

# Final Exam Review

## V47A – Saturday 17 March

### Exam structure:

- **50 points Theory:** 30 points T/F MC + 20 points Theory
- **50 points programming:** 20 points Servlets, 20 points Ajax, 10 points JSP

No Cheat Sheet

**This exam is graded out of 100 points, it is contributing 40% of your final grade.**

Answers are preferred be written with a Pen and not Pencil, if you need to write your answers using a pencil, you should bring your own sharpener and eraser, no stationary borrowing is allowed.

All mobile phones should be turned off and submitted to the front/back area at the beginning of the exam.

Please get ready and use the washroom before the exam as no one will be allowed to leave the exam room before turning in their papers.

No extra papers are allowed other than your exam papers. Exam papers should stay stapled together all the time. If you need extra space, you may use the back of the papers or any blank space you find. Let's help each other save the environment.

There is no tolerance policy for exams. Despite the fact that our quizzes are solved in a friendly atmosphere, exams are not. Once you are caught cheating or trying to cheat, you will be asked to leave the exam room immediately without a warning.

Write your answers with **clear hand writing** and **clear English language**.

**To answer all exam questions you should be familiar with the following topics:**

### LESSON 10 - Ajax

- What is a single page web app?
- Understand all the options of \$.ajax() method?
- Ajax calls and how we handle success and fail.
- What is the same domain origin policy ?
- What is the purpose of the data option for the jQuery ajax method?
- What is JSON? How does it relate to XML?

### LESSON 11 – Servlets and Web Container

- Servlet container
- Lifecycle
- init and service operations
- Deployment descriptor file (web.xml) – You don't need to remember the tags
- Thread model

## Servlets

- servlet request and response objects,
- request.getParameter,
- doGet and doPost
- Request dispatch vs Redirect

## LESSON 12 – Maintaining State

- post vs get message
- Attributes
  - Versus input parameters
  - attribute as name/value pair
  - web container holds attributes for managing state in servlets
  - states correspond to the different scopes for saving state
- State management – You must remember all implicit objects and how we use them
  - Request
  - Session -implementation and timeout
  - Context/application
- Scope thread safety
- Cookies
  - cookies for server side and client side state management
  - Temporary
  - Permanent
- URL rewriting

## LESSON 13 – JSP and JSTL

- JSP lifecycle and JSP-servlet
- Implicit objects
- JSP “elements”
  - Scriptlet
  - JSP expression
  - Comment
  - Declaration
  - Directive
  - Action
  - EL expression
- Separation of process and view principle
  - Model 1 architecture
  - Model 2 architecture (MVC)
    - servlet (controller)
    - POJO and DTOs (model)
    - JSP (view)
- Insert info to model

- Dispatch the results to JSP
  - Request object (attributes here)
  - Response object (headers, cookies .. here)
- POJO and DTOs do all the business logic and operations - Should be able to move this with few or no changes to other application environments
- JSP generates the http response using the results in the request object (and possibly response object)
- JSP Actions, standard actions, JSTL (You need to understand how we use them, code will be provided in the cheat sheet)

#### **Lecture 14 – Custom Tags**

- Tag attributes, tag body, taglib directive
- Tag class, attribute setters, doTag
- Markup generation

**ALL HOMEWORK ARE IMPORTANT**