THIRD-YEAR OF BACHELOR OF COMPUTER SCIENCE REVISED SYLLABUS ACCORDING TO CBCS

COURSE TITLE: WEB SERVICES

SEMESTER-V, W.E.F. 2021-2022

Recommended by the Board of Studies in Computer Science
And
Approved by the Academic Council
Devrukh Shikshan Prasarak Mandal's
Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and
Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh.
Tal. Sangameshwar, Dist. Ratnagiri-415804, Maharashtra,
India

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangameshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Bachelor of Science
Name of the Department	:	Computer Science
Name of the Class	:	Third Year
Semester	:	Five
No. of Credits	:	03
Title of the Course	:	Web Services
Course Code	:	USCST56
Name of the Vertical	:	Elective II
Eligibility for Admission	:	Any 12th Pass seeking Admission to Degree Programme in adherence to Rules and Regulations of the University of Mumbai and Government of Maharashtra
Passing Marks	:	40%
Mode of Assessment	:	Formative and Summative
Level	:	UG
Pattern of Marks Distribution for TE and CIA	:	70:30
Status	:	CBCS
To be implemented from Academic Year	:	2021-2022
Ordinances /Regulations (if any)		

Syllabus for Third Year of Bachelor of Science in Computer Science

(With effect from the academic year 2021-2022)

SEMESTER-V   **Paper No.– 6**

Course Title: Web Services   **No. of Credits - 03**

Type of Vertical: Elective II   **COURSE CODE: USCST56**

Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to…		
Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CO-01	Understand	Emphasis on SOAP based web services and associated standards such as WSDL.
CO-02	Understand	Design SOAP based / RESTful / WCF services Deal with Security and QoS issues of Web Services.

Syllabus for Third Year of Bachelor of Science in Computer Science

(With effect from the academic year 2021-2022)

SEMESTER-V   **Paper No.– 6**

Course Title: Web Services   **No. of Credits - 03**

Type of Vertical: Elective II   **COURSE CODE: USCST56**

COURSE CONTENT			
Unit No.	Content	Credits	No. of Lectures
I	Web services basics : What Are Web Services? Types of Web Services Distributed computing infrastructure, overview of XML, SOAP, Building Web Services with JAX-WS, Registering and Discovering Web Services, Service Oriented Architecture, Web Services Development Life Cycle, Developing and consuming simple Web Services across platform.	01	15
II	The REST Architectural style : Introducing HTTP, The core architectural elements of a RESTful system, Description and discovery of RESTful web services, Java tools and frameworks for building RESTful web services, JSON message format and tools and frameworks around JSON, Build RESTful web services with JAX-RS APIs, The Description and Discovery of RESTful Web Services, Design guidelines for building RESTful web services, Secure RESTful web services.	01	15

III	Developing Service-Oriented Applications with WCF : What Is Windows Communication Foundation, Fundamental Windows Communication Foundation Concepts, Windows Communication Foundation Architecture, WCF and .NET Framework Client Profile, Basic WCF Programming, WCF Feature Details. Web Service QoS	**01**	**15**
	Total	03	45

Required Previous Knowledge

Students should know basic concepts related to computer and computer handling

Access to the Course

The course is available for all the students admitted for Bachelor of Science (Computer Science).

Forms of Assessment

The assessment of the course will be of Diagnostic, Formative and Summative type. At the beginning of the course diagnostic assessment will be carried out. The formative assessment will be used for the Continuous Internal Evaluation whereas the summative assessment will be conducted at the end of the term. The weightage for formative and summative assessment will be 60:40. The detailed pattern is as given below.

Semester End Evaluation (60 Marks)
Question Paper Pattern
Time: 2 hours

Question No.	Unit/s	Question Pattern	Marks
Q.1	I ,II &III	MCQ/Fill in the blanks/One line sentence	10
Q.2	I	Descriptive Questions	20
Q.3	II	Descriptive Questions	20
Q4.	III	Descriptive Questions	20
		Total	**70**

Internal evaluation (30 Marks)

Sr. No.	Description	Marks
1	Classroom Tests	10
2	Project/ Viva/ Presentations/ Assignments	10
3	Attendance	10
	Total	**30**

Grading Scale

10 points grading scale will be used. The grading scale used is O to F. Grade O is the highest passing grade on the grading scale, and grade F is a fail. The Board of Examinations of the college reserves the right to change the grading scale.

Reference book:
- Web Services: Principles and Technology, Michael P. Papazoglou,
Pearson Education Limited, 2008
- RESTful Java Web Services, Jobinesh Purushothaman, PACKT
Publishing,2nd Edition, 2015
- Developing Service-Oriented Applications with WCF, Microsoft,2017

Text book:
- Techmax publication book

Additional References:
- Leonard Richardson and Sam Ruby, RESTful Web Services, O'Reilly, 2007
- The Java EE 6Tutorial, Oracle, 201/~jain/cse570-15/ftp/iot_prot/index.html

Course: USCSP59	Practical of USCST56 (Credits : 1, Lectures/Week: 3)
USCSP59	1. Write a program to implement to create a simple web service that converts the temperature from Fahrenheit to Celsius and vice a versa. 2. Write a program to implement the operation can receive request and will return a response in two ways. a) One - Way operation b) Request –Response 3. Write a program to implement business UDDI Registry entry. 4. Develop client which consumes web services developed in different platform. 5. Write a JAX-WS web service to perform the following operations. Define a Servlet / JSP that consumes the web service. 6. Define a web service method that returns the contents of a database in a JSON string. The contents should be displayed in a tabular format. 7. Define a RESTful web service that accepts the details to be stored in a database and performs CRUD operation. 8. Implement a typical service and a typical client using WCF. 9. Use WCF to create a basic ASP.NET Asynchronous JavaScript and XML (AJAX) service. 10. Demonstrates using the binding attribute of an endpoint element in WCF