



Manipal Institute of Technology

MANIPAL

Constituent Institute of Manipal Academy of Higher Education

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

MAKEUP EXAMINATIONS, JUNE/JULY 2019

SUBJECT: ELECTIVE III - WEBSERVICES [CSE 5244]

REVISED CREDIT SYSTEM

(17/06/2019)

Time: 3 Hours

Max. Marks: 50

Instructions to Candidates:

- Answer **ALL** questions & missing data may be suitably assumed.

1A. Explain any five differences between HTML and XHTML with example. 5M

1B. Write the valid XML document for the XML Schema shown in Fig.Q.1.B

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="book">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="title" type="xs:string"/>
        <xs:element name="author" type="xs:string"/>
        <xs:element name="character" minOccurs="0" maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="name" type="xs:string"/>
              <xs:element name="friend-of" type="xs:string" minOccurs="0"
                maxOccurs="unbounded"/>
              <xs:element name="since" type="xs:date"/>
              <xs:element name="qualification" type="xs:string"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:attribute name="isbn" type="xs:string"/>
</xs:schema>
```

Fig.Q.1.B: XML Schema

1C. Explain four limitations of client-side programming. 3M

2A. Explain any five WS-* Standards. 2M

2B. Explain any three objectives of cloud computing. 5M

2C. With an example, explain JSON objects. 3M

3A. Explain any five characteristics of ReST Service. 5M

3B. Explain three SOAP Header Attributes. 3M

3C. Design a ReST service for "ManipalBlog" with the following requirements:

- Users can register by providing email or phone number.
- Only registered users can create a new blog.
- Even anonymous users can comment on a blog.

Write the URI and the HTTP method for the following operations:

- User registration
- Update existing blog.

- Registered user adds comment.
- Anonymous user deletes comment.

2M

4A. Consider a BookingService located at "<http://www.bookmybus.com/bookings.svc>".

```
<soapenv:Envelope
  xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:tem="http://tempuri.org/">
  <soapenv:Body>
    <tem:GetAvailableBuses>
      <tem:source>MANIPAL</tem:source>
      <tem:destination>BANGALORE</tem:destination>
      <tem:date>2014-06-05</tem:date>
    </tem:GetAvailableBuses>
  </soapenv:Body>
</soapenv:Envelope>
```

Fig.Q.4.A.1

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Body>
    <GetAvailableBusesResponse xmlns="http://tempuri.org/">
      <GetAvailableBusesResult
        xmlns:a="http://www.bookmybus.com/bookings.xsd">
        <a:Bus>
          <a:AvailableSeats>5,16,21</a:AvailableSeats>
          <a:Destination>BANGALORE</a:Destination>
          <a:Id>V0012</a:Id>
          <a:Name>Durgamba Volvo</a:Name>
          <a:Source>KUNDAPURA</a:Source>
        </a:Bus>
        <a:Bus>
          <a:AvailableSeats>22,23,24</a:AvailableSeats>
          <a:Destination>BANGALORE</a:Destination>
          <a:Id>S0112</a:Id>
          <a:Name>Durgamba Sleeper</a:Name>
          <a:Source>MANIPAL</a:Source>
        </a:Bus>
      </GetAvailableBusesResult>
    </GetAvailableBusesResponse>
  </s:Body>
</s:Envelope>
```

Fig.Q.4.A.2

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

4B. Write the WCF contract for the method "GetAvailableBuses", its parameter and return type. The SOAP request and response for the method is shown in Fig.Q.4.A.1 and Fig.Q.4.A.2 respectively.

3M

4C. Explain any two differences between SOAP 1.1 and SOAP 1.2.

2M

5A. Explain any five common types of policies used in SOA governance.

5M

5B. Explain the basic service architecture and responsibilities of service implementation layers.

5M
