**Unit - 1**

1. Explain the concept of final methods and final variables with a program.
2. Write a java program to input a telephone no. and number of calls calculate and display bill amount which includes a fix rent of rupees 400, the first 150 cost are free with excess calls charge 80 paise each.
3. What do you mean by extending an interface? Explain it with suitable example
4. Explain the following string library functions: toCharArray().getBytes(). getChars() charAt(), lastindexOf().
5. List and explain access specifiers in java.
6. Differentiate between classes and interfaces
7. What is type casting? Why is it required? How is it achieved in Java?
8. Explain various access specifiers that can be used in Java.
9. Explain different ways in which super keyword can be used in Java.
10. Differentiate between an interface and a class.
11. Create a class Complex with the following members
    1. two fields of type double to store the real and imaginary part of the complex number
    2. constructor(s) to initialize the complex number
    3. method that adds two complex numbers and returns the result
12. Create a class Box with fields for storing height, width and depth of a box. Write parameterized constructor with values of height, width and depth given as parameter. Add a method for calculating the volume of the Box. From the Box class inherit a class WeightBox that adds a field weight to the class. Write an appropriate constructor. In another class write main method to create an object of WeightBox and calculate its volume.
13. What do you understand by tokens? Briefly explain various types of tokens available in Java.
14. What is meant by method overloading? Illustrate with a suitable example.
15. What is an interface? Explain the syntax of creating an interface. How are interfaces implemented in a class?
16. Explain the concept of abstract classes and methods
17. Create a class Circle. Add a constant for storing the value of Pl. Add a data member(field) for storing the radius. Add appropriate constructor(s) and methods for calculating the area and circumference of the circle. In another class, write main method to test the Circle class
18. Imagine a publishing company that markets both book and CD version of its work. Create a class Publication that stores the title (a string) and price (a float) of a publication From this class, derive two classes: Book which adds pagecount (type int); and CD, which adds playtime (type int) in minutes. Each of these classes should have constructors for initializing their data members and a method for displaying the value of the data members.

**Unit - 2**

1. Explain five keywords of exception handling in java.
2. What do you mean by synchronising thread? Explain it in detail.
3. Write an application that generates custom exception if any value from its command line arguments is negative.
4. Differentiate between byte stream classes and character stream classes.
5. Discuss any five methods of java.net.ServerSocket class
6. Write a client socket that will accept n names from user and send them to the server. After receiving the names, the server socket should send the message "Good Bye" and close the connection.
7. What is the purpose of throw keyword in exception Handling Illustrate with an example
8. What do you understand by multithreading? Explain how to create thread using Thread class
9. Explain any two byte-stream classes that can be used for reading content from a file
10. What is the purpose of ServerSocket class? Explain any two constructors and two methods of ServerSocket class
11. Write a program that accepts two numbers a and b as command-line arguments, and calculates a/b. The program should handle an appropriate exception if value of b is 0.
12. Write a client-server program that accepts a user name from the client and sends a greeting message "Hello, <username> to the client.
13. What is an exception? Explain the exception-handling mechanism in Java.
14. What is meant by multithreading? Explain how to create thread using Runnable interface.
15. Write a note on FileInputStream class.
16. What is the purpose of Socket class? Explain any two constructors and two methods of this class
17. Write a TCP client-server program: the client accepts a number from the user and sends it to the server, the server returns the factorial of that number to the client
18. Write a program to copy the contents of a file datal.txt to a file data2.txt.

**Unit - 3**

1. What is layout manager? Explain any two.
2. Discus various methods of set interface in detail.
3. Demonstrate the working of Integer wrapper class with suitable program.
4. Differentiate between Choice and List AWT controis
5. Write an applet program that accepts Principle Amount, No. of Years & Rate of Interest from 3 text fields, when you click "Calculate Interest" button,simple interest should be calculated: When you click on "Final Amount" next button, the final amount by adding principle amount and interest should be displayed.
6. Briefly Explain: Event Delegation Model:
7. What is the purpose of CheckboxGroup class in Java? How to use it in AWT programming?
8. Explain Set interface and any one of its implementation class
9. Explain the concept of Anonymous inner class. Give example to illustrate.
10. What are type wrappers? Explain any 3 methods that can be used with Double class. Illustrate with suitable examples.
11. Write a program that displays names of any four operating systems in a list box, and the selected operating system should get displayed in a label.
12. Write a program to create an ArrayList containing names of five states of India, and then displays them.
13. Write a note on List interface of Collections Framework
14. What do you understand by type wrappers? Briefly explain any 3 methods of Integer class. Illustrate with suitable examples.
15. Explain Border Layout Manager in AWT.
16. What is a checkbox? How to create and use a checkbox using AWT.
17. Write a program that displays three buttons: Red, Green and Blue. On click of a button, respective colour should be filled in a label.
18. Write a program to create a set using Collections Framework. Store names of five countries in the set and then display them

**Mix**

1. Write a program to accept 3 numbers from command line and perform their sum
2. Write a java program to copy the content of abc.txt file to pqr.txt file.
3. Explain the semantic and functionality of the given statements: b.
   1. addActionListener(this);
   2. repaint())
   3. public void paint(Graphics g)(..)
   4. <applet> tag in java program
   5. appletviewer
4. What is thread? Discuss the various ways of creating threads in java.
5. What do you mean by Member Inner class? Explain it with suitable example
6. Explain the concept of abstract classes in Java.
7. What is a string? Explain, with example, the following methods of String class
   1. indexOf()
   2. substring()
8. Explain how try-catch keywords are used for exception handling
9. What is thread synchronization? How is it achieved in Java?
10. Write a note on Event-Delegation model.
11. What is an array? How is one-dimensional array declared, created and initialized in Java?
12. Write a note on Thread class
13. Explain the concept of Member Inner class. Give example to illustrate
14. What is a string? Write a program to accept a string as a command line argument and print its reverse.
15. Write a program that accepts an integer, n. from the user, and calculates 100/n. the program should handle an appropriate exception if value of n is 0