DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SYLLABUS COVERAGE

FOR B.TECH IV YEAR - II SEM(R15)

(2019-20)

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

(Affiliated to JNTUH, Hyderabad, Approved by AICTE - Accredited by NBA & NAAC – 'A' Grade - ISO 9001:2015 Certified)

Maisammaguda, Dhulapally (Post Via. Hakimpet), Secunderabad – 500100,

Telangana State, INDIA.

Sno	Subject Code	Subject Name
1	R15A0543	Software Project Management
2	R15A0539	WEB SERVICES

IV B.Tech II Semester
WEB SERVICES(R15A0539)

TEXTBOOKS:

T1: Developing Java Web Services, R. Nagappan, R. Skoczylas, R.P. Sriganesh, Wiley India.

References:

1:Java Web Service Architecture, James McGovern, Sameer Tyagi etal., Elsevier

2:Building Web Services with Java, 2 Edition, S. Graham and others, Pearson Edn.

SYLLABUS COVERAGE

UNIT-1			
UNIT S	**Topics**	**Course Learning Outcomes**	**Reference**
1	Evolution and emergence of web services- evolution of distributed computing.	**Explain** the importance of evolution of distributed computing	T1:1/covered
	Core distributed computing technologies, challenges in distributed computing	**List out the** challenges in distributed computing	T1:1/covered
	Role of J2EE and XML in distributed computing, emergence of web services and service oriented architecture (SOA).	**Demonstrate the** Role of J2EE and XML in distributed computing, emergence of web services and SOA.	T1:1/ covered
	Introduction to web services — the definition of web services, basic operational model of web services.	**Illustrate** about the basic operational model of web services.	T1:2/ covered
	Tools and technologies enabling web services, benefits and challenges of using web services.	**List out** Tools and technologies enabling web services & benefits and challenges of using web services	T1:2/ covered
	Web services architecture — web services architecture and its	Explain about the web services architecture and its characteristics &	T1:3/ covered

		characteristics, core building blocks of web services.	core building blocks of web services.	
		Standards and technologies available for implementing web services.	What are the Standards and technologies available for implementing web services	T1:3/ covered
		Web services communication models, basic steps of implementing web services.	Demonstrate the Web services communication models	T1:3/ covered
2		Fundamentals of SOAP	**Explain** the importance of fundamentals of SOAP	T1:4/ covered
		SOAP Message Structure.	**Illustrate** SOAP Message Structure.	T1:4/ covered
		SOAP encoding, Encoding of different data types.	**List out** the Encoding of different data types.	T1:4/ covered
		SOAP message exchange models.	**Demonstrate** SOAP message exchange models.	T1:4/ covered
		SOAP communication and messaging.	**Describe** SOAP communication and messaging.	T1:4/ covered
		Java and Axis, limitations of SOAP.	**What** are the limitations of SOAP	T1:4/ covered
3		Describing web services — WSDL — WSDL in the world of web services, web services life cycle	**Explain** briefly about WSDL and web service life cycle	T1:5/ covered
		Anatomy of WSDL definition document.	**Illustrate** Anatomy of WSDL definition document.	T1:5/ covered
		WSDL bindings.	**Demonstrate** WSDL bindings	T1:5/ covered
		WSDL tools, limitations of WSDL	**List out** the WSDL tools& limitations of WSDL	T1:5/ covered
4		Discovering Web Services — service discovery, role of service discovery in a SQA, service discovery mechanisms.	**Describe about** service discovery, role of service discovery in a SQA	T1:5/covered
		UDDI — UDDI registries, uses of UDDI registry.	**List out the** uses of UDDI registry.	T1:5/ covered
		Programming with UDDI.	**Demonstrate** Programming with	T1:5/ covered

