

Lesson Plan

Name of Faculty : Ms Varsha Rani, Assistant Professor of CSE
 Discipline : Computer Science and Engineering
 Semester : 3th(odd)IT-202E
 Subject : Data Structures & Algorithms
 Lesson Plan Duration : 15 weeks (from January/ February-2018 to April/ May-2018)
 Work Load (Lecture/Practical) per week (in hours): Lectures-03hours, Practical-02 hours

Week	Theory		Topic Covered Date and Remarks		
	Lecture Day	Topic (Including Assignment/Test)	Date	HOD	Director-Principal
1 st	1	Introduction to Data Structures: Definition of data structures and abstract data types			
	2	Static and Dynamic memory storage			
	3	Arrays,matrix,space matrix			
	4	Types of arrays,operation on arrays			
2 nd	5	Sequential Search with example			
	6	Binary Search with example			
	7	Bubble sort			
	8	Straight selection sort			
3 rd	9	Insertion sort			
	10	Merge sort			
	11	linked list introduction of linked list			
	12	Types of linked list			
4 th	13	Operation on list,application of linked list			
	14	Introduction to stack			
	15	Array implementation of stack			
	16	linked implementation of stack			
5 th	17	Application of stack			
	18	Recursion			
	19	Introduction to quick sort			
	20	Introduction to queue			
6 th	21	Array implementation of queues			
	22	linked implementation of queues			
	23	Circular queues			
	24	Priority queues			
7 th		Minor Test 1 st			
8 th	25	Double ended queues			
	26	Introduction to trees			
	27	Binary trees and their properties			
	28	Linked representation of binary trees			
9 th	29	Static representation of binary trees			
	30	Complete binary trees			
	31	Threaded binary tree			
	32	Different tree Traversal algorithms			
10 th	33	Binary search trees and its operations			
	34	Heap sort			
	35	AVL trees			
	36	Balanced multivage search trees			
11 th	37	Introduction to graphs			
	38	Linked list implementasions of graphs			
	39	Array representation of graphs			
	40	Graph traversal			
12 th	41	BFS & DFS			
	42	Adjacency matrix			
	43	Adjacency lists			
	44	Path matrix			
13 th	45	warshall's Algorithms			
	46	Introduction to hashing			
	47	Hash table & hash function			
	48	Big –Oh- notation			
14 th		Minor Test 2 nd			
15 th	49	Running time: time complexity			
	50	Evaluating time complexity			
	51	BFS & DFS			
	52	Big –Oh –notations best case wrost case average case			

Lesson Plan

Name of Faculty : ms varsha rani, Assistant Professor of CSE
Discipline : Computer Science and Engineering
Semester : 3rd(odd)
Subject : Data Structures & Algorithms Lab.cse 205e
Lesson Plan Duration : 15 weeks (from January/ February-2018 to April/ May-2018)
Work Load (Lecture/Practical) per week (in hours): Lectures-04hours, Practical-02 hours

Week	Theory/ Practical (Group-I/ II)		Topic Covered Date and Remarks		
	Practical Day	Topics/ Programs	Date	HOD	Director-Principal
1 st	1	Write a program to perform following operations on tables using functions only Addition, Transpose			
2 nd	2	Write a program to perform following operations on tables using functions only Subtraction, Multiplication			
3 rd	3	Write a function for finding the element in an array using binary search method			
4 th	4	Write a c function to implement the insertion operation on singly linked list			
5 th	5	Write c function to implement to deletion operation on singly linked list			
6 th	6	Write c function to implement an integer stack using array			
7 th		Minor test 1 st			
8 th	7	Write c function to implement integer stack using singly linked list			
9 th	8	Write c function to implement an interger queue using array			
10 th	9	Write c function to implement an integer circular queue using singly linked list			
11 th	10	Write c function to implement binary tree and binary search tree			
12 th	11	Write c function to implement sorting technique bubble sort			
13 th	12	Write c function to implement sorting technique of quick sort			
14 th		Minor test 2 nd			
15 th	13	Write c function to implement sorting technique of selection sort, merge sort			

Lesson Plan

Name of Faculty : Dr. Sanjay Dahiya, Assistant Professor of CSE
Discipline : Computer Science and Engineering
Semester : 3rd (Odd)
Subject : Data Structure & Algorithm (CSE-201- L)
Lesson Plan Duration : 15 weeks (from June-December-2018)
Work Load (Lecture/Practical) per week (in hours): Lectures-04 hours

