Paper Code: HCSCR4082T	Design and Analysis of Algorithms (Theory)	Marks: 60
Serial No.	**Group A**	**No. of Periods**
1.	**Introduction** Basic Design and Analysis techniques, Growth of functions, Summations, Induction, Recurrences.	5
2.	**Algorithm Design Techniques** Divide and conquer - Strassen's Method; Dynamic programming – Bellman-Ford algorithm; Greedy concepts; Back tracking – 8 Queens problem.	11
3.	**Sorting and Order Statistics** Heap sort, Merge Sort, Quick sort, sorting in linear time, Median and order statistics.	10
	Total	26
Serial No.	**Group B**	**No. of Periods**
4.	**Generalized Tree Algorithms** Threaded Binary Tree, Binary Search Tree, AVL Tree and B Tree.	10
5.	**Graphs** Graph Representation, Breadth First Search, Depth First Search, Minimal spanning Tree using Prim's and Kruskal's algorithms	8
6.	**String Processing** String Matching, Brute Force Technique, KMP Technique	4
7.	**Computational Geometry Algorithms** Convex Hulls, Closest pair of points	2
8.	**Notion of NP-completeness** P class, NP-hard class, NPcomplete class, Circuit Satisfiability problem.	2
	Total	26
1. T.H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein, Introduction to Algorithms, PHI. 2. E. Horowitz , S. Sahani, R Sanguthevar, Fundamentals of Computer Algorithms, Galgotia. 3. Sarabasse & A.V. Gelder Computer Algorithm – Introduction to Design and Analysis, Pearson		

Paper Code: HCSCR4082P	Design and Analysis of Algorithms (Practical)	Marks: 40