DSV Institutionen för Data-
och Systemvetenskap

STOCKHOLMS
UNIVERSITET

KUNGLIGA
TEKNISKA
HÖGSKOLAN

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

Exam 2004-02-14

The following documents are allowed during the exam:

1. Documents in Compendium 1, printed on colored paper.

2. Documents in Compendium 2, printed on colored paper.

3. Documents in Compendium 3, printed on colored paper.

4. Documents in Compendium 7, printed on colored 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 color paper. Bringing such compendiums on colored 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 will come to the exam rooms around 11:00 to answer questions regarding the exam.

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No.	Question in English	Question in Swedish	Max points
1.	Write an ABNF specification for Swedish social security numbers, permitting both the old format `41 02 01-1410` and the new format `1941 02 01-1410` You are not required to ensure that the check digit agrees with the preceding digits.	Skriv en ABNF-specifikation för svenska personnummer, tillåtande både det äldre formatet `41 02 01-1410` och det nyare formatet `1941 02 01-1410` Du behöver inte se till att checksiffran stämmer med föregående siffror.	6

Answer:

```
pnumber = [ 2*DIGIT ] 2*DIGIT " " 2*DIGIT " " 2*DIGIT
          "-" 4*DIGIT
```

| 3 | There are two major transfer modes used today in file transfer with FTP. Which are the modes, and how do they differ? | Idag används två överföringsmoder för filöverföring med FTP. Vilka är de, och hur skiljer de sig? | 6 |

Answer:

Binary or image: The file is transferred entirely unchaged.

Text: Character set conversion and conversion of end-of-line character can occur during transmission.

No.	Question in English	Question in Swedish	Max points
2	If an HTML text contains the command `<p x=y>word word word</p>` then you can control the size and font of the text where x can have the values: "font", "size", "style", "class", "id" and suitable values for y. Compare these methods, their advantages and drawbacks.	Om en HTML-text innehåller kommandot `<p x=y>word word word</p>` så kan man reglera storleken (graden) och stilen genom att byta ut x mot "font", "size", "style", "class", "id" och lämpliga värden av y. Jämför dessa metoder, deras fördelar och nackdelar.	6

Answer:

Attribute	Comment		
font	Old way of specifying font, causes cluttered HTML with lots of font attributes everywhere.		
size	Old way of specifying font size, causes cluttered HTML with lots of size attributes everywhere.		
style	Used in special cases, where a particular format is wanted but use of style sheets is not wanted.		Uses CSS commands, which gives more power to control the formatting than font and size.
class	Refers to separate style sheets, which gives neater code and opportunite to use a joint style sheet for several pages.	Several elements can share the same class.	
id		Only one element can have the same id.	

No.	Question in English	Question in Swedish	Max points
4	Write a specification for transferring the content of a spread sheet via XML. You need only to handle the simplest kind of spread sheets, with just constants and formulas, no advanced features like merged cells, fonts, cell widths or borders. Note: Constants need not be transferred. Buth XML and DTD should be specified. As an example, show how this very simple spread sheet can be sent with the notation you specify:	Skriv en specifikation för att överföra innehållet i ett kalkylark med XML. Du behöver bara behandla den allra enklaste varianten av kalkylark, där en cell kan innehålla konstanter och formler, men inga avancerade funktioner av typ stil, cellbredd, sammanslagna celler m.m. Not: Konstanter behöver inte skickas över. Både XML och DTD skall specificeras. Som exempel, visa hur nedanstående enkla kalkylark kan sändas med av dig föreslagen notation:	6

◇	A	B	C
1	1	=A1+1	=B1+1
2	=A1*2	=A2+1	=B2+1

ANSWER:

DTD

```
<!ELEMENT spreadsheet (row*)>
<!ELEMENT row (cell*)>
<!ATTLIST row
  identifier CDATA #REQUIRED
>
<!ELEMENT cell (#PCDATA)>
<!ATTLIST cell
  identifier CDATA #REQUIRED
>
```

XML

```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE spreadsheet SYSTEM
"http://dsv.su.se/jpalme/xml/spreadsheet.dtd">
<spreadsheet>
  <row identifier="1">
    <cell identifier="A">
       1
    </cell>
    <cell identifier="B">
      =A1*2
    </cell>
    <cell identifier="C">
      =B1+1
    </cell>
  </row><row identifier="2">
    <cell identifier="A">
      =A1*2
    </cell>
    <cell identifier="B">
      =A2+1
    </cell>
    <cell identifier="C">
      =B2+1
    </cell>
  </row>
</spreadsheet>
```