Week	Theory		Topic Covered Date and Remarks		
	Lecture-Day	Topic (Including Assignment/Test)	Date	HOD	Director- Principal
1 st	1	Data Structure: Definition and its types			
	2	Abstract Data Types			
	3	Static and dynamic memory storage			
	4	Query and Solution			
2 nd	5	Array and Matrices			
	6	Sparse matrices			
	7	Multi-dimensional arrays			
	8	Operations on arrays: Linear search			
3 rd	9	Binary search			
	10	Selection sort			
	11	Bubble sort			
	12	Insertion sort			
4 th	13	Merge Sort			
	14	Linked List: Type (singly, circular, header, doubly)			
	15	Linked List: Type (singly, circular, header, doubly)			
	16	Operations on Lists — create, Insert, display			
5 th	17	Operations on Lists — Search, delete			
	18	Application of Linked List			
	19	Stacks: Definition, POP and PUSH operation			
	20	Array implementation of stacks			
6 th	21	Linked implementation of stacks			
	22	Applications of Stacks: Infix, Prefix expression			
	23	Applications of Stacks: Postfix expression			
	24	Conversion and Evaluation of Expression			
7 th		1st Minor Test			
8 th	25	Recursion			
	26	Quick Sort			
	27	Queues: Definition, Array implementation of queues			
	28	Linked implementation of queues			
9 th	29	Circular queues			
	30	Double-ended queues			
	31	Priority Queue			
	32	Query and Solution			
10 th	33	Tree : Binary tree and their Properties			
	34	Complete Binary Tree and Threaded Tree			
	35	Linked and static representation of binary trees			
	36	Query and Solution			
11 th	37	Different tree traversal algorithms (non-recursive)			
	38	Different tree traversal algorithms (non-recursive)			
	39	Binary Search Tree (create, delete, search, insert, Display)			
	40	Heap Sort and its complexity analysis			
12 th	41	AVL Trees			
	42	Balanced multi-way search trees			
	43	Graphs: Definition, Array and linked representation of graphs			
	44	Traversal (BFS and DFS)			
13 th	45	Adjacency matrix and adjacency lists, path matrix			
	46	Finding Shortest Path - Warshall's Algorithm			
	47	Hashing, Hash table, Hash functions.			
	48	Running time: Time Complexity			
14 th		2nd Minor Test			
15 th	49	Big-Oh - notation, Best Case, Worst Case, Average Case			
	50	Factors depends on running time			
	51	Evaluating time Complexity			
	52	Query and Solution			

Lesson Plan

Name of Faculty : Ms Varsha Rani, Assistant Professor of CSE
Discipline : Computer Science and Engineering
Semester : 3th(ODD)IT-202E
Subject : Object Oriented Programming Using C++
Lesson Plan Duration : 15 weeks (from JULY /AUG-2018 to NOV/DEC-2018)
Work Load (Lecture/Practical) per week (in hours): Lectures-04hours, Practical-02 hours

Week	Theory		Topic Covered Date and Remarks		
	Lecture Day	Topic (Including Assignment/Test)	Date	HOD	Director-Principal
1 st	1	Introduction to C++,C++ Standard Library, Basics of a Typical C++ Environment			
	2	Pre-processors Directives, Illustrative Simple C++ Programs			
	3	Header Files and Namespaces, library files.			
	4	Introduction to Objects and Object Oriented Programming,			
2 nd	5	Access Modifiers: Controlling access to a class method			
	6	variable (public, protected, private, package)			
	7	Polymorphism: Overloading,			
	8	Encapsulation (Information Hiding)			
3 rd	9	Inheritance, and their types			
	10	Overriding Methods			
	11	Abstract Classes, Reusability, Class's Behaviors			
	12	Classes and Data Abstraction: Introduction, Structure Definitions, Accessing Members of Structures			
4 th	13	Class Scope and Accessing Class Members			
	14	Controlling Access Function And Utility Functions			
	15	Class Objects: Constructors, Using Default Arguments With Constructors			
	16	Using Destructors, Classes : Const(Constant) Object And Const Member Functions			
5 th	17	Initializing Object as Member of Classes, Friend Function and Friend Classes			
	18	Using This Pointer, Separating Interface from Implementation			
	19	Dynamic Memory Allocation with New and Delete, Static Class Members			
	20	Container Classes And Integrators			
6 th	21	Proxy Classes, Function overloading.			
	22	Operator Overloading: Introduction, Fundamentals of Operator Overloading, Restrictions On Operators Overloading			
	23	Operator Functions as Class Members vs. as Friend Functions, Overloading			
	24	<<, >> Overloading Unary Operators, Overloading Binary Operators			
7 th		1st Minor Test			
8 th	25	Inheritance: Introduction, Inheritance: Base Classes And Derived Classes			
	26	Protected Members, Public, Protected and Private Inheritance			
	27	Casting Base- Class Pointers to Derived- Class Pointers			
	28	Using Member Functions, Overriding Base –Class Members in a Derived Class			
9 th	29	Using Constructors and Destructors in derived Classes			
	30	Implicit Derived –Class Object To Base- Class Object Conversion			
	31	Virtual Functions and Polymorphism: Introduction to Virtual Functions, Polymorphism			
	32	Abstract Base Classes And Concrete Classes, Dynamic Binding			
10 th	33	New Classes And Virtual Destructors			
	34	Files and I/O Streams: Files and Streams, Creating a Sequential Access Creating A Random Access File			
	35	Unformatted I/O (with read and write)			
	36	Reading Data Sequentially from a Random Access File.			
11 th	37	File Reading Data From A Sequential Access File, Updating Sequential Access Files, Random Access Files			
	38	Writing Data Randomly To a Random Access File,			
	39	Stream Input/Output Classes and Objects, Stream Output, Stream Input			
	40	Stream Manipulators, Stream Format States, Stream Error States.			
12 th	41	Templates & Exception Handling: Function Templates			
	42	Overloading Template Functions			
	43	Templates and Friends			
	44	Templates and Static Members.			
13 th	45	Class Template, Class Templates and Non-Type Parameters			
	46	Templates and Inheritance			
	47	Stack Unwinding, Exceptions and Inheritance			

