



**SIDDARTHA INSTITUTE OF ENGINEERING AND TECHNOLOGY::
PUTTUR**

Siddarth Nagar, Narayanavanam Road –517583

Course&Branch:B. Tech – CSE

Year&Sem: II-B.Tech&I-Sem

Subject with Code: Object Oriented
Programming through Java (20CS0506)

UNIT-I

Regulation:R20

THE JAVA LANGUAGE & INTRODUCTION OF OOP

- 1 a) Write the importance of java programming language? [L6][CO1] [2M]
b) What is meant by paradigm? List the programming paradigms. [L1][CO1] [5M]
c) Explain history and evolution of java? [L2][CO1] [5M]
- 2 a) What is byte code? Analyze the different states of java program execution? [L1][CO1] [4M]
b) List out java buzz words? [L2][CO1] [2M]
c) Explain java buzz words in detail. [L2][CO1] [6M]
- 3 a) What is mean by OOP? Illustrate the concepts of OOP? [L3][CO2] [6M]
b) Show what is varargs in java? Write the syntax and develop a program showing the varargs usage. [L2][CO1] [6M]
- 4 a) Define data type? Discuss the data types available in java. [L1][CO1] [6M]
b) Develop a java program to read different data types using scanner. [L6][CO1] [6M]
- 5 a) How type casting implemented in java? Explain with an example. [L2][CO1] [4M]
b) Describe an identifier and give the rules to declare them. [L1][CO1] [4M]
c) State what is a variable? Give the declaration of variable in java and specify the rules to be followed over the same? [L1][CO1] [4M]
- 6 a) Define operator? [L1][CO1] [2M]
b) Discriminate the type of operators in java with examples. [L4][CO1] [10M]
- 7 a) List the decision making statements. [L2][CO1] [2M]

- b) Explain the decision making statements in java with example. [L2][CO1] [10M]
- 8 a) Define iteration statements. [L4][CO1] [2M]
- b) Explain about the Iteration statements. [L2][CO1] [10M]
- 9 a) What is an array? Classify the types of arrays in java. [L1][CO1] [6M]
- b) Create a java program to read and display the array elements. [L6][CO1] [6M]
- 10 a) Give the structure of java program? [L2][CO1] [2M]
- b) Create a java program to find the greatest of three numbers and give the procedure for compilation and run the same. [L6][CO1] [5M]
- c) Describe command line arguments? Develop a Java program to add two numbers using command line arguments. [L6][CO1] [5M]

UNIT-II**INTRODUCING CLASSES**

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| 1 | a) Give the definition and syntax of Class, Method and Object? | [L2][CO2] [6M] |
| | b) Create a java program to display “Hello! Java” using Class, Object and Method. | [L6][CO2] [6M] |
| 2 | a) Define constructor? Classify the types of constructors in Java? | [L1][CO2] [7M] |
| | b) Write a java program to illustrate constructor overloading. | [L6][CO2] [5M] |
| 3 | a) Illustrate Garbage collector in Java and explain the behavior when used. | [L3][CO2] [6M] |
| | b) Differentiate between the usages of static, final keywords with example. | [L4][CO2] [6M] |
| 4 | a) Show the application of final keyword with variable, method and class in detail with an example. | [L1][CO2] [9M] |
| | b) Give the difference between final and finalize. | [L2][CO2] [3M] |
| 5 | a) What is inheritance? | [L1][CO2] [2M] |
| | b) Explain types of inheritances. | [L2][CO2] [10M] |
| 6 | Create and explain java program for the implementation of single, multi-level and hierarchical inheritance. | [L6][CO2] [12M] |
| 7 | a) Describe about the super keyword in java with example. | [L2][CO2] [6M] |
| | b) Distinguish method Overriding and method Overloading. | [L5][CO2] [6M] |
| 8 | a) What is an abstract class? Discuss the cases to implement abstract class. | [L1][CO2] [6M] |
| | b) Give the differences between Abstract class and Interface. | [L2][CO2] [6M] |
| 9 | a) Recall what is package? Explain how to create user defined package in java with example program | [L2][CO2] [6M] |
| | b) Write a java program to find the factorial value of the given number using user defined package concept. | [L6][CO2] [6M] |
| 10 | a) State what is an interface and the rules to create an interface in java with example program. | [L1][CO2] [6M] |

- b) Develop a java program to implement an interface using your own example program. [L6][CO2] **[6M]**

