DSV Institutionen för Data-
och Systemvetenskap

STOCKHOLMS UNIVERSITET

KUNGLIGA TEKNISKA HÖGSKOLAN

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

Exam-2005-03-09-solved.doc

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. Documents in Compendium 9, printed on colored paper.

6. Ordinary language dictionaries between English and Swedish.

Note 1: Compendium 0, 4, 5, 6 and 8 are not allowed during the exam.

Note 2: The exam supervisor will check that you do not have copies of the disallowed compendiums. Bringing such compendiums on colored paper is cheating and can result in suspension of your rights to study.

Note 3: Underscoring and short handwritten notes in the yellow documents are allowed.

Note 4: A few copies of the allowed compendiums will be available for loan during the exam for students who have not brought 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 probably be available by phone 0709-611 201 at about 15:00 to answer questions regarding the exam (provided my flight arrives on time in Visby).

No.	Question in English	Question in Swedish	Max points

1 Write an ABNF specification for the HTML <FONT> command and the attributes size, color and face which can look like for example the two examples below:

Skriv en ABNF-specifikation för <FONT>-kommandot i HTML med attributen size, color och face, som t.ex. kan se ut som t.ex. de två exemplen nedan:

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```
<FONT size=1 color=red face=verdana>
<FONT face="Times New Roman, Geogia, non-serif" size="+2"
color="#0000FF">
```

Answer:

```
Fontcommand = "<FONT" *(LWSP Attribute) [LWSP] ">"
Attribute = size / color / width / face
size = "size=" ( QUOTE sizevalue QUOTE / sizevalue)
sizevalue = ["+"/"-"] 1*DIGIT
color = "color=" (QUOTE colorvalue QUOTE / colorvalue)
colorvalue = 1*ALPHA / "#" 6*6HEXDIGIT
face = "face=" (QUOTE facevalue QUOTE / facevalue)
facevalue = ALPHA 0*(ALPHA / " " / "-" / ",")
```

Note: You need not specify any list of colors or list of font sizes, just specifying a series of letters is OK for the value of the color attribute and a list of fonts, whose names are a string of letters and spaces for the value of the font attribute. Plus of course the numerical variant of the color.

Anmärkning: Du behöver inte räkna upp tillåtna färger och typsnitt, det är OK att bara specificera en sträng av bokstäver för värdet till color-attrbiutet, och en lista av typsnitt, vars namn är en sträng av bokstäver och blanksteg, för font-attributet. Plus, förstås, den numeriska varianten av color.

2 Banks usually do not allow their customers to use the *Back* button in their web browsers. Why? How can they prevent customers from using the *Back* button?

Banker brukar vanligen inte tillåta besökare att använda *Back*-kommandot i webbläsaren. Varför? Hur kan de hindra kunder att använda *Back*-kommandot?

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Answer:

The possible combinations of input to the bank, if the user uses an old page, whose data may not any longer be valid, are so large that the risk for something going wrong is large.

Preventing use of the Back button is done by stopping caching of the previous page. To be on the safe side with different web browsers, usually a combination of several cache-stopping commands are used, such as:

```
Expires: Mon, 26 Jul 1997 05:00:00 GMT
Cache-Control: no-store, nocache, must-revalidate, max-age=0
Pragma: no-cache
```

No.	Question in English	Question in Swedish	Max points
3	Suppose you want to specify a way in XML of first listing a number of authors, then listing a number of books, with information for each book on who wrote it. Note that a book can have more than one author. What support is there in XML for this?	Antag att du vill specificera en metod i XML att först räkna upp ett antal författare, och därefter ett antal böcker, med uppgift för varje bok om vem som skrev den. Observera att en bok kan ha mer än en författare. Vilket stöd finns i XML för detta?	6

Answer:

Each author has an attribute of type ID which is a unique identifier for this author. Each book has an attribute of type IDREFS which contains a list of references to author IDs. The ID type in XML is specially designed for the purpose of establishing links like this which do not adhere to the hierarchical structure of the XML data.

No.	Question in English	Question in Swedish	Max points
4	Web browsers often establish more than one connection to the server at the same time. Why?	Webbläsare upprättar ofta mer än en förbindelse till servern samtidigt. Varför?	6

Answer:

Most important for a user is the apparent speed, the speed at which the page seems to appear on the page. By downloading images in the beginning of the page, before downloading the text below the bottom of the screen, the user gets an appearance of faster delivery.