



**GIET UNIVERSITY, GUNUPUR.**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
**SUBJECT: OOP USING JAVA**

**QUESTION BANK**

Subject Code: BCSPC3030

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**OBJECTIVE QUESTION**

**PART-A**

**UNIT-01**

1. \_\_\_\_\_ is one of the java features that enables java program to run anywhere anytime.  
a) Object-Oriented  
b) Multithreaded  
c) Platform-Independent  
d) Dynamic & Extensible CO1/PO1
2. \_\_\_\_\_ is one of the java features that can handle multiple tasks simultaneously.  
a) Object-Oriented  
b) Dynamic & Extensible  
c) Platform-Independent  
d) Multithreaded CO1/PO1
3. Java compiler translates source code into \_\_\_\_\_.  
a) Bytecode (Virtual Machine Code)  
b) Bitcode  
c) Machine Code  
d) User code CO1/PO1
4. Java interpreter translates \_\_\_\_\_ into machine code.  
a) Bit code  
b) Bytecode (Virtual Machine Code)  
c) Machine Code  
d) User code CO1/PO1
5. Java compiler produces an intermediate code known as \_\_\_\_\_.  
a) Bitcode  
b) Machine Code  
c) Bytecodes  
d) User code CO1/PO1
6. \_\_\_\_\_ tool helps us to find errors in our programs.  
a) jhelp  
b) javah  
c) javap  
d) jdb CO1/PO1

7. The process of converting one data type to another is called \_\_\_\_\_.  
a) Translating  
b) Casting  
c) Compiling  
d) Declaring  
CO1/PO1
8. Java does not support \_\_\_\_\_.  
a) Operator overloading  
b) Global variable  
c) Multiple inheritance  
d) All of above  
CO1/PO1
9. Casting from byte to \_\_\_\_\_ data type, the result is no loss information.  
a) short  
b) int  
c) long  
d) all of above  
CO1/PO1
10. \_\_\_\_\_ refer to fix value that does not change during the execution of a program.  
a) variables  
b) constants  
c) identifiers  
d) integer  
CO1/PO1
11. \_\_\_\_\_ operators are used to construct mathematical expression as in algebra.  
a) Relational  
b) Mathematical  
c) Arithmetic  
d) Logical
12. The comparisons can be done with help of \_\_\_\_\_ operator.  
a) Relational  
b) Mathematical  
c) Arithmetic  
d) Assignment  
CO1/PO1
13. Which of the following is not assignment operator?  
a) +=  
b) ==  
c) %=  
d) =  
CO1/PO1
14. \_\_\_\_\_ operator is used to construct conditional expression.  
a) Dot(.)  
b) instanceof  
c) Ternary(?:)  
d) None  
CO1/PO1
15. Which statement is use to skip the loop and continue with the next iteration?  
a) continue  
b) terminate  
c) skip  
d) break  
CO1/PO1

16. \_\_\_\_\_ is a group of contiguous or related data items that share a common name.
- a) Variable
  - b) Array
  - c) Constant
  - d) none
- CO1/PO2

17. Identify the following and find the correct declaration statement in java program?
- a) `int num=new int[5]`
  - b) `int num=new num[5]`
  - c) `int[] num=new int[5]`
  - d) None

18. class ope CO1/PO2

```
{
    public static void main (String [] args)
    {
        int x= 0;
        int y= 0;
        if (( ++x >= 1 ) & (++y <=1))
        {
            x++;
        }
        System.out.println(x + " " + y);
    }
}
```

- i. 2 1                      ii. 1 2                      iii. Compilation time error                      IV. No output

19. class ope CO1/PO2

```
{
    public static void main(String [] args)
    {
        int x = 11 & 9;
        int y = x ^ 3;
        System.out.println( y | 12 );
    }
}
```

- i. 14                      ii. 11                      iii. 9                      IV. 3

20. public class VST CO1/PO2

```
{
    public static void main(String args[])
    {
        int x = -4;
        System.out.println(x>>1);
    }
}
```

```

        int y = 4;
        System.out.println(y>>1);
    }
}

```

- I. -2 2      II. 2 2      III. 0 2      IV. None of the these

21. public class VST CO1/PO2

```

{
    public static void main(String args[])
    {
        System.out.print(10 + 20 + "GIET");
        System.out.println("GIET" + 10 + 20);
    }
}