UNIT-III**EXCEPTION HANDLING & MULTITHREADED PROGRAMMING**

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| 1 | a) Define exception in Java. | [L1][CO3] | [2M] |
| | b) Discuss in detail java exception hierarchy. | [L2][CO3] | [4M] |
| | c) Summarize java exception and its types. | [L2][CO3] | [6M] |
| 2 | a) Differentiate between checked and unchecked exceptions? | [L4][CO3] | [6M] |
| | b) Illustrate about try, catch, and throw statements using a java program. | [L3][CO3] | [6M] |
| 3 | a) Explain about Nested try statements with an example. | [L2][CO3] | [6M] |
| | b) Examine throw and throws in java . | [L4][CO3] | [2M] |
| | c) What are Java's built-in exception? Write the importance of finally block. | [L1][CO3] | [4M] |
| 4 | a) Show about creating your own exception clauses. | [L2][CO3] | [5M] |
| | b) Develop a java program to create own exception for negative value exception if the user enter negative value. | [L6][CO3] | [7M] |
| 5 | a) What is Multithreading? | [L1][CO4] | [2M] |
| | b) Illustrate the ways to create multiple threads in java. | [L2][CO4] | [4M] |
| | c) Sketch and explain Thread life cycle. | [L3][CO4] | [6M] |
| 6 | a) Discriminate what is Daemon threads and it's implementation with an example. | [L5][CO4] | [6M] |
| | b) Apply is alive() and join() method in multi threading java program to show its usage. | [L3][CO4] | [6M] |
| 7 | a) Describe how to set the priority to threads? what are the different ranges. | [L1][CO4] | [6M] |
| | b) Write a java program to create two threads and execute simultaneously. | [L6][CO4] | [6M] |
| 8 | a) Illustrate creating of thread in Java. | [L3][CO4] | [5M] |
| | b) Write a Java program that creates three threads. First thread displays Good Morning, every one second, the second thread displays Hello, every two seconds and the third thread displays Welcome, every three | [L6][CO4] | [7M] |

seconds.

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| 9 | a) What is synchronization? | [L1][CO3] | [2M] |
| | b) Explain types of synchronization in detail. | [L2][CO3] | [4M] |
| | c) Write a java program to sort the given names into ascending order. | [L6][CO4] | [6M] |
| 10 | a) Define string? Write and explain string handling methods in java. | [L1][CO4] | [6M] |
| | b) Create a java program to check the given string is palindrome or not. | [L6][CO4] | [6M] |

UNIT-IV**GENERIC & INTRODUCING FILE HANDLING**

- 1 a) Define Generics. State the importance of Generics in java. [L1][CO2] [4M]
b) Demonstrate the implementation of Generics in java with an example program. [L2][CO2] [8M]
- 2 a) Define Generic class. [L2][CO6] [2M]
b) Illustrate General form of Generic class with an example. [L3][CO2] [10M]
- 3 a) Discuss in detail on collection interfaces and their methods. [L2][CO6] [6M]
b) List and describe about collection class in java. [L2][CO2] [6M]
- 4 a) Analyze the following concepts with java programs. [L4][CO6] [6M]
a) Array list b) Tree set c) Linked hash map
b) Apply the following interfaces with java programs. [L3][CO6] [6M]
a) The collection interface b) The set c) The map entry
- 5 Create program illustrating following framework. [L6][CO6] [12M]
a) Vector
b) Array List
c) Hash Table
d) Stack
- 6 Illustrate file handling using file class. [L3][CO4] [12M]
- 7 a) Define Stream. [L1][CO4] [2M]
b) Write in detail about various stream classes in java. [L6][CO4] [10M]
- 8 a) Develop a java Program to read from a file using file reader class? [L6][CO4] [8M]
b) Explain file operations in java? [L2][CO4] [4M]
- 9 Discuss about the file input stream and file output stream in java with examples. [L2][CO4] [12M]
- 10 a) Interpret how to create a file in java with example program. [L3][CO4] [6M]
b) Develop a java program to show read and write a file in java with an example program. [L6][CO4] [6M]

UNIT-V**INTRODUCING THE AWT & JAVA8 FEATURES**

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| 1 | Develop a java program to design simple registration page window using AWT controls. | [L6][CO5] | [12M] |
| 2 | Apply an AWT based calculator with basic operations using java. | [L3][CO5] | [12M] |
| 3 | a) Define swing. | [L1][CO5] | [2M] |
| | b) Write the features of swing in java. | [L6][CO5] | [4M] |
| | c) Distinguish between AWT and SWING? | [L4][CO5] | [6M] |
| 4 | Illustrate the steps for creating simple login page using java swing with an example program. | [L3][CO5] | [12M] |
| 5 | Discuss about swing controls with examples. | [L2][CO5] | [12M] |
| 6 | a) State the importance of Lambda Expression with syntax | [L1][CO5] | [6M] |
| | b) Develop a java program to pass multiple parameters with Lambda expression | [L6][CO5] | [6M] |
| 7 | a) List out java Method references. | [L2][CO5] | [2M] |
| | b) Explain java Method references with an example. | [L2][CO5] | [10M] |
| 8 | Explain the following methods in java. | [L2][CO5] | [12M] |
| | a) Default method | | |
| | b) Static method | | |
| | c) For Each()method | | |
| 9 | a) Illustrate with an example to explain the similarities for method reference operator and Lambda expression. | [L3][CO5] | [6M] |
| | b) Describe reference to an instance method of an arbitrary object of a particular type. | [L2][CO5] | [6M] |
| 10 | a) Interpret the usage of Date and Time API with an example program. | [L3][CO6] | [8M] |
| | b) Discuss in detail the operations on Streams. | [L2][CO6] | [4M] |

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