	48	Introduction, Basics of C++ Exception Handling: Try Throw, Catch			
14 th		2nd Minor Test			
15 th	49	Throwing an Exception, Catching an Exception Rethrowing an Exception			
	50	Exception specifications, Processing Unexpected Exceptions			
	51	Constructors Exception Handling			
	52	Destructor exception handling			

Lesson Plan

Name of Faculty : Ms Varsha Rani, Assistant Professor of CSE
Discipline : Computer Science and Engineering
Semester : 3rd SEM(odd)
Subject : C ++ Programming Lab.cse 205L
Lesson Plan Duration : 15 weeks (from JULY/AUG-2018 to NOV/DEC-2018)
Work Load (Lecture/Practical) per week (in hours): Lectures-04hours, Practical-02 hours

Week	Theory/ Practical (Group-I/ II)		Topic Covered Date and Remarks		
	Practical Day	Topics/ Programs	Date	HOD	Director-Principal
1 st	1	C++ program print ASCII value of a character and convert lower to upper			
2 nd	2	WAP to create class to get and print detail of a student			
3 rd	3	Raising a number n to a power p is the same as multiplying n by itself p times. Write a function called power () that takes a double value for n and an int value for p, and returns the result as double value. Use a default argument of 2 for p, so that if this argument is omitted, the number will be squared. Write a main () function that gets values from the user to test this function.			
4 th	4	o classes DM and DB which store the value of distances. DM stores distances in metres and centimeters and DB in feet and inches. Write a program that can read values for the class objects and add one object of DM with another object of DM function to carry out the addition operation. The object that stores the results maybeobject or DB object, depending on the units in which the results are required.DISPLAY should be in the format of feet and inches or metres and cenitmetres depending on the object on display.			
5 th	5	class rational which represents a numerical value by two double values- NUMERATOR & DENOMINATOR. Include the following public member Functions CONSTRUCTOR with no argument destructor with two arguments. reduce () that reduces the rational number by eliminating the highest common factor between the numerator and denominator. • Overload + operator to add two rational number. • Overload >> operator to enable input through cin. • Overload << operator to enable output through cout. Write a main () to test all the functions in the class.			
6 th	6	A hospital wants to create a database regarding its indoor patients. The information to store include a) Name of the patient b) Date of admission c) Disease d) Date of discharge Structure to store the date (year, month and date as its members). Create a base class to store above information. The member function should include functions to enter information list of all the patients in the database. Create a derived class to store the age of the . List the information about all the to store the age of the patients. List the information about all the pediatric patients (less than twelve years in age).			
7 th		Minor Test 1st			
8 th	7	C++ program to use function as a L-VALUE using reference variable			
9 th	8	Write a program to access a function with the help of pointer			
10 th	9	Make a class Employee with a name and salary. Make a class Manager inherit from Employee. Add an instance variable, named department, of type string. Supply a method to to String that prints the manager's name, department and salary. Make a class Executive inherit from Manager. Supply a method to String that prints the string "Executive" followed by the information stored in the Manager superclass object. Supply a test program that tests these classes and methods.			
11 th	10	Imagine a tollbooth with a class called toll Booth. The two data items are a type unsigned int to hold the total number of cars, and a type double to hold the total amount of money collected. A constructor initializes both these to 0. A member function called payingCar () increments the car total and adds 0.50 to the cash total. Another function, called nopayCar (), increments the			

		car total but adds nothing to the cash total. Finally, a member function called displays the two totals. Include a program to test this class. This program should allow the user to push one key to count car, and another to count a non paying car. Pushing the ESC key should cause the program to print out the total cars and total cash and then exit.			
12 th	11	function called reversit () that reverses a string (an array of char). Use a for loop that swaps the first and last characters, then the second and next to last characters and so on. The string should be passed to reversit () as an argument. a program to exercise reversit (). The program should get a string from the user, call (), and print out the result. Use an input method that allows embedded blanks. Test the program with Napoleon's famous phrase, "Able was I ere I saw Elba)".			
13 th	12	Program to write and read an object in ,from binary file using write () and read () in C++			
14 th		Minor Test 2nd			
15 th	13	C++ program to implement string in ST			

