

**BITS, Pilani-Dubai**

**International academic city, Dubai**

**IV th Year 2007-08**

**Degree: B.E.(HONS) Branch: C.S.E**

**COURSE NO. : CS UC441 COURSE TITLE: Selected topics from computer science  
(web services and internet based distributed computing)**

Time :50 mts

Date :9-12-2007

Marks: 25 Test2

weightage=20%

**Answer all the questions(open book)**

**Q1. Justify with appropriate reasoning whether man-in-the-middle can happen in symmetric cryptography or asymmetric cryptography.(5M)**

**Q2. Consider a KDC and a Certificate Authority servers. Suppose a KDC goes down. What is the impact on ability of parties to communicate securely. That is who can and can not communicate. Justify. Suppose now that a CA goes down. What is the impact of the failure? (5M)**

**Q3)a). Outline clearly the vulnerability of plain text attack that can happen in WEP security of wireless lan.(5M)**

**b) Assume that a node in wireless lan starts transferring secured data using WEP. I want to delay the attack such that it happens approximately after 2 hrs. How this can be made possible? Assume that each frame contains 1000bits of data.(5M)**

**Q4. Suppose you want two applications running across the internet. Let them exchange information in a secured manner irrespective of using different types of PKI infrastructures. Further the applications need not have any certificate processing logic. Outline an appropriate means to achieve the same.(5M)**

**BITS, Pilani-Dubai Campus,  
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IVth Year First Semester 2007-08  
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**COURSE NO. : CS UC441**

**Selected topics from computer science**

**Test1 Date: 07-1-08**

**Total marks=60 (closed book) Weightage=40%**

**Time: 3 hrs**

**Answer all the questions**

**Part A\_ Answer all the questions (5\*2=10M)**

Q1. Justify whether a web service can have more than one binding. In such a case how it can be represented using WSDL?

Q2. What are the advantages of xml digital signing compared to conventional digital signing?

Q3. Outline what is meant by authorization assertion in SAML

Q4. With an example justify the difference between document centric and RPC enabled web services.

Q5. What are the possible forms public key is exchanged between X and Y during XML encryption ?

**Part B**

**Answer all the questions (5\*10=50 M)**

Q1. Describe using appropriate interaction diagram how using web browser profile SSO is carried out using SAML for accessing more than a web site .(10M)

Q2.

No of books sold	20
Cost price	\$30
Selling price	\$20
Generated revenue	

**GETSALES**

On clicking the getsales button a browser gets the web page from a web site which maintains the updated Sales of books in a database as shown in FIG above . The selling price and cost price remains the same. I do not want the entire page refreshed on clicking the getsales button . Only the latest books sold and revenue generated has to be updated. Outline a mechanism to implement the same .(10M)

Q3.a) What are the possible message interactions between a web service client and a web service ?(4M)

```
<?xml version="1.0" encoding="UTF-8"?>
<definitions name="HelloService"
  targetNamespace="http://www.ecerami.com/wsd/HelloService.wsd"
  xmlns="http://schemas.xmlsoap.org/wsd/"
  xmlns:soap="http://schemas.xmlsoap.org/soap/"
  xmlns:tns="http://www.ecerami.com/wsd/HelloService.wsd"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">

  <message name="SayHelloRequest">
    <part name="firstName" type="xsd:string"/>
  </message>
  <message name="SayHelloResponse">
    <part name="greeting" type="xsd:string"/>
  </message>

  <portType name="Hello_PortType">
    <operation name="sayHello">
      <input message="tns:SayHelloRequest"/>
      <output message="tns:SayHelloResponse"/>
    </operation>
  </portType>

  <binding name="Hello_Binding" type="tns:Hello_PortType">
    <soap:binding style="rpc"
      transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="sayHello">
      <soap:operation soapAction="sayHello"/>
      <input>
        <soap:body
          encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
          namespace="urn:examples:helloservice"
          use="encoded"/>
      </input>
      <output>
        <soap:body
          encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
          namespace="urn:examples:helloservice"
          use="encoded"/>
      </output>
    </operation>
  </binding>

  <service name="Hello_Service">
    <documentation>WSDL File for HelloService</documentation>
    <port binding="tns:Hello_Binding" name="Hello_Port">
      <soap:address
        location="http://localhost:8080/soap/servlet/rpcrouter"/>
    </port>
  </service>
</definitions>
```

b)Using the above wsdl document specify all the inferences you can make about the web service , invoking the same and getting the response.(6M)

Q4.a)Outline systematically the steps involved in publishing a web service in a UDDI ?(6M)

b)What are meant by category taxonomies and with an example specify the usage of the same ?(4M)

Q5.a) Distinguish between application layer security and transport layer security with examples.(5M)

b)What is the difference between confidentiality and integrity of message ? Justify whether we can have one without other .(5M)

**BITS, Pilani-Dubai,Campus**

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**IV th Year FIRST Semester 2007-08**

**Degree:B.E.(HONS) Branch:C.S.E**

**COURSE NO. : CS UC441 COURSE TITLE: Selected topics from computer science  
(web services and internet based distributed computing**

Time :15 mts

Date :1-11-2007

Marks: 5 Quiz2 Closed book

*All questions carry equal marks*

*Answering and marking scheme*

1. Why there is a need for digital certificate ?
2. Give an example where digital signing is there without confidentiality of information ?
3. Outline any two merits of hybrid cryptography.
4. What is the difference between valid and invalid XML doc ?
5. Why XSLT processor should be kept is server side rather than on client m/c?