		UDDI	
	UDDI data structures.	**Illustrate** UDDI data structures.	T1:5/ covered
	Publishing API.	**What** is meant by Publishing API.	T1:5/ covered
	Publishing, searching and deleting information in a UDDI registry, limitations of UDDI	**Explain** the Publishing, searching and deleting information in a UDDI registry	T1:5/ covered
5	Web services interoperability — means of ensuring interoperability.	**What** are the Web services interoperability	T1:6/ covered
	Overview of .NET.	**Define .NET**	T1:6/ covered
	Creating a .NET client for an Axis web service.	**Explain about** Creating a .NET client for an Axis web service.	T1:6/ not covered
	Creating Java client for a web service, challenges in web services interoperability.	**Demonstrate** challenges in web services interoperability	T1:6/ covered
	Web services security — XML security frame work, goals of cryptography.	**Describe about** Web services security — XML security frame work& goals of cryptography	T1:6/ not covered
	Digital signature, digital certificate	**Illustrate the** Digital signature& digital certificate	T1:6/ not covered
	XML encryption	**What** is XML encryption	T1:6/ not covered

(R15A0539) WEB SERVICES

Objectives:

- To understand the details of web services technologies like WSDL,UDDI, SOAP
- To learn how to implement and deploy web service client and server
- To explore interoperability between different frameworks

UNIT- I

Evolution and Emergence of Web Services – Evolution of distributed computing, Core distributed computing technologies — client/server, CORBA, JAVA RMI, Microsoft DCOM, MOM, Challenges in Distributed Computing, role of J2EE and XML in distributed computing, emergence of Web Services and Service Oriented Architecture (SOA). Introduction to Web Services — The definition of web services, basic operational model of web services, tools and technologies enabling web services, benefits and challenges of using web services. Web Services Architecture — Web Services Architecture and its characteristics, core building blocks of web services, standards and technologies available for implementing web services, web services communication models, basic steps of implementing web services.

UNIT-II

Fundamentals of SOAP — SOAP Message Structure, SOAP encoding, Encoding of different data types, SOAP message exchange models, SOAP communication and messaging, Java and Axis, limitations of SOAP.

UNIT- III

Describing Web Services — WSDL — WSDL in the world of Web Services, Web Services life cycle, anatomy of WSDL definition document, WSDL bindings, WSDL Tools, limitations of WSDL.

UNIT- IV

Discovering Web Services — Service discovery, role of service discovery in a SQA, service discovery mechanisms, UDDI — UDDI registries, uses of UDDI Registry, Programming with UDDI, UDDI data structures, Publishing API, Publishing, searching and deleting information in a UDDI Registry, limitations of UDD1.

UNIT- V

Web Services Interoperability — Means of ensuring Interoperability, Overview of .NET, Creating a .NET client for an Axis Web Service, creating Java client for a Web service, Challenges in Web Services Interoperability. Web Services Security — XML security frame work, Goals of Cryptography,Digital signature, Digital Certificate, XML Encryption.

TEXT BOOK

- Developing Java Web Services, R. Nagappan, R. Skoczylas, R.P. Sriganesh, Wiley India.

REFERENCE BOOKS

- Java Web Service Architecture, James McGovern, Sameer Tyagi etal., Elsevier
- Building Web Services with Java, 2 Edition, S. Graham and others, Pearson Edn.
- Java Web Services, D.A. Chappell & T. Jewell, O'Reilly,SPD.
- Web Services, G. Alonso, F. Casati and others, Springer.Outcomes
- Basic details of WSDL, UDDI, SOAP

IVB.Tech II Semester

TEXTBOOKS:

1. Walker Rayce, "Software Project Management", 1998, PEA.

2. Henrey, "Software Project Management", Pearson.

REFERENCES:

. Richard H.Thayer." Software Engineering Project Management", 1997, IEEE ComputerSociety.
. Shere K.D.: "Software Engineering and Management", 1998, PHI.
. S.A. Kelkar, "Software Project Management: A Concise Study", PHI.
. Hughes Cotterell, "Software Project Management", 2e, TMH. 88 5. Kaeron Conway,"Software Project Management from Concept to D.

