SWE 4805: Software Verification and Validation
MID TERM SYLLABUS

1. What is Software Verification and Validation? Write 7 (seven) differences between Software Verification and Validation.
2. Briefly explain the V & V model.
3. What is Unit Testing? What are the benefits of performing Unit Testing? How to write Unit Testing considering Black box and White box testing?
4. Testing techniques are categorized into Black box, White box, and Gray box testing techniques. Write 7 (Seven) differences among them.
5. Alloy code to NLP language conversion.
    a. Write an SRS considering Alloy signatures and fields.
    b. Convert the given fact into natural language.
    c. Analyze the given assertion in natural language.
6. SRS to Alloy code conversion.
    a. Write Alloy signatures and fields from a given SRS.
    b. Convert the given natural language constraints into Alloy facts.
    c. Analyze and write the given natural language constraints as Alloy assertions.

Examples that can be exercised: Family structure, Academia model (Link), Dynamic Systems (Link), Resource Management System, File System Management, I am my own Grandpa, The same origin policy (500 Lines or Less | The Same-Origin Policy)