Lesson Plan

Name of Faculty : Ms.Sonam, Assistant Professor of CSE
Discipline : Computer Science and Engineering
Semester : 3rd (odd)
Subject : skills and Innovations lab (CSE-209 P)
Lesson Plan Duration : 15 weeks (from July/August-2018 to Nov/Dec-2018)
Work Load (Practical) per week (in hours): Practical-03 hours

Week	Theory/ Practical (Group-I/ II)		Topic Covered Date and Remarks		
	Practical Day	Topics/ Programs	Date	HOD	Director-Principal
1 st	1	Basic knowledge of computer			
2 nd	2	Understand and identify research topics related to computer science			
3 rd	3	Understand the research analysis of issues /problem on topic related to computer science			
4 th	4	Understand the technique used for research analysis			
5 th	5	Understand the tools used for research analysis			
6 th	6	Problem related programs			
7 th		1st Minor Test			
8 th	7	1 st viva voce			
9 th	8	Understand literature related to a research topics			
10 th	9	Communication effectively the research topic threw presentation			
11 th	10	Communication effectively the research topic threw brainstorming			
12 th	11	Understanding the concept of how to work in group.			
13 th	12	Problem n solutions			
14 th		2nd Minor Test			
15 th	13	2 nd viva voce			

Lesson Plan

Name of Faculty : Sahil Arora, ASSISTANT PROF(ECE)
Discipline : BTech CSE
Semester : III
Subject : Digital Electronics (ECE-209-L)
Lesson Plan Duration: 15 weeks per week (AUG TO DEC 2018)
Lectures 04 hours

Week	Theory		Actual Covered
	Lecture	Topic (Including Assignment/Test)	
1 st	1	Digital signal, Error detection and correction codes.	
	2	logic gates: AND, OR, NOT, NAND	
	3	NOR, EX-OR, EX-NOR	
	4	Boolean algebra	
2 nd	5	Review of Number systems	
	6	Binary codes: BCD, Excess-3, Gray	
	7	EBCDIC, ASCII	
	8	Error detection and correction codes	
3 rd	9	Design using gates	
	10	Karnaugh map	
	11	Problems on K map	
	12	Problems and Solutions on K map	
4 th	13	Quine Mcluskey methods of simplification	
	14	Circuit desig using gates, adder,subtractor, comparator	
	15	BCD to seven segmant , code converters	
	16	MUX and DEMUX :use as logic elements	
5 th	17	Decoders, Encoder	
	18	Adders / Subtractors	
	19	BCD arithmetic circuits	
	20	Flip Flops : S-R, J-K	
6 th	21	T, D ff	
	22	master-slave, edge triggered, flip flop conversion	
	23	shift registers,bidirectional shift registers	
	24	sequence generators	
7 th		----- 1st Minor Test -----	
8 th	25	Ring Counters	
	26	Johnson Counter	
	27	Design of Synchronous and Asynchronous sequential circuits	
	28	Assignment questions	
9 th	29	Finite state Machines-Timing Diagram, Moorey vs Mealy	
	30	FSM design procedure,state diagram	
	31	State transition table,state minimization	
	32	State encoding, next state logic minimization	
10 th	33	Implement the design	
	34	Problems and Solutions	
	35	Switching mode operation of p-n junction	
	36	bipolar and MOS. devices	
11 th	37	Bipolar logic families:RTL, DTL, DCTL	
	38	HTL, TTL, ECL, MOS	
	39	CMOS logic families	
	40	Tristate logic	
12 th	41	Interfacing of CMOS and TTL families.	
	42	Sample and hold circuit	
	43	weighted resistor and R -2 R ladder D/A Converter	
	44	specifications for D/A converters. A/D converters : Quantization, parallel - comparator	
13 th	45	successive approximation type	
	46	counting type, dual-slope ADC, specifications of ADCs	
	47	ROM	
	48	PLA, PAL	
14 th		----- 2nd Minor Test -----	
15 th	49	FPGA	
	50	Assignment Evaluation	
	51	CPLDs	
	52	Implementation of Combinational circuit using ROM,PLA,PAL	