

## Latest Version: 6

### Question: 1

Four separate operating requirements and four individual storage management methods for XML document data are listed below. Considering the general characteristics, which individual management method ([Management Methods]) combines most optimally with which requirement ([Operating Requirements])?

[Operating Requirements]

1. Retrieve a portion of the XML document according to values in the XML document
2. Identify the XML document by unique values, and retrieve the entire XML document
3. Perform aggregation and statistical calculations of the values in the XML document
4. Continuously check the data types for the values in the XML document, and search through data using queries on the XML document

[Management Methods]

- A) XML document file (text file) management via file system
- B) Management via RDB (relational database), and program for storing data from an XML document into the RDB (assume the RDB does not maintain an XML document tree structure)
- C) Management via XMLDB, using XML Schema definitions
- D) Management via XMLDB, without using XML Schema definitions

- A. A-4, B-2, C-1, D-3
- B. A-1, B-2, C-4, D-3
- C. A-2, B-1, C-4, D-3

**Answer: A**

### Question: 2

Assume that a certain XMLDB requires disk capacity in excess of the size of an XML document when storing the XML document to accommodate XML node information and other information (such as management considerations, etc.)

The following describes the capacity needed:

When eliminating ignorable whitespace in the XML document 1.5 times the XML document file size.

When not eliminating ignorable whitespace in the XML document 2.0 times the XML document file size.

At the initial stage, the total size of the XML document files to be stored is 1GB. At the operating stage, repeated additions and deletions of XML documents will result in a projected disk requirement of plus or

minus 10% compared to the prior year. Assume that the disk size configured at initial stage cannot be changed for two years. The required disk capacity will be calculated according to these conditions; however, to provide a safety margin, the decision has been made to set aside the equivalent of twice the

maximum required disk capacity as calculated above. Select the value representing the required disk

capacity when ignorable whitespace is not eliminated from the XML document. Do not consider any facts or conditions other than those given above.

- A. 3.3GB
- B. 3.63GB
- C. 4.4GB
- D. 4.84GB

**Answer: D**

### Question: 3

Assume that [testmixsd] (referenced in a separate window) has been defined. Without rewriting this XML Schema Document ([testml-xsd]), create a new, separate XML Schema Document to partially change the schema definition replacing the phone element with a cellPhone element. As a result, the following [XML Document] will be valid against the new schema.

[testml.xsd]

```
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="TestML" type="testmlType" />
  <xs:complexType name="testmlType">
    <xs:sequence>
      <xs:element ref="person" maxOccurs="unbounded" />
    </xs:sequence>
  </xs:complexType>

  <xs:element name="person" type="personType" />
  <xs:complexType name="personType">
    <xs:sequence>
      <xs:element ref="name" />
      <xs:element ref="phone" />
    </xs:sequence>
  </xs:complexType>

  <xs:element name="name" type="xs:string" />
  <xs:element name="phone" type="xs:string" />
</xs:schema>
```

Which of the following correctly describes the new XML Schema Document?

Assume that the XMLDB or XML parser correctly processes the XML Schema schema Location attribute.

[XML Document]

```
<TestML>
<person><name>John Smith</name>
<cellPhone>000-1111-2222</cellPhone>
</person>
</TestML>
```

A. <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:import schemaLocation="testml.xsd" />

<xs:element name="cellPhone" type="xs:string" />

</xs:schema>

B. <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:include schemaLocation="testml.xsd" />

<xs:element name="cellPhone" substitutionGroup="phone" type="xs:string" />

</xs:schema>

C. <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:redefine schemaLocation="testml.xsd">

<xs:element name="cellPhone" base="phone" type="xs:string" />

</xs:redefine>

</xs:schema>

D. This type of definition cannot be created using XML Schema

**Answer: B**

## Question: 4

See separate window.

Assume you wish to execute a query on [example.xml] (separate window) to obtain a record element that includes a data element having a value equal to or greater than 100 and less than 200. Select the correct result of executing the [XQuery] (separate window). The expected result would be "C;" however, the query may not be processed as expected.

[example.xml]

```
<example>
  <record date="2007-05-15">
    <data condition="bad">50</data>
    <data condition="bad">80</data>
    <data condition="good">250</data>
  </record>
  <record date="2007-05-16">
    <data condition="bad">60</data>
    <data condition="good">90</data>
    <data condition="good">150</data>
  </record>
</example>
```

[XQuery]

```
<result>{
  for $record in fn:doc("example.xml")/example/record
  where $record[100 <= data and data < 200]
  return
    $record
}</result>
```

A. <result/>

B. <result>

```
<record date="2007-05-15">
  <data condition="bad">50</data>
  <data condition="bad">80</data>
  <data condition="good">250</data>
</record>
</result>
```

C. <result>

```
<record date="2007-05-16">
  <data condition="bad">60</data>
  <data condition="good">90</data>
  <data condition="good">150</data>
</record>
</result>
```

D. <result>

```
<record date="2007-05-15">
  <data condition="bad">50</data>
  <data condition="bad">80</data>
```

```
<data condition="good">250</data>
</record>
<record date="2007-05-16">
<data condition="bad">60</data>
<data condition="good">90</data>
<data condition="good"> 150</data>
</record>
</result>
```

<b>Answer: D</b>
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