|  |  |  |  |
| --- | --- | --- | --- |
| **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 |   |  |  |
|  |  |  |  |  |  |