QUESTION BANK

Faculty Name: Mohammed Afzal **Subject:** OOP Using Java
Branch: Computer Science and Engineering **Section:** IV-SEM-CSE A&B

Unit – I

Short Answer Questions:

1. Explain the significance of each word in public static void main(String args[]). (4-times)
2. Why is java called as "Robust"?
3. What is byte code?
4. List the different operators used in Java.
5. What is the difference between ">>" and ">>>" operator.
6. Why is java architecture neutral?
7. Differentiate between local and instance variables with an example.
8. Why is String class immutable?
9. How do you cast incompatible types? Give an example.
10. What will be the output of the following program?

```
public class x
{
        public static void main(String[] args)
        {
                try
                {
                        return;
                }
                finally
                {
                        System.out.println("finally");
                }
        }
}
```

11. What is the datatype returned by the library functions
    (a) compareTo()
    (b) equals()
12. Define constructor.
13. List the functions defined in StringBuffer class.
    List the purpose of String and String Buffer class.
    What is the difference between a String and StringBuffer class? Explain with example.
14. What is the use of super keyword?
15. Write a Java program using this keyword to invoke current class constructor.
16. Name some of the string handling methods with examples.
17. Write a program to find the sum of elements of an array using for each loop.

Long Answer Questions:

1. Explain the features and benefits of Object Oriented Development. (4-times)
   What is Object Oriented Programming development? Discuss its advantages.
2. Write a program to demonstrate dynamic method dispatch and explain. (3-times)
   What is runtime polymorphism (or) dynamic method dispatch, explain with an example? (2-times)
   Does Java support run-time polymorphism? Illustrate with an example
3. Describe the typical structure of a Java Program and give the steps to execute it.
4. Write about static members of Java?
   Mention the restrictions of a method declared as static.
5. Differentiate toUpperCase() and toLowerCase().
6. Differentiate overloading and overriding with an example. (2-times)
   How to use method overloading for printing different types of array?

7. What is the difference between a constructor and a method? Discuss with an example.
8. Define Garbage Collection in Java.
   Explain Garbage Collection in Java. Under what condition is an object's finalize() method is involved by the garbage collector. (2-times)
9. Differentiate between String and StringBuffer. How Java converts data into its string representation during concatenation illustrate with an example. (2-times)
10. Write a program to search for a String in another String.
11. Explain the control statements used in Java.
12. Give an example for declaring an array in Java and accessing it.
13. Write java program using ternary operator to find maximum of three numbers.
14. Write a java program to simulate the operation of numerical calculator to perform the functions Addition(+),Subtraction(-),Multiplication(*),Division(/).

Unit – II

Short Answer Questions:

1. Under which context do you use "final" and "finalize".
2. What is annotation in Java?
3. What is the order of constructor call in the multilevel inheritance? Give example.
4. Mention the difference between closeable and flushable interface.
5. What is the need of an interface?

Long Answer Questions:

1. Write a short note on the following:
   (a) Interface (3-times)
   (b) Package (2-times)
2. Can an interface reference variable refer to an object that implements that interface?
3. Write a program to demonstrate the interfaces.
4. Explain creating and using packages in Java with example program. (3-times)
5. Explain polymorphism, encapsulation and inheritance. Give example.
6. Write a program to demonstrate multilevel hierarchy, Use super to call Super class constructor.

Unit – III

Short Answer Questions:

1. What is the difference between throw and throws clause? (3-times)
2. What are the different states of a thread?
3. What are the two subclasses under Exception class?
4. What is the method defined by a class implementing the java.lang.Runnable interface?
5. How can thread be suspended from execution? (2-times)
6. What is the normal priority of a thread and how the priority of a thread can be changed?
7. What are the differences between checked and unchecked exception.

Long Answer Questions:

1. What are the different ways of creating a thread? Explain any one method with example. (3-times)
2. Illustrate with an example the throw statement by manually throwing an arithmetic exception.
3. How do you restrict access to an object to one thread at a time?
   Write a program to demonstrate synchronization. (2-times)
   How are threads synchronized? Illustrate with an example.
4. Write a program for creating and using user-defined exceptions. (2-times)
5. Explain the flow of controls in exception handling programs with example.
6. How does a try statement determine which catch clause should be used to handle an exception. Give an example.
7. Explain isAlive() and join() methods with an example.
8. Write a Java program for generating four threads to perform the following operations
   (a) Getting 'N' numbers as input.
   (b) Printing the even numbers.
   (c) Printing the odd numbers.
   (d) Computing the average.