```

- I. 30GIET      GIET 30      II. 1020GIET      GIET1020      III. 30GIET      IV. None of the above

22. public class VST CO1/PO2

```

{
    public static void main(String args[])
    {
        int x=9;
        int y=0;
        if((++x)==10 && (++y)==1)
        {
            System.out.println(x);
            System.out.println(y);
        }
    }
}

```

23. public class Test CO1/PO2

```

{
    public static void main(String[] args)
    {
        for (int i = 0; i < 10; i++)
            int x = 10;
    }
}

```

- i. No Output      ii. 2. 10      iii. Compile time error      iv. 4. 10 (10 times)  
24. public class Test CO1/PO2

```

{
    public static void main(String[] args)
    {
        for (int i = 0, String = "GFG"; i < 2; i++)
            System.out.println("HELLO GEEKS");
    }
}

```

}  
 I. HELLO GEEKS  
 II. Compile time error  
 III. HELLO GEEKS  
     HELLO GEEKS  
     HELLO GEEKS  
 IV. No Output

25. class WeekDays CO1/PO2

```

{
    public static void main(String s[])
    {
        int day = 7;

        switch(day)
        {
            case 1:
                System.out.println("Monday");
            case 2:
                System.out.println("Tuesday");
            case 3:
                System.out.println("Wednesday");
            case 4:
                System.out.println("Thursday");
            case 5:
                System.out.println("Friday");
        }
    }
}
  
```

I. no output    ii. Compilation time error    iii. Sunday    iv. Runtime error

## UNIT-02

1. The java interpreter uses \_\_\_\_\_ method before any objects are created.
  - a) Class
  - b) Main
  - c) Constructor
  - d) All of above CO2/PO1
2. The \_\_\_\_\_ includes hundred of classes and methods grouped into several function packages.
  - a) API
  - b) JVM
  - c) JAVAC
  - d) JRE CO2/PO1

3. Java provides extensive set of classes, arranged in \_\_\_\_\_.

- a) Package
- b) Library file
- c) Template class
- d) None

CO2/PO1

4. A default constructor takes \_\_\_\_\_ no of parameter ?

CO2/PO1

- i. 0    ii. 1    iii. No argument    iv. Non of them

5. Super keyword in java is used to

CO2/PO1

- a. Refer immediate parent class instance variables.
- b. Invoke immediate parent class methods.
- c. Invoke immediate parent class constructor.
- d. All

6. Using which keyword we can access value of the instance variables and class variables of that class inside the method of that class itself.

CO2/PO1

- A) super
- B) final
- C) this
- D) either super or this

7. Find the out put of the program

CO2/PO2

```
public class t
{
    public static void main(String [] args)
    {
        String s=null;
        System.out.println(s.concat("abc"));
        System.out.println(s);
    }
}
```

- a. nullabc    b. abc    c. no output    d. NullPointerException

8. \_\_\_\_\_ is a feature in C++ where two or more functions can have the same name but different parameters.

- a. Function overloading    b. function overriding    c. non of them    CO2/PO1

9. When no access modifier is specified for a class , method or data member – It is said to be having the default access modifier by default.

- a. Private    b. public    c. protected    d. default    CO2/PO1

10. The Java programming language supports multiple inheritance of type, which is the ability of a class to implement more than one \_\_\_\_\_.

- a. Interface    b. class    c. non of them    d. super class

11. Find the output of the program.

CO2/PO2

```
public class str
{
    public static void main(String [] args)
```

```

        {
            String foo="base";
            System.out.println(foo.substring(0,3));
            System.out.println(foo.concat("sub"));
            System.out.println(foo);
        }
    }

```

- a. bas  
basesub  
base
- b. base  
basesub  
bas
- c. no output

12. find the output of the program

CO2/PO2

```

try
{
    int x = 0;
    int y = 5 / x;
}
catch (Exception e)
{
    System.out.println("Exception");
}
catch (ArithmeticException ae)
{
    System.out.println(" Arithmetic Exception");
}
System.out.println("finished");

```

- a. Finished
  - b. exception
  - c. compilation fails
  - d. exception arithmetic
- exception finished

13. Find the output of the program

```

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

```

CO2/PO2

- a. Finally      b. compilation fails      c. no output      d. an exception thrown at run time

