



Institutionen för Data-
och Systemvetenskap



STOCKHOLMS
UNIVERSITET



KUNGLIGA
TEKNISKA
HÖGSKOLAN

***:96 (SU) and 2I1263 (KTH)
Internet Application Protocols
and Standards**

Exam 2003-04-28 solved

The following documents are allowed during the exam:

1. Documents in Compendium 1, printed on coloured paper.
2. Documents in Compendium 2, printed on coloured paper.
3. Documents in Compendium 3, printed on coloured paper.
4. Documents in Compendium 7, printed on coloured paper.
5. Ordinary language dictionaries between English and Swedish.

Note 1: Compendium 4, 5, 6, 8 and 9 are not allowed during the exam. The exam supervisor will check that you do not have copies of compendiums 4, 5, 6, 8 and 9 printed on colour paper. Bringing such compendiums on coloured paper is cheating and can result in suspension of your rights to study.

Note 2: Underscoring and short handwritten notes in the yellow documents are allowed.

Note 3: A few copies of these compendiums (part 1-3 and 7) will be available for loan during the exam for students who have not bought the compendiums.

Important warning

It is not acceptable to answer an exam question by just a verbatim quote from the allowed documents above. You must show that you understand the question and your answer by using your own words.

Jacob Palme can be reached by phone number 08-664 77 48 between 10 and 11 to answer anything not clear in the exam.



*:96 (SU) and 2I1263 (KTH) Internet Application Protocols and Standards

Exam 2003-04-28 solved

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No.	Question in English	Question in Swedish	Max points
1.	Complex numbers can be specified either as two floating point numbers, one for the real and one for the imaginary part (cartesian coordinates), or as two floating point numbers, one for direction (between 0 and 2) and one for size in this direction (polar coordinates). Write an ASN.1 specification which allows the sending of a complex number, where the sender can choose to send them in either format	Komplexa tal kan anges antingen genom två flyttal, ett för realdelen och ett för imaginärdelen (kartesisiska koordinater), eller också genom två flytande tal, ett för riktning (mellan 0 och 2) och ett för storlek i denna riktning (polära koordinater). Skriv en ASN.1-specifikation som tillåter överföring av komplexa tal där avsändaren kan välja att ange dem med den ena eller den andra metoden.	6
	<i>Answer:</i> <pre>CartesianNumber ::= SEQUENCE { x Real, y Real }</pre> <pre>PolarNumber ::= SEQUENCE { length Real, angle Real (0 .. pi) }</pre> <pre>ComplexNumber ::= CHOICE { cartesian CartesianNumber, polar [0] PolarNumber }</pre> <pre>pi REAL ::= {31415926536, 10, -10}</pre>		
2	Names of XML elements are sometimes written as two words with a colon between them, for example "dbc:author". What is the meaning of this notation?	Namn på XML-element anges ibland som två ord med ett kolon mellan dem, till exempel "dbc:author". Vad är meningen med denna notation?	6

Answer:

The colon character is used to separate name spaces. The string before the colon is the name space, the string after the colon is the name within this namespace. Example: **dc:title** designates the element name **title** within the name space **dc** (=Dublin Core, one of the most well-known general name spaces).



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Exam 2003-04-28 solved

No.	Question in English	Question in Swedish	Max points
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|---|---|--|---|
| 3 | When a user has filled in an HTML form, the result can be sent, via HTTP, to the server using either of two formats. Describe the two formats, and discuss where each is most suitable. | När en användare har fyllt i ett HTML-formulär, kan resultatet sändas via HTTP till server med ett av två olika format. Beskriv de två formaten, och diskutera när vart och ett av dem är mest lämpligt. | 6 |
|---|---|--|---|

Answer:

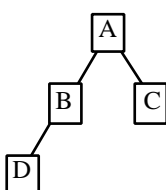
There are two methods:

Action type	application/x-www-form-urlencoded	multipart/form-data
HTTP command	GET	POST
Short description	All the user info is encoded after a "?" at the end of the URL used to access the server. The standard says that this method should not be used when the user input is stored in a data base, but this rule is in reality not always adhered to.	In the same format as a multipart MIME e-mail message, with multiple parts with separator lines and headings on each part.
Advantages:	Short, fast for simple form data.	User can submit files, can be sent via e-mail.
Disadvantages:	User can see the encoded data in the address field.	Slower, longer text sent.

- | | | | |
|---|---|--|---|
| 4 | Suppose someone writes a message A, then someone a message B which is a reply to A, then someone a message C which is also a reply to A, then someone a message D which is a reply to B. What should then be included in the "References:" header of message D? | Antag att någon skriver ett meddelande A, sedan någon ett svar B på A, sedan någon ett annat svar C på A, sedan någon ett svar D på B. Vad bör då innehållet vara i fältet "References:" i meddelande D? | 6 |
|---|---|--|---|

Answer:

References: MessageID-of-A@host.net, Message-ID-of-B@host.net



References should list all Message IDs of messages on the chain from the first message in the discussion to the current message. Thus, C should not be included, since C is not in the chain from A to D.