**Guru Tegh Bahadur Institute of Engineering and Technology, New Delhi**

**Lecture Plan –Software Testing**

**Semester: 7th Paper Code: ETIT 414**

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| **Topic Details**  | **No of Hours Planned** | **Reference/text book** |
| **UNIT-I**1. Introduction to Testing.2. What is Software Testing?3. Why is it so hard?4. Error, Fault, Failure, Incident.5. Test Cases | 4 | * Paul C. Jorgensen,

 Software Testing-A Craftsman's Approach* Software Engineering: KK Aggarwal and Yogesh Singh
 |
| 1. Testing Process2. Limitations of Testing3. No Absolute Proof of Correctness4. Overview of Graph theory | 4 | * Effective methods of software testing, Perry
 |
|  **UNIT-II**1. Functional Testing Introduction2. Boundary Value Analysis | 3 | * Black-Box Testing: Boris Beizer
 |
| 1. Equivalence Class Testing 2. Decision Table Based Testing 3. Cause Effect Graphing  Technique | 3 | * Paul C. Jorgensen,

 Software Testing-A Craftsman's Approach* Software Engineering: KK Aggarwal and Yogesh Singh
 |
| 1.Structural Testing Introduction2. Path Testing, DD-PathsAssignment on Functional Testing3. Cyclomatic Complexity4. Graph Metrics | 4 | * Paul C. Jorgensen,

 Software Testing-A Craftsman's Approach* Software Engineering: KK Aggarwal and Yogesh Singh
 |
| 1. Data Flow Testing2. Mutation Testing | 2 | * Paul C. Jorgensen,

 Software Testing-A Craftsman's Approach* Software Engineering: KK Aggarwal and Yogesh Singh
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| **UNIT-III**1. Why do we need to reduce number of test cases?2. Prioritization Guidelines3. Priority category Schemes4. Risk Analysis | 3 | * Software Testing: Louis Tamres
 |
| 1. Regression Testing2. Slice based testing3. Levels of testing4. Unit Testing | 4 | * Paul C. Jorgensen,

 Software Testing-A Craftsman's Approach* Software Engineering: KK Aggarwal and Yogesh Singh
 |
| 1. Integration Testing2. System Testing3. Debugging4. Domain Testing  | 4 | * Paul C. Jorgensen,

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| **UNIT- IV**1. Issues in Object oriented Testing2. Class Testing3. GUI Testing | 3 | * Testing Object-Oriented System-Models, Patterns and Tools: Robert V. Binder
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| 1. Object Oriented Integration Testing 2. Object Oriented System Testing | 2 | * Testing Object-Oriented System-Models, Patterns and Tools: Robert V. Binder
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| 1. Static and Dynamic Testing Tools2.Characterstics of Modern Testing Tools | 3 | * Testing Object-Oriented System-Models, Patterns and Tools: Robert V. Binder
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