Q.5 Attempt any two:

i. How different templates can be applied to a single XML document using XML-XSLT? Explain with example. **5**

ii. Explain with suitable example: **5**
(a) xsl:sort
(b) xsl:choose

iii. Create an XML-XSLT for the notebook XML given and print the formatted output based on the condition given like id=1, or to='A'. **5**

Q.6 Attempt any two:

i. Why XPATH used? Write node types used in XPATH and write different operators used to select nodes in defining path expression. **5**

ii. What is predicates in XPATH? How it can be used? Explain by providing suitable example with minimum two conditions. **5**

iii. Create a sample student.xml file and for the same create schema and XSLT file and link all together and to display formatted content in the browser. **5**

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Total No. of Questions: 6 *Total No. of Printed Pages:4*

Enrollment No.....

Faculty of Engineering

End Sem (Odd) Examination Dec-2019

CS3EL08 Programming with XML

Programme: B.Tech. Branch/Specialisation: CS

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1 i. XML is? **1**
(a) Platform Independent (b) Language Independent
(c) Both (a) and (b) (d) None of these

ii. All information in XML is …… **1**
(a) Unicode text (b) multi code
(c) multi text (d) simple text

iii. In XML **1**
(a) The internal DTD subset is read before the external DTD
(b) The external DTD subset is read before the internal DTD
(c) In any order DTD can be read
(d) All the statements are true

iv. Which is used about text data that should be parsed by the XML parser? **1**
(a) HDATA (b) PCDATA (c) CDATA (d) NPDATA

v. To create a choice in XML schemas, we use the **1**
(a) <xs:select> element (b) <xs:multi> element
(c) <xs:single> element (d) <xs:choice> element

vi. In XML-Schema, which of the following is used for applying restrictions on values? **1**
(a) <xs:restriction base="xs:string">
(b) <xs:restriction type="xs:string">
(c) <xs:restriction basetype="xs:string">
(d) All of these

vii. Which of the following is correct way to link stylesheet? **1**
(a) <xml-stylesheet type="text/xsl" href="cd.xsl">
(b) <xml-stylesheet type="text/xsl" xsl="cd.xsl">
(c) <?xml-stylesheet type="text/xsl" href="cd.xsl"?>
(d) <?xml-stylesheet type="text/xsl" xsl="cd.xsl"?>

viii. In XSLT style sheet we have syntax to match elements with id as (if id is " change") **1**
(a) <xsl:template match=" id('change')" >
(b) <xsl:template match=" (change)">
(c) <xsl:template match=" change">
(d) <xsl:template match-id="Change">

ix. What is the role of the XPath language in XSL processing? (Select most appropriate answer only). **1**
(a) XPath identifies the order or path of processing to be followed as the XSL language is processed
(b) XPath identifies locations in XML data to be transformed in the source tree and the locations to be generated in output tree specified in XSL translation prescriptions
(c) XPath identifies the path to be followed in the execution of XSL translation prescriptions
(d) XPath specifies which XSL transform files are to be used in the translation of XML

x. In XPATH, an axis represents a relationship between nodes to the context of _____ node. **1**
(a) Parent (b) Root (c) Current (d) All of these

Q.2 Attempt any two:

i. Write any five difference between HTML and XML. **5**

ii. How to validate an XML file? Illustrate with suitable diagram and example. **5**

iii. Defines the tree structure of an XML document. Draw a tree structure for the "notebook.xml" file shown. **5**

Sample notebook XML file: (notebook.xml)

```
<notebook>
  <note id=1>
    <to>A</to>
    <from>B</from>
    <heading>Final Exam</heading>
    <body>XML Question Paper</body>
  </note>
  <note id=2>
    <to>X</to>
    <from>Y</from>
    <heading>Final Exam Dec. 2019</heading>
    <body>Programming with XML Question Paper</body>
  </note>
</notebook>
```

Q.3 Attempt any two:

i. Write any five points on advantages and disadvantages of using DTD. **5**

ii. In DTD, how to define the following things: Element, attribute, empty element, number of occurrence and choices in values of element. Write with suitable example. **5**

iii. Create an external DTD for notebook XML given and link that DTD to an XML file. **5**

Q.4 Attempt any two:

i. What do you mean by simple and complex type in XML-Schema? Explain with an example for element and attribute both. **5**

ii. How to apply restriction on values using XML-Schema. Enlist any five of them with example. **5**

iii. Create an XML-Schema for the notebook XML given and then link and validate it with an XML file. **5**

Marking Scheme
CS3EL08 Programming with XML

Q.1
i. XML is? **1**
(c) Both (a) and (b)

ii. All information in XML is …… **1**
(a) Unicode text

iii. In XML **1**
(a) The internal DTD subset is read before the external DTD

iv. Which is used about text data that should be parsed by the XML parser? **1**
(b) PCDATA

v. To create a choise in XML schemas, we use the **1**
(d) <xs:choise> element

vi. In XML-Schema, which of the following is used for applying restrictions on values? **1**
(a) <xs:restriction base="xs:string">

vii. Which of the following is correct way to link stylesheet? **1**
(c) <?xml-stylesheet type="text/xsl" href="cd.xsl"?>

viii. In XSLT style sheet we have syntax to match elements with id as (if id is " change") **1**
(a) <xsl:template match=" id('change')" >

ix. What is the role of the XPath language in XSL processing? (Select most appropriate answer only). **1**
(b) XPath identifies locations in XML data to be transformed in the source tree and the locations to be generated in output tree specified in XSL translation prescriptions

x. In XPATH, an axis represents a relationship between nodes to the context of _____ node. **1**
(a) Parent

Q.2 Attempt any two:

i. Any five difference between HTML and XML **5**
1 mark for each difference (1 mark *5)

ii. Validate an XML file **5**
Explanation 3 marks
Diagram 1 mark
Example 1 mark

iii. Defines the tree structure of an XML document. **5**
Explanation 3 marks
Tree structure 2 marks

Q.3 Attempt any two:

i. Five points on advantages and disadvantages of using DTD. **5**
1 mark for each point (1 mark *5)

ii. Define with example **5**
1 mark for each explanation (1 mark *5)

iii. Create an external DTD for notebook XML given and link that DTD to an XML file. **5**
Step wise marking

Q.4 Attempt any two:

i. Simple and complex type in XML-Schema **5**
1 mark for each (1 mark *2) 2 marks
Example for element and attribute both.
1.5 marks each (1.5 marks *2) 3 marks

ii. How to apply restriction on values using XML-Schema. Enlist any five of them with example. **5**
1 mark for each with example (1 mark *5)

iii. Create an XML-Schema for the notebook XML given and then link and validate it with an XML file. **5**
Step wise marking

Q.5 Attempt any two:

i. How different templates can be applied to a single XML document using XML-XSLT? **5**
Correct explanation with tag name 3 marks
Example 2 marks

ii. (a) xsl:sort with example 2.5 marks **5**
(b) xsl:choose with example 2.5 marks

iii. Create an XML-XSLT for the notebook XML **5**
Step wise marking

Q.6 Attempt any two:

i. Why XPATH used 1 mark **5**
Write node types used in XPATH 2 marks
Different operators 2 marks

ii. Predicates in XPATH 1 mark **5**
How it can be used 1 mark
Example with minimum two conditions.
1.5 marks for each (1.5 marks * 2) 3 marks

iii. Create a sample student.xml file **5**
XML File 1 mark
Schema File 1.5 marks
XSLT File 1.5 marks
Integration of all 1 mark

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