PRESIDENCY UNIVERSITY
BENGALURU

SET A

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2024

Semester : Semester V - 2021
Course Code : CSE3125
Course Name : Service-Oriented Architecture
Program : B.Tech.

Date : 05-JAN-2024
Time : 9:30AM - 12:30 PM
Max Marks : 100
Weightage : 50%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS   5 X 4M = 20M

1. Explain the purpose and role of the follwing elements in an XML document,each in one or two sentences:
   a.Root Element
   b.Attributes
   c.Child Element

                                                                  (CO1) [Knowledge]

2. List and explain the primary purpose of XML DTD and XML schema interms of document validation.
                                                                  (CO1) [Knowledge]

3. Describe the roles of clients and servers in a client-server architecture. How does this seperation of roles contribute to the efficiency and scalibility of network systems.
                                                                  (CO2) [Knowledge]

4. Define the Business Service Layer and its significance .
                                                                  (CO3) [Knowledge]

5. Explain the role of WS-ReliableMessaging in Web Services and how it addresses issues related to message delivery and reliability.
                                                                  (CO4) [Knowledge]

PART B

6. List out any four major difference between orchestration and choreography, and provide examples to illustrate the practical application of orchestration in real-world scenarios.

    (CO3) [Comprehension]

7. Explain the structure of a WSDL document, the purpose of various elements, and provide examples to illustrate the usage of WSDL in describing web services.

    (CO2) [Comprehension]

8. Alice, Bob and Carol work for different departments but are responsible for different activities that make up a business process. Some of the process steps need IT support and some don't. Carol owns a desktop application and a smartphone application.They all decided to describe their work using XML document.
    Explain in detail the structure of an XML (eXtensible Markup Language) document, covering its key components, rules, and the purpose of various elements and attributes.

    (CO1) [Comprehension]

9. Describe how UDDI facilitates service discovery, registration, and interoperability in web service architectures.

    (CO3) [Comprehension]

10. Describe the key concepts, features, and functionalities of WS-BPEL (Web Services Business Process Execution Language).

    (CO4) [Comprehension]

PART C

11. Describe the key features of XLink (XML Linking Language) in the context of XML documents along with its elements .Apply XML to create a suitable schema for a "Bank Database" and list out the functional requirements taken into consideration.

    (CO1) [Application]

12. Service-Oriented Architecture is a design approach for creating software systems where services are provided, consumed, and orchestrated to achieve specific business functions. Describe the SOA platform and the J2EE APIs that are utilised to develop SOA.

    (CO3) [Application]