



**SIDDHARTHA INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)**

Siddharth Nagar, Narayanavanam Road-517583

Subject with Code: OBJECT ORIENTED PROGRAMMING THROUGH JAVA(23CS0508)

Year & Sem: II B.Tech & I Sem

Course & Branch: CSE, CSM, CAD, CCC, CIC & CAI

Regulation: R23

UNIT I

Introduction to OOP, Operators and Statements in Java

| | | | | |
|----|----|--|----------|-------|
| 1 | a) | What are the core OOP's concepts? | [L1,CO1] | [2M] |
| | b) | List out Java language BUZZWORDS. | [L1,CO1] | [2M] |
| | c) | What is an escape sequence comment? | [L1,CO1] | [2M] |
| | d) | Define variables. List out different types of variables. | [L1,CO1] | [2M] |
| | e) | Define ternary operator with syntax. | [L1,CO1] | [2M] |
| 2 | a) | Describe the principles of object oriented programming. | [L2,CO1] | [5M] |
| | b) | Explain the step-by-step process for creating, compiling & running java program using JVM. | [L2,CO1] | [5M] |
| 3 | a) | Describe the structure of java. | [L2,CO1] | [5M] |
| | b) | Create a simple java program to understand structure of java program | [L6,CO1] | [5M] |
| 4 | a) | What is a token in Java? Illustrate the tokens available in Java. | [L3,CO1] | [5M] |
| | b) | List and explain types of java statements. | [L2,CO1] | [5M] |
| 5 | a) | Develop a program to understand the command line arguments. | [L6,CO1] | [5M] |
| | b) | Explain user input to program using scanner class. | [L2,CO1] | [5M] |
| 6 | a) | List and explain about different data types with examples | [L2,CO1] | [5M] |
| | b) | Illustrate briefly type Conversion and type casting. | [L3,CO1] | [5M] |
| 7 | a) | Illustrate scope of a variable and method with examples. | [L3,CO1] | [4M] |
| | b) | List and explain about the rules for creating identifier. | [L2,CO1] | [4M] |
| | c) | Identify different types of literals with examples | [L3,CO1] | [2M] |
| 8 | a) | Identify a formatted output with printf() method. | [L3,CO1] | [4M] |
| | b) | Illustrate static and final keywords with example. | [L3,CO1] | [3M] |
| | c) | Explain Precedence and associativity of operators. | [L2,CO1] | [3M] |
| 9 | a) | What is an operator? Explain different types of operators. | [L2,CO1] | [5M] |
| | b) | List out the selection statements available in Java. Explain with an example. | [L2,CO1] | [5 M] |
| 10 | a) | Classify looping statements available in Java. Explain with an example. | [L4,CO1] | [5M] |
| | b) | Create a java program to find Factorial of given number. | [L6,CO1] | [5M] |
| 11 | a) | Classify jump statement available in Java. Explain with an example. | [L4,CO1] | [5M] |
| | b) | Develop a java program to design calculator with basic operations using switch. | [L6,CO1] | [5M] |

UNIT II

Classes, Objects and Methods

| | | | | |
|----|----|---|----------|-------|
| 1 | a) | What is constructor overloading? | [L1,CO2] | [2M] |
| | b) | What is meant by an Nestedclass? | [L1,CO2] | [2M] |
| | c) | List Access Specifiers in java. | [L1,CO2] | [2M] |
| | d) | What is the use of 'this' Keyword? | [L1,CO2] | [2M] |
| | e) | Define method. | [L1,CO2] | [2M] |
| 2 | a) | Describe the definition and syntax of Class, Method and Object. | [L2,CO2] | [5M] |
| | b) | Create a java program to display "Hello! Java" using Class, Object and Method. | [L6,CO2] | [5M] |
| 3 | a) | Create a java program for Assigning One Object to Another. | [L6,CO2] | [5M] |
| | b) | Describe the access control for class members with example. | [L2,CO2] | [5M] |
| 4 | a) | Explain about accessing private members with example | [L2,CO2] | [5M] |
| | b) | Define constructor. Classify the types of constructors in Java. | [L4,CO2] | [5M] |
| 5 | a) | Explain about constructor overloading with example. | [L2,CO2] | [5M] |
| | b) | Explain about Nested Classes with example. | [L2,CO2] | [5M] |
| 6 | a) | Explain the application of final keyword with variable, method and class in detail with an example. | [L2,CO2] | [5M] |
| | b) | Create a java program for understanding the pass by value. | [L6,CO2] | [5M] |
| 7 | a) | Create a java program for pass by Reference. | [L6,CO2] | [5M] |
| | b) | Develop a java program to illustrate constructor overloading. | [L6,CO2] | [5M] |
| 8 | | Define Method overloading. How the method can be overloaded with suitable Example? | [L2,CO2] | [10M] |
| 9 | a) | Distinguish method Overriding and method Overloading. | [L4,CO2] | [5M] |
| | b) | Create a class object as parameter in method. | [L6,CO2] | [5M] |
| 10 | a) | Create a java program to find the factorial value of the given number using recursive method. | [L6,CO2] | [5M] |
| | b) | Develop a java program for Nesting of Methods. | [L6,CO2] | [5M] |
| 11 | a) | Distinguish method overriding with suitable example. | [L4,CO2] | [5M] |
| | b) | Differentiate between attribute final and static | [L4,CO2] | [5M] |

