

**BITS, Pilani-Dubai Campus, Knowledge Village, Dubai**  
**IVth Year First Semester 2006-2007**

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

**COURSE NO. : CS UC 461**

**COURSE TITLE : : Selected topics from computer science  
(web services and internet based distributed computi  
Date : 19-11-2006**

**Test2**

**Total marks=30 (open book) Weightage=20%**

Answer all the questions

Q1. Suppose  $N$  people want to communicate with each of  $N-1$  other people using symmetric key encryption. All communication between any two people,  $i$  and  $j$ , is visible to all other people in this group of  $N$ , and no other person in this group should be able to decode their communication. How many keys are required in the system as a whole? Now suppose that public key encryption is used. How many keys are required in this case? (4 +4 M)

Q2. I want to get the price of a particular stock from stock quote web service using soap over http. The method supported by the web service is `getstockquote(stockname)` where `stockname` is a string. The stock quote will return the price of a stock via parameter `stockprice` which is a string. The url of the stockquote web service is <http://www.microsoft.com/stockquote>

Derive an appropriate wsdl document for the above web service. Make any reasonable assumptions if needed. (8M)

Q3. a) What is the difference in invoking a web service using a standard soap over http client and through a web browser using appropriate diagrams? (4M)

b) Outline clearly the difference in the wsdl doc in the above cases. (4M)

Q4. With proper explanation for every step outline clearly the steps involved in sending information using confidentiality, integrity and proper authentication between two people Scott and David. (6M)

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IV th Year FIRST Semester 2006-2007

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 : 1-10-2006

Marks: Test1

Total: 32 Marks

Answer all the questions (closed book)

1 Write the XML schema for the following XML document (6 Marks)

```
<patientrecord>
<name>vasant</name>
<age>30</age>
<bloodtestreport>
<sugar>180</sugar>
<cholesterol>200</cholesterol>
</bloodtestreport>
<bloodpressure>140/80</bloodpressure>
</patientrecord>
```

2. I wish to host a weather forecast application in a server machine and wish to get weather information sitting at a client machine. Let both the machines be located within block 11 of Bits pilani.

- a) Under the above circumstances what sort of protocols you can use to communicate with the server from the client machine? (4M)
  - b) Suppose the server machine is located in Australia and the client machine is located in Bits campus itself. Now suggest the appropriate techniques for communication between the client and server with proper reasoning. Make use of necessary diagrams. (4M)
3. With appropriate examples outline the difference between valid, In valid and well formed XML document. (6M)
4. a) What is the main difference between usage of web service and ebxml in building distributed enterprise applications? (3M)
  - b) Outline the difference in usage of UDDI registry with that of ebxml repository? (3M)
5. Outline with appropriate diagrams a service oriented architecture in which both RPC centric and document centric web services are used (6M)