KUMARAGURU
college of technology
character is life

B.E DEGREE EXAMINATIONS: MAY 2018

(Regulation 2015)

Sixth Semester

COMPUTER SCIENCE AND ENGINEERING

U15CST502 : XML & WEB Services

COURSE OUTCOMES

CO1 Explain the basics of XML and service oriented architecture.

CO2 Develop a simple XML application.

CO3 Explain the role of JavaServerPage in web services.

CO4 Explain the key technologies in web services.

CO5 Explain the security issues in XML.

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 1 = 10 Marks)

1. Match the following programming type (list-1) with its suitable functionality(list-2)   CO1 [K2]

List I	List II
A. XML	i. Formats the XML document
B. HTML	ii. Exchanges XML data
C. SOAP	iii. Pre- Defined Tags
D. XSLT	iv. User Defined Tags

	A	B	C	D
a)	4	3	2	1
b)	1	2	3	4
c)	2	3	1	4
d)	3	2	4	1

2. Which among the following cannot be used for Distributed Computing?   CO1 [K2]
   1. RMI
   2. DCOM
   3. CORBA
   4. DHTML

   a) 1 and 2 only   b) 4 only

   c) 1, 2 and 3 only   d) 1 and 3 only

3. Well formed XML document means_____ CO2 [K2]
   a) it contains a root element
   b) it contain an element
   c) it contains one or more elements
   d) it must contain one or more elements and root element must contain all other elements

4. An XML component that defines the structure of a document is known as a(n): _____ CO2 [K2]
   a) DTD
   b) Web Services
   c) XSLT
   d) HTML Stylesheet.

5. Choose the statement that best describes the relationship between JSP and servlets: CO3 [K2]
   1. Servlets are built on JSP semantics and all servlets are compiled to JSP pages for runtime usage
   2. JSP and servlets are unrelated technologies
   3. Servlets and JSP are competing technologies for handling web requests. Servlets are being superseded by JSP, which is preferred. The two technologies are not useful in combination
   4. JSPs are built on servlet semantics and all JSPs are compiled to servlets for runtime usage.
   a) 1,2 &3 only
   b) 4 only
   c) 1 & 2 only
   d) 3 only

6. JavaBeans can be used in any JSP page using the _____ tag CO2 [K2]
   a) <jsp:useBean>
   b) <jsp:javaBean>
   c) <useBean>
   d) <use:javaBean>

7. **Assertion (A):** Web services builds on SOAP and HTTP. CO3 [K2]

   Reason(R): SOAP is an XML-based protocol for exchanging information in a decentralized, distributed environment. It was literally made for the Web, a combination of XML and HTTP that opens up new options for distributed data exchange and interaction in a loosely coupled Web environment.
   a) both A and R are individually true and R is the correct explanation of A
   b) both A and R are individually true but R is not the correct explanation of A
   c) A is false but R is true.
   d) A is true but R is false

8. Identify the correct sequence of functionalities for using a web service: CO3 [K2]
   1. Describe
   2. Invoke
   3. Expose
   4. Implement
   a) 4->1->3->2
   b) **2->3->1->4**
   c) 2->1->3->4
   d) 1->2->3->4

9. **Assertion (A):** Non –repudiation is closely associated with Confidentiality

    Reason(R): Confidentiality ensures that information is not made available or disclosed to unauthorized individuals, entities, or processes

    a) both A and R are individually true and R is the correct explanation of A

    b) both A and R are individually true but R is not the correct explanation of A

    c) A is false but R is true.

    d) A is true but R is false

    CO5 [K3]

10. Identify the incorrect statements for prototyping among the following statements:

    i.   Encrypting with a public key ensures authenticity.
    ii. A *digital signature* guarantees document authenticity.
    iii. Digital Certificates have unlimited life spans to allow for changes in circumstance.
    iv. X-KRSS defines a protocol for a Web service that accepts registration of public-key information.

    a) i and ii only

    b) ii and iv only

    c) ii and iii only

    d) i and iii only

    CO5 [K3]

PART B (10 x 2 = 20 Marks)
(Answer not more than 40 words)

11. Define Web Services.   CO1 [K2]

12. List the advantages of XML.   CO1 [K2]

13. Write a simple XML document that describes about book.   CO2 [K2]

14. List the four types of complex elements in DTD with example for each.   CO2 [K2]

15. Write a servlet program to display a message.   CO3 [K2]

16. Write the syntax for JSP directive and scriptlets with a simple example for each.   CO3 [K2]

17. Mention any four salient features of ebXML.   CO3 [K2]

18. Summarize the functionalities of various components involved in the .NET architecture. CO2 [K2]

19. Distinguish between confidentiality and data integrity.   CO4 [K2]

20. What is XKMS and list the two parts associated with it?   CO4 [K2]

Answer any FIVE Questions:-
PART C (5 x 14 = 70 Marks)
(Answer not more than 300 words)

Q.No. 21 is Compulsory

21. a. Discuss about the three revolutions of XML with suitable diagrams.   (10)   C01 [K2]

    b. Interpret the role of XML and its various waves of development.   (4)   C01 [K2]

22. a. Define DTD and apply the knowledge of XML to write the DTD for the following   (8)   CO2 [K3]
     XML document:

    <book language="en" author="Ernest Hemingway">
    <title>A Farewell to Arms</title>
    <chapter>
     <heading>Chapter One</heading>
     <paragraph> ... <paragraph>
     <paragraph> ... <paragraph>
    </chapter>
    <chapter>
     <heading>Chapter Two</heading>
     <paragraph> ... <paragraph>
     <paragraph> ... <paragraph>
    </chapter>
    </book>

    b. Illustrate the role of namespaces and different types of namespace declarations in   (6)   CO2 [K3]
    XML document for an online bookstore.

23 Explain about any five elements of XSLT with suitable examples for each.   CO2 [K3]

24. Interpret the need and the functionalities of four technologies involved in web   CO4 [K2]
     services framework.

25. a. Discuss about the various elements involved in the XML digital signature   (8)   CO5 [K2]
         mechanism and list the steps involved in generating a digital signature for a XML
         document.

    b. List the steps involved in creating a canonical form of XML document.   (6)   CO5 [K2]

26. Interpret the need of various directives and implicit objects in JSP with their syntax.   C03 [K3]

27. Write a JSP code to perform the following operations using database for a library   (7)   C04 K2
     management system.   (7)   C04 K2

    a) Storing the details of a book

    b) Finding and displaying the details of a book

    c) Book Issue-A maximum of three books can be taken by students. A appropriate
       message needs to be displayed when the student tries to take more than the
       given limit

    d) Book Renewal- From the current date 15 days needs to be added automatically
       once the user selects the renewal option

****