Curriculum Planner

(Department of Computer Science Kalindi College)

**Course :B.Sc (H) Computer Science**

**Semester : IV**

**Paper Name : Software Engineering**

**Name of the Teacher: Ms. Sweety**

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|  | Topic | Approximate (schedule) |
| 1 | |  | | --- | | Unit 1: Introduction | | Software Engineering - A Layered Approach; Software Process – Process Framework, Umbrella Activities;  Process Models – Waterfall Model, Incremental Model, and Evolutionary process Model (Prototyping, Spiral Model);  Introduction to Agile – Agility Principles, Agile Model – Scrum. Unit 2: Software Requirements Analysis and Specifications  Use Case Approach, Software Requirement Specification Document | | | January 2022 |
| 2 | Unit 2: Software Requirements Analysis and Specifications   |  | | --- | | Flow oriented Modeling, Data Flow Modeling, Sequence Diagrams  Unit 3: Design Modeling  Translating the Requirements model into the Design Model, The Design Process, Design Concepts: Abstraction, Modularity and Functional Independence; Architectural Mapping using Data Flow. |   Problem discuss with students time to time .  Assignment | February 2022 |
| 3 | Unit 4: Software Metrics and Project Estimations  Function based Metrics, Software Measurement,  Metrics for Software Quality; Software Project Estimation (FP based estimations, COCOMO II Model); Project Scheduling (Timeline charts, tracking the schedule).  Unit 5: Quality Control and Risk Management  Quality Control and Quality Assurance, Software  Process Assessment and Improvement Capability Maturity Model Integration (CMMI); Software Risks, Risk Identification, Risk Projection and Risk Refinement, Risk Mitigation, Monitoring and Management.  Problem discuss with students time to time  Assignment   |  | | --- | |  | | March 2022 |
| 4 | |  |  | | --- | --- | | |  | | --- | | Unit 6 : Software Testing  Strategic Approach to Software Testing, Unit Testing, Integration Testing,  Validation Testing, System Testing; Black-Box and White Box Testing, Basis Path Testing | |   Take presentation of project of each student | April 2022 |