SCHEME OF COURSE WORK

Course Details:

Course Title	Object oriented programming through JAVA		
Course Code	**15CT1109**	**L T P C**	**: 3 0 0 3**
Program:	**B.Tech.**		
Specialization:	**Information Technology**		
Semester	**IV**		
Prerequisites	**-**		
Courses to which it is a prerequisite	**Web Programming**		

Course Outcomes (COs): At the end of the course the student will be able to
1 Apply Object Oriented approach to design software
2 Implement programs using classes and objects
3 Apply exception handling and multithreading
4 Design and develop GUI based applications
5 Integrate event handling in GUI applications and develop networking applications

CourseOutcome Versus **ProgramOutcomes** Versus **Program Specific Outcomes:**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1	3	3	2	2	3	2							2		
CO-2	3	3										3	2		
CO-3	3	3	2	3	3								3		
CO-4	3	3	3	2	2								3		
CO-5	3	3	3		3								3		

3 - Strongly correlated, 2 - Moderately correlated, 1-Weakly 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 paradigm, Basic concepts of object oriented programming, Benefits of Object Oriented Programming, Applications of Object Oriented Programming	CO-1	1. What is object oriented programming? 2. List basic features of object oriented programming. 3. What are the advantages of object oriented Programming 4. Explain two differences between object oriented programming paradigm and the structured- Oriented Programming paradigm.	Lecture PPT	Mid Exam-1 and quiz-1
2.	Creation of java, Java's Bytecode, Java buzz words, Evolution of Java, Overview of java, Simple Java Program, Datatypes and variables	CO-1	1. What is the purpose behind creation of Java. 2. Why ByteCode is generated? 3. List various data types in java along with their storage information.	Lecture PPT	Mid Exam-1 and quiz-1
3.	Automatic type conversion, Arrays, operators, expressions, control statements	CO-1	1. How arrays are declared and allocated memory in java. 2. List various operators in java	Lecture PPT	Mid Exam-1 and quiz-1
4.	Class fundamentals, declaring objects,assigning object reference variables,Methods in Java, overloading	CO-2	1. What is a class? 2. How objects are created? 3. Define Overloading	Lecture PPT	Mid Exam-1 and quiz-1
5.	Argument passing,recursion,access control, Static and final keywords, Using command line arguments,variable length arguments,Construc	CO-2	1. When do we use static and final keywords? 2. How command line arguments are accessed?	Lecture PPT	Mid Exam-1 and quiz-1

	tors,this keyword,garbage collection and finalize() method				
6.	String class,String Buffer class,String Builder class	CO-2	1.What is a mutable objects? 2. What is the difference between String class and String Buffer Class?	Lecture PPT	Mid Exam-1 and quiz-1 Assignment
7.	Inheritance basics, using super, creating a multilevel hierarchy, how constructors are called, Method overriding, dynamic method dispatch, using abstract classes, using final with inheritance, the Object class.	CO-2	1.What are various types of inheritance? 2.How constructors are called?	Lecture PPT	Mid Exam-1 and quiz-1
8.	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-3	1.Differentiate between a package and an interface. 2.What are the classes available in java.util.*	Lecture PPT	Mid Exam-1 and quiz-1
9.	Mid Exam-1 and Quiz-1				
10.	Exception-handling fundamentals, Exception types, uncaught exceptions, using try and catch, multiple catch clauses, nested try statements, throw, throws, finally,	CO-3	1.Define an Exception. 2. How built-in exceptions are created and used?	Lecture PPT	Mid Exam-2 and quiz-2

	Java's built-in exceptions, creating your exception subclasses, using exceptions.				
11.	Java thread model, Main thread, creating a thread, creating multiple threads, using is Alive() and join(), thread priorities, synchronization, Interthread communication, suspending, resuming and stopping threads, using multithreading.	CO-3	1. What are the advantages of using threads in programming? 2. Discuss about inter thread communication.	Lecture PPT	Mid Exam-2 and quiz-2
12.	Applet basics, architecture, skeleton, simple applet display methods, repainting, status window, HTML applet tag, passing parameters to applets.	CO-4	1.Describe the life cycle of an Applet. 2.How parameters are passed on to an Applet.	Lecture PPT	Mid Exam-2 and quiz-2
13.	AWT classes, window fundamentals, working with frame windows, creating a frame window in an applet, creating a windowed program, displaying information within a window, working with graphics, working with color, working with fonts	CO-4	1. What is AWT? 2. How do we change the font of text using awt?	Lecture PPT	Mid Exam-2 and quiz-2
14.	AWT control fundamentals, Labels, using buttons, applying	CO-4	1.How to create buttons using awt? 2.What is the purpose behind a	Lecture PPT	Mid Exam-2 and quiz-2 Assignment

					checkboxgroup?		
	checkboxes, checkboxgroup, choice controls, using lists, scrollbars, textfield, text area, using layout managers, Menu bars and menus, dialog boxes.						
15.	Event handling mechanisms, delegation event model, event classes, sources of events, event listener interfaces, using the delegation event model, adapter classes, inner classes, handling events by extending AWT components.	CO-5		1. How to we add listener for a button? 2. Explain various types of events.		Lecture PPT	Mid Exam-2 and quiz-2
16.	Basics, networking classes and interfaces, InetAddress, TCP/IP,URL	CO-5		1. What are the components of an InetAddress? 2. Explain about URL class.		Lecture PPT	Mid Exam-2 and quiz-2