Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

II SEMESTER M.TECH. (COMPUTER SCIENCE AND ENGINEERING)

END SEMESTER EXAMINATIONS, APRIL/MAY 2017

SUBJECT: WEB SERVICES [CSE 5244]

REVISED CREDIT SYSTEM

(29/04/2017)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitable assumed.

1A. Consider the XML file for Bookstore's inventory given in Fig.Q.1.A

```
<?xml version="1.0"?>
<bookstore specialty="novel">
  <book style="autobiography">
    <author>
      <first-name>Joe</first-name>
      <last-name>Bob</last-name>
      <award>Trenton Literary Review Honorable Mention</award>
    </author>
    <price>12</price>
  </book>
  <book style="novel" id="myfave">
    <author>
      <first-name>Toni</first-name>
      <last-name>Bob</last-name>
      <degree from="Trenton U">B.A.</degree>
      <degree from="Harvard">Ph.D.</degree>
      <award>Pulitzer</award>
    </author>
    <price intl="Canada" exchange="0.7">6.50</price>
  </book>
</bookstore>
```

Fig.Q.1.A: Sample Xml File

Write the XML Schema Document for the sample XML file shown in Fig.Q.1.A. **5M**

1B. Explain with example, the three pillars of XML. **3M**

1C. What is UDDI? **2M**

2A. Explain the changes required to convert XML file shown in Fig.Q.1.A to the XHTML shown in Fig.Q.2.A using XSL. Display only those book styles with price greater than 10.

Book List

Style	Author
autobiography	Bob

Fig.Q.2.A: Sample Output **4M**

2B. Write the JavaScript code to parse XML shown in Fig.Q.1.A using DOM and display the following:
(i) Last degree element of all the authors of books with style as “novel”.
(ii) All authors along with the book price. If price has an exchange value, multiply exchange with price (exchange * price) else display the price. **4M**

2C. Explain JavaScript timing events. **2M**

3A. Explain what aspects of services within an enterprise must be described by SOA. **4M**

3B. With a neat diagram, explain orchestration and choreography in SOA. **4M**

3C. Write the JSON equivalent file for XML shown in Fig.Q.1.A **2M**

4A. 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: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. **5M**
(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. **3M**

4B. Explain SOAP Attachments with an example. **2M**

5A. What is OAuth 2.0? With a neat diagram, explain abstract protocol flow of OAuth 2.0. **5M**

5B. Explain three key capabilities of Firebase real-time database. **3M**

5C. Explain any four best practices for building secure ReST services. **2M**

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