

B.E/B.TECH. Degree Examinations, December 2020

Semester - VI

**IT16605 - Service Oriented Architecture**

(Regulation 2016)

Time: Three hours

Maximum : 80 Marks

Answer **ALL** questions**PART A - (8 X 2 = 16 marks)**

1. \_\_\_\_\_ are delimited by an ampersand at the beginning and a semicolon at the ending.  
 A. Element                      B. Entity Reference  
 C.XML Schema                  D.DTD
2. Which architecture will be built on top of an SOA ?  
 a) The Application Architecture    b) The Service Architecture  
 c) The Component Architecture    d) None of the mentioned
3. The basic Web Services platform is combination of \_\_\_\_\_ and \_\_\_\_\_.  
 A. CSS + HTTP                  B. XML + HTML  
 C. XML + HTTP                  D. CSS + JAVA
4. Which of the following is the language standard for Web service interactions?  
 a) WS-BPEL                      b) WS-XML  
 c) WS-JSON                      d) All of the mentioned
5. Justify when the document will be considered as a valid document?
6. Compare abstract and concrete description.
7. How loose coupling is achieved in SOA?
8. Explain how SOA is related to Cloud computing?

**PART B - (4 X16 = 64 marks)**

09. (a) Develop the following validations for the given XML document. **(16)**
- a) Internal DTD
  - b) External DTD
  - c) XML Schema

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<bookstore>
  <name>Mike's Store</name>
  <topic>
    <name>XML</name>
    <book isbn="123-456-789">
      <title>Mike's Guide To DTD's and XML Schemas<</title>

```

<author>Mike Jervis</author>  
 </book>  
 </topic>  
 </bookstore>

**(OR)**

- (b) Justify how XML is processed with the help of SAX and determine the need for Namespace in XML. **(16)**
10. (a) (i) Analyze how the following characteristics of Contemporary Service Orientated Architecture are used to build web services. **(8)**  
 (1) Open standards  
 (2) Interoperability  
 (3) Reusability  
 (4) Extensibility
- (ii) Compare Service Orientated Architecture. to a Client-Server architecture. **(8)**
- (b) (i) Compare Service Orientated Architecture. to a Distributed Internet architecture. **(8)**  
 (ii) Investigate the principles of service orientated architecture. **(8)**
11. (a) (i) Show how messaging with SOAP and message exchange patterns are important in web services? **(8)**  
 (ii) Discuss the protocols of Atomic Transactions with real time example **(8)**
- (b) (i) Illustrate the Service layer abstraction and Application Service layer of Service Oriented Architecture with a neat diagram. **(8)**  
 (ii) Illustrate the Business Service Layer and Orchestration Service Layer of Service Oriented Architecture with a neat diagram. **(8)**
12. (a) Illustrate the WS-Coordination registration and completion process with neat sketches. **(16)**

**(OR)**

- (b) Demonstrate the WS-Security framework in terms of the 'security' element with an example. **(16)**