Lesson Plan

B.Sc Computer Science Semester III

PAPER II: SOFWTARE ENGINEERING

Teacher name: Surjeet Singh

October 2020

|  |
| --- |
| Introduction: Program vs. Software, Software Engineering, Programming paradigms, Software Crisis – problem and causes, Phases in Software development: Requirement Analysis, Software Design, Coding, Testing, Maintenance, Software Development Process Models: Waterfall, Prototype, Evolutionary and Spiral models, Role of Metrics.  |

November 2020

|  |
| --- |
| Feasibility Study, Software Requirement Analysis and Specifications: SRS, Need for SRS, Characteristics of an SRS, Components of an SRS, Problem Analysis, Information gathering tools, Organising and structuring information, Requirement specification, validation and metrics |

December 2020

|  |
| --- |
| Structured Analysis and Tools: Data Flow Diagram, Data Dictionary, Decision table, Decision trees, Structured English, Entity-Relationship diagrams .Software Project Planning: Cost estimation: COCOMO model |

January2021

|  |
| --- |
| Project scheduling, Staffing and personnel planning, team structure, Software configuration management, Quality assurance plans, Project monitoring plans, Risk Management. Unit IV Software testing strategies: unit testing, integration testing, V and V , System testing, Alpha and Beta testing. Black box, white box testing. Cyclomatic Complexity |

February 2021

|  |
| --- |
| Software Implementation and Maintenance: Type of maintenance, Management of Maintenance, Maintenance Process, maintenance characteristics. |