UNIT III

Arrays, Inheritance and Interfaces

| | | | | |
|----|----|---|----------|------|
| 1 | a) | How to declare an array in Java? | [L1,CO3] | [2M] |
| | b) | How to Access Elements of an Array in Java? | [L1,CO3] | [2M] |
| | c) | What is the use of 'Super' Keyword? Give an example. | [L1,CO3] | [2M] |
| | d) | What is the use of Interface? | [L1,CO4] | [2M] |
| | e) | Define annotations. | [L1,CO4] | [2M] |
| 2 | a) | Define an Array? Classify the types of arrays in Java. | [L4,CO3] | [4M] |
| | b) | Identify a storage of array in computer memory. | [L3,CO3] | [4M] |
| | c) | Identify a accessing elements of array. | [L3,CO3] | [2M] |
| 3 | a) | Discuss about operations on array elements. | [L2,CO3] | [3M] |
| | b) | Create a java program for Assigning array to Another array. | [L6,CO3] | [4M] |
| | c) | Identify a dynamic change of array size. | [L3,CO3] | [3M] |
| 4 | a) | Create a Java Program to sort the elements of an array in ascending order | [L6,CO3] | [5M] |
| | b) | Develop a Java Program to Check if an Array Contains a Given Value. | [L6,CO3] | [5M] |
| 5 | a) | Explain about 2D array and 3D array with an example. | [L6,CO3] | [4M] |
| | b) | Describe arrays of varying length with an example. | [L2,CO3] | [4M] |
| | c) | Differentiate between arrays and vectors. | [L4,CO3] | [2M] |
| 6 | a) | Explain about Inheritance .List out types of Inheritance. | [L2,CO3] | [4M] |
| | b) | Illustrate universal super class –object class and its methods | [L3,CO3] | [3M] |
| | c) | Classify the inhibiting inheritance of class using final. | [L4,CO3] | [3M] |
| 7 | a) | Identify access control and its inheritance | [L3,CO3] | [3M] |
| | b) | Create a java Program to explain multi-level inheritance. | [L6,CO3] | [4M] |
| | c) | Describe the use of 'super' and 'final' keyword in inheritance with an example. | [L2,CO3] | [3M] |
| 8 | a) | Create a java program constructor method in inheritance | [L6,CO3] | [5M] |
| | b) | Differentiate between method overriding and dynamic method dispatch. | [L6,CO3] | [5M] |
| 9 | a) | What is an abstract class? Explain all the cases to implement abstract class. | [L2,CO4] | [5M] |
| | b) | What is an interface? Rules to create an interface in java with example. | [L6,CO4] | [5M] |
| 10 | a) | Describe about nested interface and multiple interface with an example. | [L2,CO4] | [4M] |
| | b) | Develop a java program to implement inheritance of interfaces. | [L6,CO4] | [3M] |
| | c) | Develop a java program to implement default method in interfaces. | [L6,CO4] | [3M] |
| 11 | a) | Illustrate the following i)Static method in interface ii)Functional interface | [L3,CO4] | [5M] |
| | b) | Categorize the different types in annotations. | [L4,CO4] | [5M] |

