Seat No.: _____                                     Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY
## BE - SEMESTER–VII (OLD) EXAMINATION – SUMMER 2019

**Subject Code: 170708**                              **Date: 10/05/2019**
**Subject Name: Web Data Management**
**Time: 02:30 PM TO 05:00 PM**                        **Total Marks: 70**
**Instructions:**
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

| | | | |
|---|---|---|---|
| **Q.1** | **(a)** | Discuss: XML fulfill requirements for semi structured data model. | **07** |
| | **(b)** | What is XPath Axes? Describe following Axes in brief. | **07** |

    1. Sibling          3. Attribute          5. ancestor
    2. Descendant      4. preceding          6. child

| | | | |
|---|---|---|---|
| **Q.2** | **(a)** | Describe doc() and collection() function with suitable example. | **07** |
| | **(b)** | Explain XUpdate With Example. | **07** |

**OR**

| | | | |
|---|---|---|---|
| | **(b)** | Explain FLWOR expression based on XQuery. | **07** |

| | | | |
|---|---|---|---|
| **Q.3** | **(a)** | Discuss DTD and XSD in detail. | **07** |
| | **(b)** | What is graph bisimulation? Explain in Detail. | **07** |

**OR**

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|---|---|---|---|
| **Q.3** | **(a)** | Describe Failure management in distributed system. | **07** |
| | **(b)** | Differentiate ranked trees and unranked trees. | **07** |

| | | | |
|---|---|---|---|
| **Q.4** | **(a)** | Describe RDF and RDFS in detail. | **07** |
| | **(b)** | Explain Web crawling process in details. | **07** |

**OR**

| | | | |
|---|---|---|---|
| **Q.4** | **(a)** | Explain Web graph mining and hot topics in web search. | **07** |
| | **(b)** | Explain Global-as-view (GAV) and Local-as-view (LAV) mediation with example. | **07** |

| | | | |
|---|---|---|---|
| **Q.5** | **(a)** | How data can be exchanged between applications using XML. | **07** |
| | **(b)** | What is XPath? | **07** |

Consider bib.xml and write XPath for following.
    1. Find all books with a price of $39.95
    2. Find the title of book where last name of author is Stevens
    3. Find the title of all books published before 1995

**OR**

| | | | |
|---|---|---|---|
| **Q.5** | **(a)** | Explain Recovery techniques of a Distributed system. | **07** |
| | **(b)** | What is XQuery? | **07** |

Consider bib.xml and write Xquery for following
    1. List books published by Addison-Wesley after 1991, including their year and title.
    2. Delete year attribute.

bib.xml

```
<bib>
        <book year="1994">
                <title>TCP/IP Illustrated</title>
                <author>
                        <last>Stevens</last><first>W.</first>    </author>
                <publisher>Addison-Wesley</publisher>
                <price> 65.95</price>
        </book>
        <book year="1992">
                <title>Advanced XML Programming in the Unix
        environment</title>
                <author><last>Stevens</last><first>W.</first></author>
                <publisher>Addison-Wesley</publisher>
                <price>65.95</price>
        </book>
        <book year="2000">
                <title>Data on the Web</title>
                <author><last>Abiteboul</last><first>Serge</first></author>
                <author><last>Buneman</last><first>Peter</first>        </author>
                <author><last>Suciu</last><first>Dan</first></author>
                <publisher>Morgan Kaufmann Publishers</publisher>
                <price> 39.95</price>
        </book>
        <book year="1999">
                <title>The Economics of Technology and Content for    Digital TV</title>
                <editor>
                        <last>Gerbarg</last>
                        <first>Darcy</first>
                        <affiliation>CITI</affiliation>
                </editor>
                <publisher>Kluwer Academic Publishers</publisher>
                <price>129.95</price>
        </book>
</bib>
```

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