REG. NO										

MANIPAL INSTITUTE OF TECHNOLOGY
(Constituent Institute of Manipal University)
MANIPAL-576104

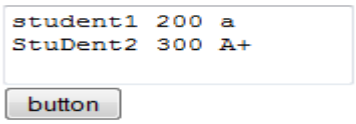
II SEMESTER M.TECH. (CSIS & CSE) DEGREE
END-SEMESTER EXAMINATION - MAY 2014
SUBJECT: WEB SERVICES (CSE 562) (ELECTIVE II)
DATE: 15-05-2014

TIME: 3 HOURS MAX.MARKS: 50

Instructions to Candidates

- **Note:** Answer any **FIVE** full questions.

1.A. Briefly explain different layers of web service architecture with a neat diagram.
1.B. Write a program using HTML and JavaScript, which contains TextArea. In the TextArea, details about the students are entered such as name, marks and grade obtained. Any number of such entries can be made. After clicking on button, the information inside TextArea must be displayed in uppercase as shown in Fig.Q.1.B. Also display the number of words.



Name: STUDENT1
Marks: 200
Grade: A
Name: STUDENT2
Marks: 300
Grade: A+
Number of words: 6

Fig.Q.1.B: Sample Output (5 + 5)

2.A. Consider a sample "AlbumList.xml" file as shown in Fig.Q.2.A.1.

```
<?xml version="1.0" encoding="iso-8859-1"?>
<catalog>
  <cd>
    <title>Tunuk Tunuk</title>
    <artist>Dalder Mehndi</artist>
    <country>India</country>
    <price>200</price>
    <year>2011</year>
  </cd>
  <cd>
    <title>Lift Karade</title>
    <artist>Adnan Sami</artist>
    <country>India</country>
    <price>150</price>
    <year>2010</year>
  </cd>
</catalog>
```

Fig.Q.2.A.1: Sample "AlbumList.xml" File

Album List

Title	Artist
Tunuk Tunuk	Dalder Mehndi

Fig.Q.2.A.2: Sample Output

Explain the changes required to convert XML file shown in Fig.Q.2.A.1 to the XHTML shown in Fig.Q.2.A.2 using XSL. Display only those titles whose price is greater than 160.

2.B. Explain three SOAP Header Attributes.

2.C. Explain three enhancements in XML Schema 1.1. (4 + 3 + 3)

3.A. Write short notes on WebSphere MQ.

3.B. Explain three modes of FOR XML clause of SQL Server with examples.

3.C. Explain any five differences between SOAP 1.1 and SOAP 1.2. (2 + 3 + 5)

4.A. Consider an MIT ResultService located at "http://mit.edu/service.svc".

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
            xmlns:mit="http://mit.edu/">
  <s:Header>
    <mit:Username>100905685</mit:Username>
    <mit:Password>16-01-1990</mit:Password>
  </s:Header>
  <s:Body>
    <mit:GetResult>
      <mit:RegisterNo>100905685</mit:RegisterNo>
      <mit:Semester>4</mit:Semester>
      <mit:Term>MAY2012</mit:Term>
    </mit:GetResult>
  </s:Body>
</s:Envelope>
```

Fig.Q.4.A.1: SOAP Request

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Body>
    <GetResultResponse xmlns="http://mit.edu/">
      <Name>P Singh</Name>
      <RegisterNo>100905685</RegisterNo>
      <Subjects>
        <Subject>
          <Grade>A+</Grade>
          <Name>FLTA</Name>
        </Subject>
        <Subject>
          <Grade>A</Grade>
          <Name>RDBMS</Name>
        </Subject>
      </Subjects>
    </GetResultResponse>
  </s:Body>
</s:Envelope>
```

Fig.Q.4.A.2: SOAP Response

(i) Create WSDL, which will serve the SOAP request shown in Fig.Q.4.A.1 with the SOAP response shown in Fig.Q.4.A.2.

(ii) Write the WCF contract for the method "GetStudentResult", its parameter and return type. The SOAP request and response for the method is as shown in Fig.Q.4.A.1 and Fig.Q.4.A.2 respectively. (6 + 4)

5.A. Explain FLOWR expression with an example.

5.B. Explain any five differences between HTML and XHTML with example. **(**5 + 5)

6.A. Consider the XML file for golfer's inventory given in Fig.6.A.1.

```
<?xml version="1.0"?>
<golfers>
  <golfer skill="excellent" handicap="4" clubs="Taylor Made" id="1111">
    <name>
      <firstName>Heedy</firstName>
      <lastName>Wahlin</lastName>
    </name>
    <favoriteCourses>
      <course city="Pinetop" state="AZ" name="Pinetop Lakes CC"/>
      <course city="Phoenix" state="AZ" name="Ocotillo"/>
      <course city="Snowflake" state="AZ" name="Silver Creek"/>
    </favoriteCourses>
  </golfer>
  <golfer skill="moderate" handicap="8" clubs="Taylor Made" id="2222">
    <name>
      <firstName>Dan</firstName>
      <lastName>Wahlin</lastName>
    </name>
    <favoriteCourses>
      <course city="Pinetop" state="AZ" name="Pinetop Lakes CC"/>
      <course city="Pinetop" state="AZ" name="White Mountain CC"/>
      <course city="Springville" state="UT" name="Hobble Creek"/>
    </favoriteCourses>
  </golfer>
</golfers>
```

Fig.Q.6.A.1: Sample Xml File

Write the XPATH expressions for the following natural language description with respect to the XML file in Fig.6.A.1. Justify the validity of the XPATH expression in your own words.

(i) Select top two favorite courses of all golfers.

(ii) Select <firstName>, if any of the attribute of the <golfer> element has "8" as its value.

(iii) Select the last favorite course of each golfer.

(iv) Select <firstName> of all golfers whose skill level is moderate.

(v) Select <lastName> elements of all golfers whose <firstname> is "Heedy" and has "Phoenix" city as one of his favorite course.

6.B. Write the XML Schema Document for the sample XML file shown in Fig.Q.6.A.1.

((1 + 1 + 1 + 1 + 1) + 5)

****