UNIT IV

Packages, java Library, Exception Handling, Java I/O and File

| | | | | |
|----|----|---|----------|------|
| 1 | a) | What is a package? How to define a package? | [L1,CO5] | [2M] |
| | b) | Define java library. | [L1,CO5] | [2M] |
| | c) | What is class Math? | [L1,CO5] | [2M] |
| | d) | What is an uncaught exception? | [L1,CO5] | [2M] |
| | e) | Define Byte streams. | [L1,CO5] | [2M] |
| 2 | a) | What is a Package? Explain the Packages with an example and how to import packages. | [L2,CO5] | [5M] |
| | b) | Explain about step by step procedure in path and class path. | [L2,CO5] | [5M] |
| 3 | a) | Identify the access control in packages. | [L3,CO5] | [4M] |
| | b) | Illustrate packages in java SE in detail. | [L3,CO5] | [3M] |
| | c) | Identify the java.lang packages and its classes. | [L3,CO5] | [3M] |
| 4 | a) | Define Enumeration. How to use Enum keyword in java? | [L2,CO5] | [5M] |
| | b) | Illustrate Wrapper classes in java and its advantages. | [L3,CO5] | [5M] |
| 5 | a) | Demonstrate the auto-boxing and auto-unboxing in java. | [L2,CO5] | [4M] |
| | b) | Illustrate java util classes and interfaces. | [L3,CO5] | [3M] |
| | c) | Difference between formatted class and random class | [L4,CO5] | [3M] |
| 6 | a) | What is time package? Create a java program for Date/Time formatting in java. | [L6,CO5] | [5M] |
| | b) | Identify the class instant and temporal adjuster class | [L3,CO5] | [5M] |
| 7 | a) | What is an Exception? Explain different types of Exception. | [L2,CO5] | [4M] |
| | b) | How to use of try and catch block in java? | [L2,CO5] | [3M] |
| | c) | Illustrate the hierarchy of standard Exception classes. | [L3,CO5] | [3M] |
| 8 | a) | Identify the use of throw,throws and throwable clause with examples. | [L3,CO5] | [5M] |
| | b) | What are Java's Built-in Exception? Illustrate the importance of finally block. | [L3,CO5] | [5M] |
| 9 | a) | Describe about multiple catch class with an example. | [L2,CO5] | [3M] |
| | b) | Differentiate Checked Exception and Unchecked Exception. | [L4,CO5] | [4M] |
| | c) | Identify the java I/O API with an examples | [L3,CO5] | [3M] |
| 10 | a) | Discuss about the File Input Stream and File Output Stream in java with examples. | [L2,CO5] | [3M] |
| | b) | Illustrate different types of File operations in java. | [L3,CO5] | [4M] |
| | c) | Differentiate between byte streams and character stream. | [L4,CO5] | [3M] |
| 11 | a) | How to Write and Read a file in java with an example. | [L2,CO5] | [5M] |
| | b) | List and explain File handling functions using File class. | [L2,CO5] | [5M] |

UNIT-V
String Handling, Multithreading Programming and Java Database Connectivity

| | | | | |
|----|----|---|----------|------|
| 1 | a) | What is String in Java ? Is String is data type? | [L1,CO5] | [2M] |
| | b) | Difference between String and StringBuffer classes. | [L3,CO5] | [2M] |
| | c) | What is difference between starting thread with Run () and start () method? | [L1,CO6] | [2M] |
| | d) | List out JDBC Product Components. | [L1,CO6] | [2M] |
| | e) | What is FX GUI in java? | [L1,CO6] | [2M] |
| 2 | a) | Define String. Explain different String declarations with an example. | [L2,CO5] | [5M] |
| | b) | Create a java program to check the given string is palindrome or not. | [L6,CO5] | [5M] |
| 3 | a) | Distinguish String and its methods and StringBuffer and its methods with suitable example. | [L5,CO5] | [5M] |
| | b) | What is Multithreading? Illustrate the ways to create multiple threads in java. | [L3,CO6] | [5M] |
| 4 | a) | Discuss the need for multiple threads in multithreaded programing for multicore processor . | [L2,CO6] | [5M] |
| | b) | Create java program for main thread-creation of new threads. | [L6,CO6] | [5M] |
| 5 | a) | Discuss about life cycle of thread and its priority with neat diagram. | [L2,CO6] | [5M] |
| | b) | What is thread Priority synchronization? Discuss with an example. | [L2,CO6] | [5M] |
| 6 | a) | Illustrate about Deadlock and race situations. | [L3,CO6] | [5M] |
| | b) | Describe about inter-thread communication | [L2,CO6] | [5M] |
| 7 | a) | Explain the methods of Suspending,Resuming and Stopping in threads | [L2,CO6] | [5M] |
| | b) | Define JDBC. Explain importance of JDBC. | [L2,CO6] | [5M] |
| 8 | a) | Discuss about JDBC architecture and explain in detail. | [L2,CO6] | [5M] |
| | b) | Express the installing MySQL and MySQL Connector/J | [L6,CO6] | [5M] |
| 9 | a) | Identify JDBC environment setup and establishing JDBC database connections. | [L3,CO6] | [5M] |
| | b) | Describe the ResultSet Interface with examples | [L2,CO6] | [5M] |
| 10 | a) | Explain about window structure in java FX APP. | [L2,CO6] | [5M] |
| | b) | Create a java program for displaying text and image using java FX GUI. | [L6,CO6] | [5M] |
| 11 | a) | Describe about event handling methods in java FX GUI . | [L2,CO6] | [5M] |
| | b) | Explain about various scene graph and mouse events with example. | [L2,CO6] | [5M] |