9. Discuss the exception handling mechanism in Java with example. (2-times)
   What is an exception? Explain how exceptions are handled in Java with suitable example.
10. Write a program to show the handling of multiple exceptions.
11. Write a program to create threads where one thread prints 1 to 100 and another thread prints 1 to 200.

Unit – IV

Short Answer Questions:

1. What are the advantages of using enumerations?
2. Brief about BitSet, Timer and Date Classes. (3-types)
3. What method is used to read a byte from System.in?
4. Why user input for primitive types is not permitted directly in Java?
5. Write a code to read a character from the console?
6. Write a code to read an integer through console.
7. When parseInt() method can be used?
8. Explain about isInfinite() and isNan() methods.
9. What is the necessity use of filtered ByteStreams?
10. List the four classes used for handling bytestreams.
11. What is a stream? What are 2 types of stream that Java defines? List 2 I/O classes in each category.
12. List and describe about few methods in Object class.
13. What is the use of PrintWriter class? (3-times)

Long Answer Questions:

1. Write a program to copy one file content into another file. (5-times)
2. Write a program to read an integer value from console and check whether it is a prime number or not. (2-times)
3. What are the types of wrapper classes? What are their uses? List out various wrapper classes? (3-times)
4. Write a program to display the content from a text file.
5. How do you use character streams, show with example?
6. What is the importance of serialization in Java? Which type of variable cannot be serialized? (6-times)
7. Write a program to read two dates and find the difference.
8. Write a program to find the occurrence of a given number in a file.
   Give an example of opening a file and print its content on the console.
   Write a Java program to print last n lines of a given text file.
9. Write a program to read n integer values from console and fine the sum and average of all values. (3-times)
   Write a program to read from console and write to console.
10. Explain ByteArrayInputStream with an example.
11. What is the use of Data input stream and Push back input stream.
    What is the use of implementing Push back Input Stream. Illustrate with an example.
    What is the use of Data Output stream and Push back input stream.
12. What is the use of StringTokenizer? (6-times)
13. With a Java program illustrate the use of I/O streams.
    Discuss briefly about Java I/O classes.
14. Write a Java program to accept a two digit number, add the sum of its digits to the product of its digits. If the value is equal to the number input, output the message “special 2-digit number” otherwise “not a special 2-digit number”.
15. Write a program to demonstrate the implementation of Cloneable and defies the method clone Test(), which calls clone() in object.

Unit – V

Short Answer Questions:

1. Explain the delegation event model. (2-times)
2. List the different AWT controls. (4-times)
3. Differentiate component and container in AWT.
4. What is the advantage of using adapter classes?
   Define adapter class. Why is it used?
5. Write a program to insert buttons in BorderLayout.
6. What is the difference between paint() and repaint() methods?
7. What is AWT?

8. List the different layout managers with example.
9. List the different interfaces with methods used for mouse event handling.
10. Explain the use of layout manager.
11. Explain briefly the class hierarchy for Panel and Frame.
12. Define swing in Java with example.

Long Answer Questions:

1. Write a program for mouse event handling. (3-times)
2. What is event handling Explain steps involved in it?
3. Discuss about checkbox group with a program.
4. What is the use of Event Listeners in Java? (2-times)
5. Write a program to print numbers in a grid using layout manager.
   Explain the use of GridLayout.
6. What is a frame? Write a Java program to illustrate the use of frames.
7. Write a program for keyboard event handling. (4-times)
8. Write a program to read username and password for any application. (2-times)

Other Important Questions:

1. Write a short notes on the following.
   (a) super keyword.
   (b) Synchronization
   (c) Date class
2. Explain the steps involved in creation and handling of Menus. (4-times)
3. Write a program to find sum of numbers passed as command line arguments
4. Write a program to check whether a string is palindrome or not.
5. Write short note on
   a) Multiple Inheritance Issues
   b) Abstract Class
   c) Jump statements.