14. Final and finally are both same in java? CO2/PO1

- a. Yes      b. no

15. Java supports multiple inheritance? CO2/PO1

- a. True      b. false

16. Checked exception are compilation time error in java programming. CO2/PO1

- a. True      b. false

17. class Test CO2/PO1

```
{
    int i;
}
class Main
{
    public static void main(String args[])
    {
        Test t;
        System.out.println(t.i);
    }
}
```

- I. 0      II. Garbage value III. Compilation time Error      IV. No output

18. In Java, when we implement an interface method, it must be declared as: CO1/PO1

- i. private      ii. Protected      iii. Public      iv. default

19. class Helper CO2/PO1

```
{
    private int data;
    private Helper()
    {
        data = 5;
    }
}
public class Test
{
    public static void main(String[] args)
    {
        Helper help = new Helper();
        System.out.println(help.data);
    }
}
```

- i. compilation error      ii. 5      iii. Run time error      iv. None of these

20. Identify the output of the following program after execution? CO2/PO2

```
class array_output {
    public static void main(String args[])
    {
        int array_variable [] = new int[10];
        for (int i = 0; i < 10; ++i) {
            array_variable[i] = i;
            System.out.print(array_variable[i] + " ");
            i++;
        }
    }
}
```



I. 0 2 4 6 8

II. 1 3 5 7 9

III. 0 1 2 3 4 5 6 7 8 9

IV. 1 2 3 4 5 6 7 8 9 10

21. CO2/PO2

```
class output
{
    int x,y;
    output()
    {
        x=y=0;
    }
    void put()
    {
        System.out.println(x+" "+y+" "+x/y);
    }
    Public static void main(String args[])
    {
        output ob=new output();
        o.put();
    }
}
```

I. 0 0 0    II. 1 1 1    III. no output    IV. zero divide error

22. Static variable are the property of instance CO2/PO1

i. True            ii. . false

23. A java program can run without main() CO2/PO1

i. True            ii. false

24. Super and this usage are same in java CO2/PO1

I. True    ii. False

25. Constructor execution in top to bottom approach in inheritance CO2/PO1

I. True    ii. False

### UNIT-03

1. Thread are called as \_\_\_\_\_? CO3/PO1

a. Light weight process    b. heavy weight process    c. process    d. demon thread

2. sleep() and stop() are same in concept in threading? CO3/PO1

What is true about threads?

a.Threads consumes CPU in best possible manner

b.Threads enables multi processing.

c.Multi threading reduces idle time of CPU

d.All

3. How many threads can a process contain? CO3/PO1

a.1

b.2

c.multiple

d.none

4. What are valid points about thread CO3/PO1  
a.Thread are subdivision of Process.  
b.One or more Threads runs in the context of process.  
c.Threads can execute any part of process. And same part of process can be executed by multiple Threads.  
d.All
5. What are valid point about processes CO3/PO1  
a.Processes have their own copy of the data segment of the parent process  
b.Threads have direct access to the data segment of its process  
c.Processes have their own address  
d.All of these
6. How can we create Thread CO3/PO1  
a.By Extending Thread class  
b.Implementing Runnable interface  
c.By using Executor framework - which can internally form threads CO3/PO1  
d.All
7. Which of these is not a Thread state? CO3/PO1  
a.New  
b.Runnable  
c.sleep  
d.terminated
8. synchronized instance methods acquire lock on? CO3/PO1  
a.object  
b.class  
c.All  
d.None
9. What state does Thread enter in when it has been created and started? CO3/PO1  
a.New  
b.Runnable  
c.Running  
d.Waiting
10. Which method can be used to find whether Thread hasn't entered dead state? CO3/PO1  
a.isAlive()  
b.isRunning()  
c.isNotDead  
d.All
11. How can you ensure all threads that started from main must end in order in which they started and also main should end in last CO3/PO1  
a.join() method  
b.sleep() method  
c.wait() method  
d.run() method
12. What is difference between starting thread with run() and start() method? CO3/PO1  
a.There is no difference  
b.When you call start() method, main thread internally calls run() method to start newly created Thread  
c.run() calls start() method internally  
d.None
13. What are valid statements for suspend() and resume() method? CO3/PO1  
a.Suspend() method is deadlock prone.

b.If the target thread holds a lock on object when it is suspended, no thread can lock this object until the target thread is resumed.

