

LESSON PLAN

Name of faculty : Mrs. Neelam Rani

Discipline : Computer Engineering

Subject : OOPJ(4th sem)

Lesson plan duration : 15 weeks

Work load(lecture/practical) per week : Lectures-03,practicals-06

week	Theory		Practical	
	Lecture Day	Topic(including assignment/test)	Practical day	Topic
1 st	1 st	Introduction and Features : Fundamentals of object oriented programming – procedure oriented programming Vs. object oriented programming(OOP.) Object oriented programming concepts – Classes, object, object reference	1 st	Program of basic OOP in java.
	2 nd	<i>Abstraction, encapsulation Inheritance,</i>		
	3 rd	<i>Inheritance, polymorphism, Introduction of eclipse (IDE) for developing programs in Java</i>	2 nd	
2 nd	1 ST	Language Constructs : Review of constructs of C used in JAVA : variables, types and type declarations, datatypes	1 st	Consider we have a Class of Cars under which Santro Xing, Alto and Wagon R represents individual Objects. In this context each Car Object will have its own, Model, Year of Manufact., Color, Top Speed, etc. which form Properties of the Car class and the associated actions i.e., object Functions like Create(), Sold(), display() form the Methods of Car Class. Use this class to create another class Company that tracks the mode list create.
	2 ND	data types, increment and decrement operators		
	3 RD	Relational and logical operators, if else then clause		
			2 nd	Software Engineers, Module Lead, Technical Lead, Project Lead, Project Manager,

				Program Manager, Directors all are the employees of the company but their work, perks, roles, responsibilities differs. Create the Employee base class would provide the common behaviors of all types of employee and also some behaviors properties that all employee must have for that company. Also include search method to search an employee by name.
3 rd	1 st	Conditional expressions, input using scanner class	1 st	Suppose the Airport personals want to maintain records for the arrival and departure of the planes. Create a class Airport that has data like name, id, and address.
	2 nd	input using scanner class and output statement,		
	3 rd	output statement Loops,	2 nd	Practice of practicals.
4 th	1 st	Switch case	1 st	.Create a whole menu driven hospital management system using concept of OOP like classes, inheritance. Include information about the following: a. Patient - name, registration id, age, disease, etc. b. Staff - id, name, designation, salary, etc.
	2 nd	Arrays		
	3 rd	Methods	2 nd	Practice of practical.
5 TH	1 st	Classes and Objects: Creation, accessing class members	1 st	Create a class called Musicians to contain three methods string (), wind () and perc (). Each of these methods should initialize a string array to contain the following instruments: veena, guitar, sitar, sarod and mandolin under string () -flute, clarinet saxophone, nadhaswaram and piccolo under wind ()- tabla, mridangam, bangos, drums and tambour under perc ()
	2 nd	Private Vs Public Vs Protected Vs Default		
	3 rd	Class test	2 nd	Practice of practical.
6 TH	1 st	Constructors	1 st	Write three derived classes inheriting functionality of

	2 nd	Object & Object Reference		base class person (should have a member function that ask to enter name and age) and with added unique features of student, and employee, and functionality to assign, change and delete records of student and employee.
	3 rd	Object & Object Reference	2 nd	Practice of practicals.
7 th	1 st	Inheritance :Definition of inheritance, protected data,	1 st	Using the concept of multiple inheritance create classes: Shape, Circle, Square, Cube, Sphere, Cylinder. Your classes may only have the class variable specified in the table below and the methods Area and/or Volume to output their area and/or volume.
	2 nd	private data, public data,		
	3 rd	constructor chaining, order of invocation	2 nd	Write a program to create class Person.
8 th	1 st	order of invocation, types of inheritance,	1 st	To create class STUDENT inherit from Person
	2 nd	Single inheritance Multilevel inheritance,	2 nd	To create class Instructor inherits from Person.
	3 rd	Hierarchical inheritance		
9 th	1 st	Hierarchical inheritance Hybrid inheritance	1 st	To create class Instructor inherit from Person.
	2 nd	Hybrid inheritance		
	3 rd	Polymorphism: Method & constructor overloading,	2 nd	Write the class definitions, the constructors, set methods, get methods and for all classes.
10 th	1 st	Method overriding	1 st	Write the class definitions, the constructors, set methods, get methods and for all classes.
	2 nd	up-casting, down-casting		
	3 rd	Test 2	2 nd	
11 th	1 st	Abstract class & Interface	1 st	Write the class definitions, the constructors, set methods, get methods and for all classes.
	2 nd	Abstract class & Interface		
	3 rd	implementation of multiple inheritance through	2 nd	Write the class definitions, the constructors, set

		interface		methods, get methods and for all classes.
12 th	1 st	implementation of multiple inheritance through interface	1 st	Write the class definitions, the constructors, set methods, get methods and for all classes.
	2 nd	implementation of multiple inheritance through interface	2 nd	9.Old MacDonald had a farm and several types of animals. Every animal shared certain characteristics: they had a type (such as cow, chick or pig) and each made a sound (moo ,cluck). An Interface defines those things required to be an animal on the farm. Define new classes for the Old MacDonald that implement the Animal and Farm class. Create array of object of animal to define the different types of animal in the farm. Also create appropriate methods to get and set the properties
	3 rd	Revision of Abstract class&Interface and discuss problems		
13 th	1 st	Exception Handling :	1 st	10. Write a program with Student as abstract class and create derive classes Engineering, Medicine and Science from base class Student. Create the objects of the derived classes and process them and access them using array of pointer of type base class Student.
	2 nd	implementation of keywords like try and catch		
	3 rd	implementation of keywords like finally, throw & throws.		Practice of practical..
14 th	1 st	importance of exception handling in practical implementation of live projects	1 st	Revision of practical.
	2 nd	Importance of exception handling in practical implementation of live projects		
	3 rd	Revision and problems	2 nd	Revision of practical.

15 th	1 st	Assignments and test	1 st	Revision of practical.
	2 nd	Revision and problems		
	3 rd	CLASS TEST	2 nd	Revision of practical.