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Future Vision

By K B Hemanth Raj

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SERVICE ORIENTED ARCHITECTURE [As per Choice Based Credit System (CBCS) scheme] (Effective from the academic year 2017 -2018) SEMESTER – VI			
Subject Code	17CS665	IA Marks	40
Number of Lecture Hours/Week	3	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
CREDITS – 03			
Module – 1			Teaching Hours
SOA BASICS:Software Architecture; Need for Software Architecture, Objectives of Software Architecture, Types of IT Architecture, Architecture Patterns and Styles, Service oriented Architecture; Service Orientation in Daily Life, Evolution of SOA, Drives for SOA, Dimension of SOA, Key components, perspective of SOA, Enterprise-wide SOA; Considerations for Enterprise-Wide SOA, Strawman Architecture For Enterprise-Wide-SOA-Enterprise, SOA-Layers, Application Development Process, SOA Methodology For Enterprise Text 1: Ch2: 2.1 – 2.4; Ch3:3.1-3.7; Ch4: 4.1 – 4.5			8 Hours
Module – 2			
Enterprise Applications; Architecture Considerations, Solution Architecture for enterprise application, Software platforms for enterprise Applications; Package Application Platforms, Enterprise Application Platforms, Service-oriented-Enterprise Applications; Considerations for Service-Oriented Enterprise Applications, Patterns for SOA, Pattern-Based Architecture for Service-Oriented Enterprise Application(java reference model only).Composite Applications, SOA programming models. Text 1: Ch5:5.1, 5.2, 6.1, 6.2(PageNo 74-81), 7.1 – 7.5			8 Hours
Module – 3			
SOA ANALYSIS AND DESIGN; Need For Models, Principles of Service Design, Design of Activity Services, Design of Dataservices, Design of Client services and Design of business process services, Technologies of SOA; Technologies For Service Enablement, Technologies For Service Integration, Technologies for Service orchestration. Text 1: Ch 8: 8.1 – 8.6, 9.1 – 9.3			8 Hours
Module – 4			
Business case for SOA; Stakeholder OBJECTIVES, Benefits of SOA, Cost Savings, Return on Investment, SOA Governance, Security and implementation; SOA Governance, SOA Security, approach for enterprise wide SOA implementation, Trends in SOA; Technologies in Relation to SOA, Advances in SOA. Text 1: Ch 10: 10.1 -10.4, Ch 11: 11.1 to 11.3, Ch12:12.2, 12.3			8 Hours
Module – 5			
SOA Technologies-PoC; Loan Management System(LMS), PoC-Requirements Architectures of LMS SOA based integration; integrating existing application, SOA best practices, Basic SOA using REST. Role of WSDL,SOAP and JAVA/XML Mapping in SOA. Text 1:Page No 245-248; ReferenceBook:Chapter3; Text 1:Page No 307-310			8 Hours

Text 2: Ch 3, Ch4	
Course outcomes: The students should be able to:	
<ul style="list-style-type: none"> • Understand the different IT architectures • Explain SOA based applications • Illustrate web service and realization of SOA • Discuss RESTful services 	
Question paper pattern:	
<p>The question paper will have TEN questions. There will be TWO questions from each module. Each question will have questions covering all the topics under a module. The students will have to answer FIVE full questions, selecting ONE full question from each module.</p>	
Text Books:	
<ol style="list-style-type: none"> 1. Shankar Kambhampaly, “Service–Oriented Architecture for Enterprise Applications”, Wiley Second Edition, 2014. 2. Mark D. Hansen, “SOA using Java Web Services”, Practice Hall, 2007. 	
Reference Books:	
<ol style="list-style-type: none"> 1. WaseemRoshen, “SOA-Based Enterprise Integration”, Tata McGraw-HILL, 2009. 	