c.If the thread that would resume the target thread attempts to lock this monitor prior to calling resume, it results in deadlock formation.

d.All

14. How can Thread go from waiting to runnable state?

CO3/PO1

a.notify/notifAll

b.When sleep time is up

c.Using resume() method when thread was suspended

d.All

15. Thread is a \_\_\_\_\_ process.

CO3/PO1

a. Light weight

b.heavy weight

c. medium weight

d. non of them

16. A Thread class can be extended.

CO3/PO1

a. True

b. false

17. Which of these class is not a member class of java.io package?

CO3/PO1

A. String B. StringReader C. Writer D. File

18. Which of these interface is not a member of java.io package?

CO3/PO1

A. DataInput B. ObjectInput C. ObjectFilter D. FileFilter

19. Which of these classes is used for input and output operation when working with bytes?

A. InputStream B. Reader C. Writer D. All of the mentioned

CO3/PO1

20. Which of these class is used to read and write bytes in a file?

CO3/PO1

A. FileReader B. FileWriter C. FileInputStream D. InputStreamReader

21. Which of these class can be used to implement input stream that uses a character array as the source?

CO3/PO1

A. BufferedReader B. FileReader C. CharArrayReader D. FileArrayReader

22. Which of these classes are used by Byte streams for input and output operation?

CO3/PO1

A. InputStream B. InputStream C. Reader D. All of the mentioned

23. Which of these classes are used by character streams for input and output operations?

CO3/PO1

A. InputStream B. Writer C. ReadStream D. InputStream

24. Which exception is thrown by read() method?

CO3/PO1

A. IOException B. InterruptedException C. SystemException D. SystemInputException

25. Which of these class is used to read characters and strings in Java from console?

CO3/PO1

A. BufferedReader B. StringReader C. BufferedStreamReader D. InputStreamReader

#### UNIT-04

1. Which of these functions is called to display the output of an applet? CO4/PO1

a) display()

b) paint()

c) displayApplet()

d) PrintApplet()

2. The following example shows the creation of a

CO4/PO2

```
import java.applet.*;
```

```
import java.awt.*;
```

```
public class Main extends Applet{
```

```
public void paint(Graphics g){
```

```
g.drawString("Welcome in Java Applet.",40,20);
```

```
}
```

```
}
```

- a. Banner using Applet
  - b. Basic Applet
  - c. Display clock
  - d. None of the above
3. From the following statements which is a drawback for Applet? CO4/PO1
- a. It works at client side so less response time
  - b. Secured
  - c. It can be executed by browsers running under many platforms, including Linux, Windows, and Mac Os etc.
  - d. Plugin is required at client browser to execute applet
4. Applet works at client side so less response time. CO4/PO1
- a. True
  - b. False
5. What invokes immediately after the start() method and also any time the applet needs to repaint itself in the browser? CO4/PO1
- a. stop()
  - b. init()
  - c. paint()
  - d. destroy()
6. Which method is called only once during the run time of your applet? CO4/PO1
- a. stop()
  - b. paint()
  - c. init()
  - d. destroy()
7. Which of these methods are used to register a keyboard event listener? CO4/PO1
- a) KeyListener()
  - b) addKistener()
  - c) addKeyListener()
  - d) eventKeyboardListener()
8. Which of these methods are used to register a mouse motion listener? CO4/PO1
- a) addMouse()
  - b) addMouseListener()
  - c) addMouseMotionListner()
  - d) eventMouseMotionListener()
9. Event class is defined in which of these libraries? CO4/PO1
- a) java.io
  - b) java.lang
  - c) java.net
  - d) java.util
10. Which of these methods can be used to determine the type of event? CO4/PO1
- a) getID()
  - b) getSource()
  - c) getEvent()
  - d) getEventObject()
11. Which of these class is super class of all the events? CO4/PO1
- a) EventObject
  - b) EventClass
  - c) ActionEvent
  - d) ItemEvent

12. Which of these methods can be used to output a string in an applet?

CO4/PO1

- a) display()
- b) print()
- c) drawString()
- d) transient()

13. Which of these operators can be used to get run time information about an object?

CO4/PO1

- a) getInfo
- b) Info
- c) instanceof
- d) getinfoof

14. What is the message displayed in the applet made by this program?

CO4 /PO2

```
import java.awt.*;

import java.applet.*;

public class myapplet extends Applet
{
    public void paint(Graphics g)
    {
        g.drawString("A Simple Applet", 20, 20);
    }
}
```

