

SCHEME OF COURSE WORK

ACADEMIC YEAR 2018-19

Course Details:

Course Title	Object oriented programming through JAVA		
Course Code	15CT1109	LT P C	:3003
Program:	B.Tech.		
Specialization:	Information Technology		
Semester	VI		
Prerequisites	C programming		
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 multi-threading
4	Design and develop GUI based applications
5	Integrate event handling in GUI applications and develop networking applications

Course Outcome versus Program Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1
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

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

Assessment Methods:	Assignment/Quiz/Mid-Test/EndExam
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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	<ol style="list-style-type: none"> 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	MidExam-1 and quiz-1
2.	Creation of Java, Java's Bytecode, Java buzzwords, Evolution of Java, Overview of Java, Simple Java Program, Data types and variables	CO-1	<ol style="list-style-type: none"> 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	MidExam-1 and quiz-1
3.	Automatic type conversion, Arrays, operators, expressions, control statements	CO-1	<ol style="list-style-type: none"> 1. How arrays are declared and allocated memory in Java. 2. List various operators in Java 	Lecture PPT	MidExam-1 and quiz-1
4.	Class fundamentals, declaring objects, assigning object reference variables, Methods in Java, overloading	CO-2	<ol style="list-style-type: none"> 1. What is a class? 2. How objects are created? 3. Define Overloading 	Lecture PPT	MidExam-1 and quiz-1
5.	Argument passing, recursion, access control, Static and final keywords, Using command line arguments, variable length arguments, Constructors	CO-2	<ol style="list-style-type: none"> 1. When do we use static and final keywords? 2. How command line arguments are accessed? 	Lecture PPT	MidExam-1 and quiz-1

	tors, this keyword, garbage collection and finalize() method				
6.	String class, StringBuffer class, StringBuilder class	CO-2	1. What is a mutable object? 2. What is the difference between String class and StringBuffer class?	Lecture PPT	MidExam-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 within inheritance, the Object class.	CO-2	1. What are various types of inheritance? 2. How are constructors recalled?	Lecture PPT	MidExam-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	MidExam-1 and quiz-1
9.	MidExam-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	O-3	1. Define an Exception. 2. How are built-in exceptions created and used?	Lecture PPT	MidExam-2 and quiz-2

	Java's built-in exceptions, creating your own exceptions subclasses, using exceptions.				
11.	Java thread model, Main thread, creating a thread, creating multiple threads, using isAlive() 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 interthread communication.	Lecture PPT	MidExam-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 are parameters passed to an Applet.	Lecture PPT	MidExam-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	MidExam-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	MidExam-2 and quiz-2 Assignment

	checkboxes, checkboxgroup, choicecontrols, usinglists, scrollbars, textfield, textarea, usinglayout managers, Menubars and menus, dialog boxes.		checkboxgroup?		
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	<ol style="list-style-type: none"> 1. How to 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	<ol style="list-style-type: none"> 1. What are the components of an InetAddress? 2. Explain about URL class. 	Lecture PPT	Mid Exam-2 and quiz-2