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| **LESSON PLAN** | | |  |  |  |
|  | | |  |  |  |
| **Discipline :Computer Engineering** | | |  |  |  |
| **Semester :7th** | | |  |  |  |
| **Subject : Software Verification and Validation and Testing** | | | | |  |
| Lesson Plan Duration : 15 weeks (from Sept. 2022 to Dec. 2022) | | | |  |  |
| \*\*Work Load(Lecture) per week(in hours)::**03** | | |  |  |  |
|  |  |  |  |  |  |
| **Week** | **Theory** | | **Remarks if any** |  |  |
| **Lecture Day** | **Topic(including assignment/test)** |  |  |
| 1st | 1st | Overview of software evolution |  |  |  |
| 2nd | SDLC |  |  |  |
| 3rd | Testing & Testing Process |  |  |  |
| 2nd | 4th | Terminologies in Testing: Error, Fault, Failure, Verification, Validation |  |  |  |
| 5th | Definition of software testing, Test  Cases, Test Oracles,Testing Process, Limitations of Testing |  |  |  |
| 6th | Revision |  |  |  |
| 3rd | 7th | Functional Testing |  |  |  |
| 8th | Boundary Value Analysis |  |  |  |
| 9th | Equivalence Class Testing |  |  |  |
| 4th | 10th | Decision Table  Based Testing |  |  |  |
| 11th | Cause Effect Graphing Technique |  |  |  |
| 12th | Structural Testing |  |  |  |
| 5th | 13th | Path testing,DD-Paths |  |  |  |
| 14th | Cyclomatic Complexity |  |  |  |
| 15th | Graph Metrics |  |  |  |
| 6th | 16th | Data Flow Testing |  |  |  |
| 17th | Mutation testing |  |  |  |
| 18th | Revision |  |  |  |
| 7th |  | Minor Test |  |  |  |
| 8th | 19 | Reducing the number of test cases,Prioritization guidelines |  |  |  |
| 20 | Priority category |  |  |  |
| 21 | Scheme,  Risk Analysis |  |  |  |
| 9th | 22 | Regression Testing |  |  |  |
| 23 | Slice based testing |  |  |  |
| 24 | Testing & Levels of Testing |  |  |  |
| 10th | 25 | Unit Testing |  |  |  |
| 26 | Integration Testing |  |  |  |
| 27 | System Testing |  |  |  |
| 11th | 28 | Debugging |  |  |  |
| 29 | Domain Testing |  |  |  |
| 30 | Revision |  |  |  |
| 12th | 31 | Overview of SQM & Concepts of Software Quality |  |  |  |
| 32 | Quality Attributes |  |  |  |
| 33 | Software Quality Models: McCall, Boehm |  |  |  |
| 13th | 34 | ISO-9000,CMM |  |  |  |
| 35 | Stress Testing, Ad hoc testing |  |  |  |
| 36 | Revision |  |  |  |
| 14th |  | Minor Test |  |  |  |
| 15th | 37 | Stress Testing, Ad hoc testing |  |  |  |
| 38 | Agile and extreme testing |  |  |  |
| 39 | Revision |  |  |  |
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