OSD

CO3:

- Operating system organization: creating and running the first process
- Page tables: Paging, hardware, Process address space, Physical memory allocation
- Page tables: User part of an address space, sbrk, exec
- Systems calls, Exceptions and Interrupts, Assembly trap handlers
- Disk driver and Disk scheduling
- Manipulation of the process address space
- Memory management policies: swapping, demand paging
- Memory management policies: Page faults and replacement algorithms
- TLB, Segmentation
- Hybrid approach: paging and Segmentation, Multi-level paging

CO4:

- Locking
- Inter-process communication
- Models of Inter-process communication
- Thread API, Conditional Variable
- Mutex, Concurrent Linked List
- Semaphores
- Concurrency Control Problems
- Deadlocks
- Boot Loader

DBMS

CO3:

Functions, Procedures, Cursors, Triggers

Relational Algebra: Operators in relational algebra

Database Design: Guidelines for good database design

Normalization- Normal Forms, First, Second ,Third Normal Forms, BCNF, Multi value and join dependencies, 4th and 5th normal forms.

Decomposition algorithms for normalization.

File and storage structures: File storage, Index structures, Indexing and hashing.

Query processing and optimization

CO4:

Transaction Management: Transaction processing issues, Transaction states,Problems during multiple transactions processing, ACID properties

System log and concurrency control techniques: Lock based techniques, and Timestamp based techniques, Multiversion based Techniques.

Recovery Techniques: Recovery concepts, shadow paging, ARIES

MATHS

CO3:

Approaximation ALgorithms

Sub Modular Functions

Matorids

Continuous Approax Algorithm

Concave & Convex Problems

Rounding Techniques

CO4:

Machine Learning Application

Regression Data

Robust Stability

Robust Optimisation

Barrier Function

Penalty Function

Uncertainity : encounter, reason

ESC

CO3:

Scrum: Scrum Introduction, Scrum Principles, Lifecycle of scrum, Adoption Strategies, common mistakes and misunderstandings of scrum, Process Mixtures of scrum.

Kanban: Kanban Introduction, Kanban Foundational Principles, 6 Core Practices of the Kanban, WIP Limits in Kanban

SAFe Methodology: SAFe Methodology Introduction, Foundations of Scaled Agile Framework, SAFe Lean-Agile Principles, Principles of Agile Manifesto.

CO4:

Test Driven Development: Basics.

A strategic approach to software testing: Strategic issues, Test strategies for conventional software, Black-Box and White-Box testing, Validation testing, System testing.

Performing TDD Test, TDD Vs Traditional Testing, Acceptance TDD and Developer TDD, Scaling TDD via Agile Model Driven Development (AMDD), Test Driven Development (TDD) Vs. Agile Model Driven Development (AMDD), Examples of TDD, and Benefits of TDD.

JUnit.

The CMMI process improvement framework: CMMI, Levels, Staged CMMI model, Continuous CMMI model, Six Sigma Model