**LESSON PLAN**

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| **Discipline:**  Computer Science & Engg. | **Semester:**  Fifth (5th) | **Name of the Faculty:**  Er Jyotsnamayee jena |
| **Subject:**  Software Engineering | **No. of days/week class allotted:**  Five (5) | **Semester from Date:**01.07.24 **to Date:**08.11.2024  **No. of Weeks:** 15 |
| **WEEK** | **CLASS DAY** | **THEORY TOPICS** |
| 1st | 1st | Program vs. Software product. |
| 2nd | Emergence of Software Engineering. |
| 3rd | Computer Systems Engineering. |
| 4th | Software Life Cycle Models |
| 5th | Classical Water fall model. |
| 2nd | 1st | Iterative Water fall model |
| 2nd | Prototyping mode |
| 3rd | Evolutionary model. |
| 4th | Spiral model. |
| 5th | Review Class |
| 3rd | 1st | Responsibility of Project Manager |
| 2nd | Project Planning |
| 3rd | Metrics for Project size estimation (LOC and FP) |
| 4th | **Monthly Test-01** |
| 5th | Project Estimation Techniques |
| 4th | 1st | COCOMO Models, Basic, Intermediate and complete |
| 2nd | Scheduling |
| 3rd | Organization and Team structure |
| 4th | Staffing |
| 5th | Risk Management |
| 5th | 1st | Review Class |
| 2nd | Requirements gathering and analysis |
| 3rd | Software Requirement & Specification |
| 4th | Continue…. |
| 5th | Content of SRS |
| 6th | 1st | Characteristics of good SRS |
| 2nd | Organization of SRS |
| 3rd | Techniques for representing complexing logic. |
| 4th | Review Class |
| 5th | **Monthly Test-02** |
| 7th | 1st | What is a Good S/W design |
| 2nd | Cohesion and coupling  Neat arrangement |
| 3rd | S/W Design approaches. Structured analysis |
| 4th | Data Flow Diagrams |
| 5th | Symbols used in DFD Designing DFD |
| 8th | 1st | Developing DFD model of a system |
| 2nd | Shortcomings of DFD Structured design |
| 3rd | Principles of transformation of DFD to Structure Chart |
| 4th | Transform analysis and Transaction Analysis |
| 5th | Design Review |
| 9th | 1st | Review Class |
|  | 2nd | Characteristics of Good Interface  Basic concepts of UID |
|  | 3rd | Types of User interfaces |
|  | 4th | Components based GUI development |
|  | 5th | **Monthly Test -03** |
| 10th | 1st | Review Class |
| 2nd | Coding |
| 3rd | Code Review Code walk through |
| 4th | Code inspections and software Documentation |
| 5th | Testing |
| 11th | 1st | Unit testing |
| 2nd | Black Box Testing |
| 3rd | Equivalence class partitioning and boundary value analysis |
| 4th | White Box Testing |
| 5th | **Monthly Test-04** |
| 12th | 1st | Different White Box methodologies statement coverage branch coverage, condition coverage, |
| 2nd | path coverage, cyclomatic complexity data flow based testing and mutation testing |
| 3rd | Debugging approaches |
| 4th | Debugging guidelines |
| 5th | Integration Testing |
| 13th | 1st | Continue.. |
| 2nd | Phased and incremental integration testing |
| 3rd | System testing alphas beta and acceptance testing |
| 4th | Performance Testing, Error seeding |
| 5th | General issues associated with testing |
| 14th | 1st | Review |
| 2nd | Software Reliability |
| 3rd | Continue.. |
| 4th | Different reliability metrics |
| 5th | Continue… |
| 15th | 1st | Reliability growth modeling |
| 2nd | Software quality |
| 3rd | Software Quality Management System |
| 4th | Review Class |
| 5th | Revision |