semantic web activity, Resource Description framework(RDF), RDFS

### **Learning Outcomes:**

By completing the course of Service Oriented Architecture students will be able to create Platform independent, programming language independent and vendor independent software Application

### **Books Recommended:**

1. Service-Oriented Architecture: Concepts, Technology, and Design, **Thomas Erl**; Prentice Hall
2. Applied SOA Service-Oriented Architecture and Design Strategies, **Mike Rosen, Boris Lublinsky, Kevin T. Smith, Marc J. Balcer**; Wiley Publishing Inc
3. Service-Oriented Computing Semantics, Processes, Agents, **Munindar P. Singh, Michael N. Huhns**; Wiley India
4. Service Oriented Architecture A Field Guide to Integrating XML and Web Services, **Thomas Erl**; Prentice Hall