**UNIT-1**

1. What is a polymorphism? Compare and construct overloading and overriding methods.
2. What is a procedure oriented programming? What are its main characteristics? What are the problems with procedure oriented programming? Explain.
3. What is an aggregation? What are the types of aggregation? Explain with an example.
4. What is inheritance? Explain the concepts of reusability and extensibility with an example.
5. What is data abstraction? Compare data hiding and data encapsulation with an example
6. Distinguish the following terms, (a) Object and Classes (b) Data abstraction and data encapsulation.
7. Distinguish the following terms, (a) Inheritance and polymorphism (b) Dynamic binding and message passing.

**UNIT-2:**

1. Describe the genesis of java.Also write brief overview of java. (OR) Briefly describe the history of java.
2. List at least ten major difference between C and Java.
3. Write down the properties of java language. (OR) Write about any six distinct features in Java programming.
4. How many data types are in Java?Explain with ranges. (OR) List the eight data types in Java.Give examples.
5. What is an array?Why arrays are easier to use compared to a bunch of related variables?
6. Compare in terms of their functions,the following pairs of statements,
7. While and do-while
8. While and for
9. What is an empty statement?Explain its usefulness.
10. Write a Java program to display the exchange of two given integers using bit wise operator.
11. Write a program for transposition of a matrix using array copy command.
12. Write a program that will compute the following series.
13. 1/1+1/2+1/3+…………..+1/n.
14. 1/1+1/2+1/2^2+…………..+1/2^n
15. Write a program to convert the given temperature in Fahrenheit to Celsius using the following conversion formula c=(F-32)/1.8 and display the values in a tabular form.
16. What is class? How does it accomplish data hiding?
17. How do classes help us to organize our programs?
18. What is class? Compare a concrete class and an abstract class with an example.

15. What is the difference between equality of objects and equality of reference that referto them?

 16. Write an application that computes the value of e^x by using the formula,

 e^x=1+x/1!+x^2/2!+……….

17. What is the difference between a public member and a private member of a class?

18. What is garbage collection? Explain in detail.

19. Write a Java program to demonstrate constructor overloading. (OR) Write a Java program that uses overloaded constructors and this pseudo variable.

20. Explain the following methods of the StringBuffer class.

 (i) length()

 (ii) capacity ()

1. ensureCapacity()
2. setLength().

 (OR)

Explain any four methods of the StringBuffer class.

 21. Write a program to illustrate the usage of the following methods of StringBuffer

 Class .Explain the output in each case. Delete (),setCharAt(),Append(),CharAt(),getchar().

 22. Write a java program to convert the given decimal numbers into binay number using

 Recursion.

 23. Explain the working of java virtual machine(JVM). Find the output of the fraction of

 Java program:int []a=10,20,30,40,50,i=4;,System.out.println(a[i]=i=2);.

 24. Write a java program to display the integer numbers from 1to 100 without using loops.

**UNIT-3:**

 1. What is inheritance?Discuss the difference in inheritance in C++ and Java.

 2. What is inheritance?Explain the member access mechanism in inheritance with an example.

 3. Write a sample program to demonstrate the order to initialization of the base classes and

 Derived classes.Now add member objects to both the base derived classes and show the

 Order in which their initialialization occurs during construction.

 4. What is an object class? Explain object hierarchy.

 5. What does toString() method returns ? How is it handled in Java? Explain with an example.

 6. Explain the main two uses of ‘Super’.

 (OR)

 When will you use the keyword ‘Super’? (OR) Define the variable ‘Super’ and its uses

 with an example.

 7.Write a java program to demonstrate the key word super to call super-class constructors.

 8. how a key word ‘final’ can be used to prevent overriding? Explain with an example.

 9. What is a polymorphism? Compare and construct overloading and overriding methods.

 10. What is dynamic method dispatch? Write a Java program to demonstrate dynamic method

 Dispatch. (OR) What is the mechanism by which a call to an overridden method

 is resolved at runtime? Explain with an example.

 11. What is an abstract class? What is its importance? How is it designed in Java ? (OR)

 Explain about the abstract class with example program. (OR)

 Define abstract class. Explain with suitable example.

 12. Distinguishes between abstract methods and non-abstract methods with an example.

 13. Compare inheritance and polymorphism. Write a java program to demonstrate the key

 Word:super to call super-class constructors.

**UNIT-4:**

1. What are the packages provided by Java API ? Explain. ( OR)

 Discuss about packages of Java languages.

