

Exam Prep Document

Exam Format

- Very short answer
- Short answer
- Types of questions: Similar questions to reviews at beginning of lecture, e.g., comparisons, fix the code, explain the code, ... and more.

What I expect from you

- Know the what, why, and how of concepts
- Know tradeoffs
- I am not looking for essays. You can use bulleted lists or tables, as appropriate for the question.
- Make sure I know that you know what you're talking about.
- **Be precise, clear in your answers.**
- Use the appropriate terminology
- Do **not** need to know the Image sharing article or the Google search article

How to study

- Review lecture slides
- Review assignments
- Practice writing HTML, CSS, Servlets, JSPs, SQL queries, JDBC, JavaScript

Topics

- WWW Architecture
 - o Components – Internet, clients, servers
 - o HTTP protocol
 - o Process of requesting a Web page
- HTML5
 - o Terminology (elements, tags, attributes, content), components, syntax
- CSS
 - o Terminology (selector, properties, values), components, syntax
- Usability
 - o Fundamental idea
 - o Guiding principles
 - o Trunk test – what it is, why we need it
- Quality Attributes
 - o How is web software different from regular software?
 - o How do those characteristics change what constitutes “quality software” on the Web?

- Web application servers
 - o Handle requests (get, post)
 - o Return responses
 - o Servlet container
 - o Multi-threaded
- Java Servlets
 - o Implementation
 - o Important methods: init, doGet, doPost, destroy
 - o Sessions vs Request vs Context Attributes
 - o Parameters vs Attributes vs Init Parameters
 - o Maintaining state across multiple requests
- JSPs
 - o Why developed
 - o Syntax
 - o Organization with Servlets

- Synchronization
 - o Critical sections
 - o How to synchronize
- Version Control
 - o Benefits, limitations
 - o Software tools
- Testing Web applications
 - o Process – input, output, oracle, comparator
 - o Tools

- Databases, SQL
 - o Why DB? Why SQL?
 - o Terminology – attributes, entities, rows, columns
 - o Organization of tables, attributes, data types
 - o Common SQL statements, meanings
- JDBC
 - o Why JDBC?
 - o How to connect
 - o Basic Syntax
- JavaScript
 - o Purpose
 - o Syntax
 - o Understanding code