

# 36 Lecture - CS504

## Important Subjective

Question 1: **Define Software Verification.** **Answer:** Software Verification is the process of evaluating a software system to ensure that it adheres to specified requirements and standards. It involves activities like reviewing, inspecting, and testing the software to identify defects or discrepancies.

Question 2: **Explain the difference between Software Verification and Software Validation.** **Answer:** Software Verification checks whether the software is built correctly and meets the specified requirements. On the other hand, Software Validation ensures that the software fulfills the intended user needs and expectations.

Question 3: **What is the purpose of Unit Testing in Software Verification and Validation?** **Answer:** Unit Testing focuses on testing individual units or components of the software in isolation to ensure they function correctly. It helps identify defects early in the development process.

Question 4: **Describe the role of System Testing in Software Verification and Validation.** **Answer:** System Testing evaluates the entire integrated software system to verify its compliance with specified requirements. It tests the interactions between different components to ensure proper functionality.

Question 5: **Explain the concept of Regression Testing and when it is performed.** **Answer:** Regression Testing is performed after making changes to the software to ensure that new modifications do not adversely affect existing functionality. It helps detect any unintended side effects.

Question 6: **What is Static Testing, and why is it essential in Software Verification and Validation?** **Answer:** Static Testing involves reviewing software code and documents without executing the code. It helps identify defects early, reduces development costs, and improves software quality.

Question 7: **Describe the purpose of Acceptance Testing in Software Verification and Validation.** **Answer:** Acceptance Testing involves end-users testing the software in a production-like environment. Its goal is to ensure that the software meets the user's requirements and is ready for deployment.

Question 8: **What is the significance of Code Inspection in Software Verification and Validation?** **Answer:** Code Inspection is a formal review process where team members analyze the source code to identify defects, enforce coding standards, and improve code quality.

Question 9: **Explain the importance of Requirements Traceability Matrix (RTM) in Software Verification and Validation.** **Answer:** The Requirements Traceability Matrix (RTM) links software requirements to test cases, ensuring that all specified requirements are appropriately tested and validated.

Question 10: **Describe the benefits of conducting User Acceptance Testing (UAT) in Software Verification and Validation.** **Answer:** User Acceptance Testing (UAT) involves end-users evaluating the software to determine its readiness for deployment. UAT ensures that the software meets user expectations, reduces the risk of post-deployment issues, and increases user satisfaction.