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Units	Topics	Course Learning Outcomes	Reference
I	**Conventional Software Management**	Explain the importance The waterfall Model, Conventional Software Management Performance	**T1 : 5 - 17**
	Evolution of Software Economics	Study about software Economics. Pragmatic Software Cost Estimation.	**T1 : 21 - 26**
	Improving Software Economics	Illustrate Reducing Software Product Size, Improving Software Processes, Improving Team Effectiveness, Improving Automation, Achieving Required Quality, Peer Inspections.	**T1 : 31 - 51**
II	**Conventional and Modern Software Management**	Illustrate the Principles of Conventional Software Engineering, Principles of ModernSoftware Management,Transitioning to an interactive Process.	**T1 : 55 – 66**
	Life cycle phases	Explain Engineering and Production Stages Inception, Elaboration, Construction,Transition phases.	**T1 : 73 – 80**
III	**Artifacts of the process**	Define The Artifact Sets. Management Artifacts,	**T1 : 83 – 105**

			Engineering Artifacts,Programmatic Artifacts.	
		Model based software architectures	Explain A Management Perspective and Technical Perspective.	**T1 : 109 – 111**
IV		**Work Flows of the process**	Demonstrate Software Process Workflows. Inter Trans Workflows.	**T1 : 117 – 121**
		Checkpoints of the process	Explain Major Mile Stones,Minor Milestones, Periodic StatusAssessments.	**T1 : 125 – 133**
		Iterative Process Planning	Demonstrate Work Breakdown Structures, Planning Guidelines, Cost andSchedule Estimating. Interaction Planning Process, Pragmatic Planning.	**T1 : 139 – 153**
V		**Project Organizations and Responsibilities**	Explain Line-of-Business Organizations, Project Organizations, and Evolution of Organizations.	**T1 : 155 – 165**
		Process Automation	Demonstrate Building Blocks, the Project Environment.	**T1 : 167 – 184**
		Project Control and Process Instrumentation	Explain Seven Core Metrics, Management Indicators,Quality Indicators, Life Cycle Expectations Pragmatic Software	**T1 : 187 - 202**

SOFTWARE PROJECT MANAGEMENT (R15A0543)

Objectives:

- Understanding the specific roles within a software organization as related to project andprocess management
- Understanding the basic infrastructure competences (e.g., process modeling and measurement)
- Understanding the basic steps of project planning, project management, quality assurance,and process management and their relationships

UNIT-I

Conventional Software Management: The waterfall Model, Conventional SoftwareManagement Performance,Evolution of Software Economics: software Economics. Pragmatic Software Cost Estimation.Improving Software Economics: Reducing Software Product Size, Improving SoftwareProcesses, Improving Team Effectiveness, Improving Automation, Achieving Required Quality, Peer Inspections.

UNIT-II

Conventional and Modern Software Management: Principles of Conventional Software Engineering, Principles of Modern Software Management, Transitioning to an interactiveProcess.Life Cycle Phases: Engineering and Production Stages Inception, Elaboration, Construction,Transition phases.

UNIT-III

Artifacts of the Process: The Artifact Sets. Management Artifacts, Engineering Artifacts, Programmatic Artifacts.Model Based Software Architectures: A Management Perspective and Technical Perspective.

UNIT-IV

Flows of the Process: Software Process Workflows. Inter Trans Workflows. Checkpoints of the Process: Major Mile Stones, Minor Milestones, Periodic StatusAssessments.Interactive Process Planning: Work Breakdown Structures, Planning Guidelines, Cost andSchedule Estimating. Interaction Planning Process, Pragmatic Planning.

UNIT-V

Project Organizations and Responsibilities: Line-of-Business Organizations, Project Organizations, and Evolution of Organizations.Process Automation: Building Blocks, the Project Environment.Project Control and Process Instrumentation: Seven Core Metrics, Management Indicators,Quality Indicators, Life Cycle Expectations Pragmatic Software

Outcomes:

At the end of the course, the student shall be able to:

- Describe and determine the purpose and importance of project management from theperspectives of planning, tracking and completion of project
- Compare and differentiate organization structures and project structures.
- Implement a project to manage project schedule, expenses and resource with theapplication of suitable project management tools.