WebTech 14/15 exam report from memory

Time given: **60 minutes**

This is a report of the first Web Technologies exam of the semester 2014/15. Note that the points are recalled from memory, and some deviations may occur. Beside that, the exercises were quite precisely reconstructed.

No other materials except a pencil were permitted.

Exercise	Points
1	7
2	6
3	5
4	8
5	10
6	10
7	8
7	6
$\sum$	60

Exercise 1 (2 + 5 = 7 pts.)

a)

What does idempotent mean regarding the HTTP-protocol?

b)

Fill out this table.

Method	Safe	Idempotent	Identified resource	Caching possible	Visible semantics
GET	X	X	X	X	X
HEAD	X	X	X	X	X
PUT		X	X		X
POST					
DELETE		X	X		X

Exercise 2 (2 + 4 = 6 pts.)

b)

Why is HTTP considered a stateless protocol?

b)

Describe two of the three options to handle session management using HTTP.

Exercise 3 (5 pts.)

Given a CSS file and a HTML document, which included the CSS file, it was asked to determine specific style properties of the HTML tags at 5 given positions. After the `<link rel="stylesheet" href="style.css" />` tag, there was some custom CSS directly embedded into the HTML document. Some of the directives of the CSS file stated `!important`, which overwrote some of the directives of the CSS in the HTML document.

Exercise 4 (4 + 4 = 8 pts.)

a)

Denote and describe in one sentence four of the PHP superglobal arrays.

b)

List two differences between PHP and Java EE (JSP/Servlets).

Exercise 5 (10 pts.)

Describe the life cycle of a JSP servlet, starting with the HTTP request of the client and ending with the HTTP response to the client.

Exercise 6 (6 + 4 = 10 pts.)

a)

Describe what *thread-safety* is in the context of the three scopes.

b)

How can *thread-safety* be achieved?

Exercise 7 (6 + 2 = 8 pts.)

a)

Name and describe in one sentence three features a web-framework should have and compare them to the features programming languages like PHP, Java and Python have.

b)

Explain the MVC pattern and give an example on how it is implemented in a framework of you choice.

Exercise 8 (3 + 3 = 6 pts.)

a)

Explain what Polling, Long-Polling and WebSockets are in one sentence for each method.

b)

Describe the differences between NoSQL and relational databases in 4 to 5 sentences.