1. What is package?How do you create a package? Explain about the access protection in packages.
2. Give the general form of the import statement .Illustrate a Java program that creates a package and uses it. (OR) What is the usages of import statement? Explain with suitable example.
3. What is multiple inheritance? Explain how it can be implemented in Java with the help of an example.
4. Write a program in Java to demonstrate multiple inheritance using interfaces.
5. Compare an interface and class. Explain in detail the various forms of interface implementations (OR) What is the difference between an interface and a class ? Explain in detail, the various forms of interface implementations.
6. Write an interface called Shape with necessary methods. Derive classes circle,rectangle,triangle,cone,sphere and cube with appropriate constructors and methods for area,volume also setting and displaying.
7. Compare static and final methods.Write a java program to display all the files in the current directory.
8. What is a String Tokenizer class? What is its use ? Write a java program to demonstrate. (OR) What is StringTokenizer class? What is its use? Write a program to display the course name,course for and duration of course using StringTokenizer class.
9. Write a program to create, define, importing and accessing a package.
10. Write a java program that reads a line of input and finds the number of words and number of characters.
11. Explain in detail the process of create, define, importing and accessing a package.

 **UNIT-5:**

1. Explain about the different keywords used in exception handling. (OR) What is the use of five keywords of Java related to exception handling i.e., try, catch, throw, throws and finally? (OR) Define an exception. How a programmer can handle it?
2. Give the classification of exceptions. (OR) Give the class hierarchy in java related to exception handling. Briefly explain each class.
3. Explain throws statement in java with the help of an example program.
4. What is the difference between throw and throws statement?
5. In Java, why finally keyword is necessary in exception handling?
6. Explain finally block in exception handling with help of an example.
7. Give the list of different checked exceptions in Java and their meaning.
8. Explain in detail any three checked exceptions.
9. List out by an examples the way to create a user defined exception. (OR) How do you create your own exception classes? Explain with the help of an illustrative example.
10. What is a thread? Explain the concept of multithread programming. (OR) Define multithreading. Give an example of an application that needs multithreading.
11. Describe the life cycle of a thread. (OR) Identify the different states of a thread.
12. Write a Java program that creates two thread. First thread prints the numbers from 1 to 50 and the other thread prints the numbers from 100 to 50.
13. Compare the keywords: throw and throws ,write a java program to demonstrate throw and throws.
14. What is an exception? How is an exception handled in java? Compare checked and unchecked exceptions in java.
15. Compare and contrast a process based multitasking and thread based multitasking.

**UNIT-6:**

1. Define Event. Give examples of events. Define event handler. How it handles events?
2. Explain in detail about the following event classes.(i) component Event (ii)container Event (iii) Focus Event
3. What is an event handling? Explain about Java awt event package. (OR) What is an event handling? Name and explain any four event classes available in java.awt.event package.
4. (a) Why do you use frames? (b) Explain the syntax and different methods related to frames.
5. Write a stand-alone AWT based application which create a frame window t ha t responds to mouse clicks and key stores.
6. Explain about different layout managers. (OR) What is a layout manager? Explain the different types of layout managers with suitable examples. (OR) how will you arrange components on user interface?
7. Write a java program to mouse and keyword events.
8. What is an AWT class? Name and explain any four AWT classes available in java.awt package.
9. What is an event handling? What is an adapter class? What is an inner class? Explain with an example each.
10. Write a java program to design the following border layout:

|  |
| --- |
|  SUNIL |
|  Ph.D.  |  WEDS | M.Tech. |
|  SUSHMITA |

**UNIT-7:**

1. What is Java applet? What are the different stages in the life cycle at an applet? Explain.
2. Explain the difference between AWT controls with example program.
3. What are various JFC containers? List them according to their functionality. Explain a each of them with example.
4. Write a Java program to create an applet with six buttons representing you favorite six colors. Write a button is clicked, the background color must change to the corresponding color.
5. What is a swing? What is the difference between swing and AWT? Describe, in detail, about various components in swing.
6. Explain in detail,the swing controls: tabbed panes and scrollpanes with suitable java code examples.
7. What is java applet? How do applets differ from application programs? Explain with an example.

**UNIT-8:**

1. Write short notes on (a) protocol (b) sockets (c) client/server (d) DNS
2. Write short notes on (a) TCP (b) UDP (c) IP Address (d) DNS
3. What is an IP Address? What are the different types of IP addressing? Explain with an example.
4. What is a port? What is the difference between port and socket? Explain with an example.
5. What are sockets? Explain the classes in java with regard to sockets.
6. Discuss briefly about java.net package. (OR) Explain the networking classes.
7. What is an Inet Address? Write a java program that demonstrates the concept of Inet Address.
8. What is network programming? How are different machines in anetwork addressed? Explain.
9. What is an URL? Explain the URL connection with an example.