SCHEME OF COURSE WORK

Course Details:

Course Title	**: Object oriented programming through JAVA**		
Course Code	**: 13CT1111**	**L T P C**	**: 4 0 0 3**
Program:	**: B.Tech.**		
Specialization:	**: Computer Science & Engineering, Information Technology**		
Semester	**: IV**		
Prerequisites	**: Computer programming through C and Data structures using c++**		
Courses to which it is a prerequisite	**: Web Programming**		

Course Outcomes (COs):

1	Learn a new way of approaching the job of programming
2	Employ techniques for developing robust, reusable software
3	Learn the concept of algorithm design and implementation
4	Write Java codes using both console or command-line and dialog box or graphical user interface styles
5	Write, compile, execute, and debug their Java programs

Course Outcome Versus **Program Outcomes:**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO-1	S	S	M	M	S	M					
CO-2	M	S									
CO-3	S	S	M	S	S						
CO-4	S	S	S	M	M						
CO-5	S	S	S		S						

S - Strongly correlated, *M* - *Moderately* correlated, *Blank* - *No correlation*

Assessment Methods:	Assignment /Quiz/ Mid-Test / End Exam

Teaching-Learning and Evaluation

Week	TOPIC / CONTENTS	Course Outcomes	Sample questions	TEACHING-LEARNING STRATEGY	Assessment Method & Schedule
1	FUNDAMENTALS OF OBJECT-ORIENTED PROGRAMMING: Introduction, Object-Oriented Paradigm,Basic concepts of Object-Oriented Programming	CO-1	1. Explain the summary of the oop concepts. 2. What is an object oriented paradigm? Explain two differences between the object oriented paradigm of programming languages and the structured paradigm of Programming languages	▫ Lecture ▫ PPT	Assignment (Week 4 - 6) Mid-Test 1& Quiz-1 (Week 9)
2	Benefits of Object-Oriented Programming, Applications of Object-Oriented Programming THE HISTORY AND EVOLUTION OF JAVA: Creation of Java	CO-1		▫ Lecture ▫ PPT	
3	Java's Bytecode, Java buzzwords, evolution of Java An overview of Java-Simple Java Program	CO-2	1. What is byte code? Explain its usefulness while translating a Java program in a wide variety of environments 2. What is meant by overloading methods and overloading constructors? What are the advantages of overloading concept? 3. Define an array? How it is defined in java? Explain with suitable example. 4. Discuss about different forms of inheritance with an example.	▫ Lecture ▫ Discussion	
4	Data types, variables, automatic type conversion Arrays, operators,expressions, control statements.	CO-2		▫ Lecture ▫ Discussion	
5	INTRODUCING CLASSES: Class fundamentals, declaring objects, assigning object reference variables introducing methods- overloading methods,argument passing,recursion, access control	CO-2		▫ Lecture ▫ PPT	Mid-Test 1 & Quiz-1 (Week 9)
6	static keyword, final keyword, using command line arguments, variable length arguments. Constructors, this keyword, garbage collection, finalize() method.	CO-2		▫ Lecture ▫ PPT ▫ Discussion	
7	STRING HANDLING: String class, String Buffer class, StringBuilder class. INHERITANCE: Inheritance basics, using super, creating a multilevel hierarchy, how constructors are called, Method	CO-2		▫ Lecture ▫ PPT ▫ Discussion	

	overriding, dynamic method dispatch, using abstract classes, using final with inheritance, the Object class.				
8	PACKAGES AND INTERFACES: Packages, access protection, importing packages, interfaces. Exploring java.lang package: Wrapper classes, Math class. Exploring java.util package: Vector, Scanner, Date, Calendar, StringTokenizer, Random. Exploring java.io package: Byte streams, Character streams, File, Random Access File.	CO-2	1. Explore java.util.* package. 2. What is interface? What are the possible contents of an interface? Explain. State the advantages of using interface	▫ Lecture ▫ PPT	
9	**Mid-Test 1 & Quiz-1**				
10	EXCEPTION HANDLING: Exception-handling fundamentals, Exception types, uncaught exceptions, using try and catch, multiple catch clauses, nested try statements, throw, throws, finally Java's built-in exceptions	CO-3	1. Give the list of checked exceptions along with their meaning 2. What is necessity of Exception handling? Explain exception handling with an example. 3.What is multithreading and explain how to create a thread with an example.	▫ Lecture ▫ PPT	Assignment (Week 14 - 16) Mid-Test 2 & Quiz-2 (Week 18)
11	creating your exception subclasses, using exceptions. MULTITHREADING: Java thread model, Main thread, creating a thread, creating multiple threads, using is Alive() and join(), thread priorities, synchronization	CO-3		▫ Lecture ▫ PPT	
12	APPLETS: Applet basics, architecture, skeleton, simple applet display methods, repainting, status window, HTML applet tag, passing parameters to applets. AWT: AWT classes, window fundamentals, working with frame windows, creating a frame window in an applet, creating a windowed program, displaying information within a window	CO-4		▫ Lecture ▫ PPT	
13	working with graphics, working with color, working with fonts, AWT control fundamentals, Labels, using buttons, applying checkboxes, checkboxgroup, choice controls, using lists, scrollbars, textfield, text area, using layout	CO-4	1. Briefly explain different AWT controls	▫ Lecture ▫ PPT	

	managers, Menu bars and menus, dialog boxes.				
14	EVENT HANDLING: Two event handling mechanisms, delegation event model, event classes, sources of events, event listeners interfaces, using the delegation event model, adapter classes, inner classes, handling events by extending AWT components.	CO-4	1. Explain about delegation event model. 2. Explain role of Event sources and Event listeners with example.	▫ Lecture ▫ PPT	
15	SWINGS: Origin of swings, swings built on AWT, two key swing features, MVC architecture, components and containers, swing packages, simple swing application, event handling, painting in swing	CO-5	1. Briefly explain different swing controls 2. Explain JTabbedPane and JTable swing components with program 3. Explain about java.net package.	▫ Lecture ▫ PPT	Mid-Test 2 & Quiz-2 (Week 18)
16	JLabel, JTextField, JTabbedPane, JScrollPane,JList,JComboBox,Trees ,JTable.	CO-5		▫ Lecture ▫ Discussion	
17	NETWORKING: Basics,networking classes and interfaces,InetAddress,TCP/IP,URL	CO-5		▫ Lecture ▫ Discussion	
18	**Mid-Test 2 & Quiz-2**				
19/20	**END EXAM**				