

## SPECIMEN OF LESSON PLAN

**Name of Faculty** : Ms. Priyanka Sachdeva  
**Discipline** : Bachelor of Computer Applications  
**Semester** : BCA 4th SEM  
**Subject** : Advanced Data Structures  
**Lesion plan duration** : 15 Weeks  
**Work load (Lecture)** : 3 lectures

Week	Theory		Practical	
	Lecture day	Topic (Including assignment and test)	Practical Day	Topic
1	1	Introduction	1	Write a program for linear search
	2	Tree definition		
	3	Representing Binary tree in memory		
2	4	Traversing binary trees	2	Write a program for Binary search
	5	Traversal algorithms using stacks		
	6	Traversal algorithms using stacks		
3	7	Traversal algorithms using stacks	3	Write a program to implement Quick sort
	8	Binary search trees: introduction, storage, Searching, Insertion and deletion in a Binary search tree		
	9	Huffman's algorithm		
4	10	General Trees	4	Write a program to implement heap sort
	11	Class Test		
	12	Graph: Introduction		
5	13	Graph theory terminology	5	Write a program to implement merge sort.
	14	Sequential and linked representation of graphs		
	15	operations on graphs		
6	16	traversal algorithms in graphs and their implementation	6	Write a program to implement merge sort
	17	traversal algorithms in graphs and their		

		implementation		
	18	Warshall's algorithm for shortestpath		
<b>7</b>	19	Warshall's algorithm for shortestpath	7	Write a program to implement radix sort
	20	Dijkstra algorithm for shortest path		
	21	Dijkstra algorithm for shortest path		
<b>8</b>	22	Class Test	8	Write a program for tree traversal
	23	Sorting: Internal & external sorting		
	24	Radix sort		
<b>9</b>	25	Quick sort	9	Write a program to implement bubble sort
	26	Merge Sort		
	27	Merge Sort		
<b>10</b>	28	Tournament Sort	10	Write a program for graph traversal
	29	Heap Sort		
	30	Heap Sort		
<b>11</b>	31	Comparison of various sorting andsearching algorithms on the basis of their complexity	11	Write a program to implement selection sort
	32	Comparison of various sorting andsearching algorithms on the basis of their complexity		
	33	Class Test		
<b>12</b>	34	Files: Introduction	12	Write a program to implement insertion sort
	35	Attributes of a file,		
	36	Classification of files		
<b>13</b>	37	File operation	13	Write a program to traverse an array
	38	Comparison of various types of files		
	39	File organization: Sequential		
<b>14</b>	40	Indexed-sequential, Random-access file	14	Write a program for insertion of an element in an array
	41	Hashing: Introduction		
	42	Hashing: Introduction		
<b>15</b>	43	Collision resolution	15	Write a program for deletion of an element in an array
	44	Collision resolution		
	45	Class Test		