

CSE 464: Software Quality Assurance and Testing

Study Guide - Midterm - II

**Midterm date: Thursday Nov 6th during the class time (in- class),
on canvas**

Reading /Review: Lectures, in-class activities, quizzes, and homeworks

Note: You can bring a cheat sheet with 2 pages written front and back, scratch paper, and pen or pencil.

Code-Based Testing (Week 7, 8, and Junit Modules)

- Control path testing.
- Data path testing (D-U path)
- Junit annotations: @Before, @After, @Beforeclass, @Afterclass
- Parameterized Junit testing

Inspections and Reviews (Week 9 and 10)

- Code reviews, inspections, and walkthroughs.
- Design considerations of OO applications
 - C-K matrix
 - Coupling and Cohesion
 - Refactoring Object-Oriented code/design (class diagram)
- Code smells and refactoring.

Introduction to Web Application Testing (Will be covered during the week of Oct 27th lectures) – Module 11

- What is distributed software (conventional three-tier client-server, service-oriented, cloud architectures)
- What is gray-box testing
- Why gray-box approach is better in testing web applications
- Challenges in Web application testing
- Introduction to Selenium

Types of Questions

1. Multiple choice
2. Short answer (no diagrams that you have to draw and submit) example:
 - A simple code segment is given, to identify issues (such as smelly code symptoms)
 - Suggest how to refactor an OO design for better testability and maintainability
 - Coupling and cohesion issues
 - Object oriented concepts violation issues
 - Identify high coupling and low cohesion in a program/design and improve it.
 - Given a code segment, identify DU paths, DU Pairs, Control Flow Diagram, and independent paths.