# AY 2025-2026

**ODD Semester**

Computer Algorithm 7CS203

Submission Deadline: 6th October 2025

# Internal Semester Evaluation (ISE Part 1) – Computer Algorithm Assignment (10 Marks)

**Assignment Statement**

Choose one algorithm from the list below (or any algorithm from the syllabus or any of the problems provided in the lab assignments). Implement the algorithm in a programming language of your choice and provide an interactive or stepwise visualization that shows the algorithm’s internal state as it runs. Your submission must include source code, a short report, run instructions, and a short demo video.

# Suggested Algorithms

* Sorting: Bubble, Insertion, Selection, Merge, Quick, Heap, Radix
* Searching: Linear Search, Binary Search, BST insertion/traversal, Hashing
* Graphs: BFS, DFS, Dijkstra
* Greedy / Others: Kruskal, Prim (MST), Huffman coding, Matrix chain Multiplication, Optimal Binary Search Tree
* Dynamic Programming: 0/1 Knapsack, Longest Common Subsequence

# Requirements

* Correct implementation producing expected outputs.
* Step-by-step visualization showing key operations (comparisons, swaps, etc.).
* Controls: play/pause, step forward/backward, reset.
* Display of key variables and data structures.
* At least 3 input options: user-defined, random, preset (best/worst).
* Time & space complexity notes with brief analysis.
* Documentation & reproducibility: README with instructions.
* Demo: 2–4-minute screencast.

# Deliverables

* Source code with assets and run instructions.
* Report (max 2 pages) including problem summary, screenshots, and complexities.
* Demo video (2–4 mins).
* Zip all files and submit via LMS.

# Plagiarism & Late Submission Policy

* Plagiarism: Zero marks + referral.
* Late submissions: Deduct 1 mark/day up to 2 days; no acceptance after.