PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY

PANIPAT

DEPARTMENT OF CYBER SECURITY

LESSON PLAN

Subject:Design and Analysis of Algorithm Subject Code::PC-CS-CYS-301A

Semester:5th

S.No.	Topic to be Covered	CO Mapping	Mode of Delivery
1	Elementary Data Structures	CO1	Class Room
2	Algorithms and its complexity (Time and Space)	CO1	Smart Class Room
3	Analyzing Algorithms	CO1	Class Room
4	Asymptotic Notations	CO1	Class Room
5	Priority Queue	CO1	Smart Class Room
6	Quick Sort.	CO1	Class Room
7	Recurrence relation	CO1	Smart Class Room
8	Methods for solving recurrence	CO1	Class Room
9	Substitution, Recursion tree, Master theorem	CO1	Class Room
10	Strassen multiplication	CO1	Class Room
11	Dynamic programming	CO1	Class Room
12	Elements, Matrix-chain multiplication	CO2	Class Room
13	longest common subsequence	CO2	Class Room
14	Greedy algorithms	CO2	Smart Class Room
15	- Elements, Activity- Selection problem	CO2	Class Room
16	Huffman codes, Task scheduling problem	CO2	Smart Class Room
17	Travelling Salesman Problem,	CO2	Class Room
18	Advanced data Structures Binomial heaps	CO2	Smart Class Room
19	Splay Trees, Red-Black Trees,	CO2	Class Room
20	Review of graph algorithms: -Traversal Methods	CO2	Class Room
21	Depth first and Breadth first search, Topological	CO2	Class Room
22	strongly connected components, Minimum spann	CO2	Class Room
23	Kruskal and Prims, Single source shortest paths	CO3	Class Room
24	Relaxation, Dijkstra Algorithm, Bellman- Ford a	CO3	Class Room
25	Single source shortest paths for directed acyclic	CO3	Class Room
26	All pairs shortest pathsand matrix multiplication	CO3	Class Room
27	Floyd-Warshall algorithm	CO3	Class Room
28	Computational Complexity	CO3	Class Room
29	Basic Concepts	CO3	Class Room
30	Polynomial Vs Non-Polynomial Complexity	CO3	Class Room
31	NP- hard and NP-complete classes	CO3	Class Room
32	Flow and Sorting Networks Flow networks	CO3	Class Room
33	Ford- Fulkerson method	CO4	Class Room
34	Maximum Bipartite matching, Sorting Networks	CO4	Class Room

35	Comparison network, The zero- One principle	CO4	Class Room
36	Bitonic sorting network	CO4	Class Room
37	Merging networks	CO4	Class Room