- a) A Simple Applet
- b) A Simple Applet 20 20
- c) Compilation Error
- d) Runtime Error

15. Which of these functions is called to display the output of an applet?

CO4/PO1

- A. display()
- B. print()
- C. displayApplet()
- D. PrintApplet()

## **PART-B**

### **UNIT-01**

1. Define byte code in java? CO1/PO1
2. Why java called platform independent language? CO1/PO1
3. Why java called write once, run anywhere language? CO1/PO1
4. Why the function main() always declared as static in java? CO1/PO1
5. Write the coding part to find the reverse of a number by accepting number Command Argument. CO1/PO3
6. Write the codes to check the biggest among three numbers using ternary operator? CO1/PO3
7. Exemplify Class and object in Java. CO1/PO1
8. Describe the uses of parseInt() in Java programming. CO1/PO1
9. Differentiate static and dynamic array in java with an small example? CO1/PO1
10. Identify type casting in java Programming? CO1/PO1

### **UNIT-02**

1. Describe the syntax of any one of the following loops – while, do...while, for loop CO2/PO1
2. State method overriding. CO2/PO1
3. Differentiate between a static and non static data member in java? CO2/PO1
4. Diffentiate between a static and dynamic array in Java ? CO2/PO1
5. Estimate various restrictions with static methods? CO2/PO1
6. Write a code to access the super class methods and instance variables by using super keyword from sub class CO2/PO2
7. Write a method with variable arguments that accepts a group of numbers and returns the biggest number among them.
8. Identify the final variable with a suitable java code. CO2/PO1
9. Discuss the meaning of the abstract keyword? CO2/PO1
10. Differentiate between catch() and finally in Java. CO2/PO1

### **UNIT-03**

1. Predict the exception does the program throw? CO3/PO1  
Public class test  
{  
    Public static void main(String args[])  
    {  
        String s="abc";  
        System.out.println("char at",s.charAt(3));  
    }  
}
2. Choose the name of the method is used to start a thread execution? CO3/PO1
3. Differentiate between string and string buffer class? CO3/PO1
4. Define the behavior of == operator in string class with code ? CO3/PO1
5. Differentiate between implements and extends? CO3/PO1

6. What is the difference between checked and unchecked exception in java? CO3/PO1
7. Enlist the importance of finally keyword in exception handing?CO3/PO1
8. Identify 2 checked exception names CO3/PO1
9. Differentiate between isAlive() and Join() in MultiThreading? CO3/PO1
10. Judge the output CO3/PO1

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

## **UNIT-04**

1. Explain about event delegation? CO4/PO2
2. Differentiate between Applet and AppletViwer? CO4/CO1
3. Define “**public void init()**” in Applet? CO4/PO1
4. Identify the attributes of applet tag? CO4/PO1
5. Define Adapter Class CO4/CO1
6. Select the methods of Mouse Listener. CO4/PO3
7. Define (1) Event (2) Event Source (3) Event Class (4) Event Listener CO4/PO2
8. Describe the methods (1) setBackground( ) (2) setForeground( ) CO4/PO3
9. Compare the difference between java applet program and java application program. CO4/PO1
10. Differentiate between applet and applet viewer? CO4/PO1

**LOGN QUESTION : [ EACH CARRIES 7 / 8 / 10 MARKS]**

**UNIT-01**

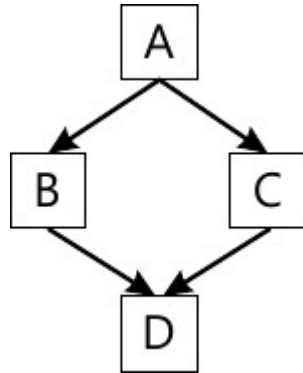
1	A. Define object-orientation and specify the characteristics of object oriented approach?	CO1/PO1(7mark)
	b. Evaluate a program for computing $x^y$ doing repetitive multiplication. X and y are of type integer and are to be given as command line arguments. Raise and handle exception(s) for invalid values of x and y.	CO3/PO3(8 marks)
2	A. Write a java program to print maximum between 3 positive number using conditional operator?	CO1/PO2(7 marks)
	B. Write a java program to print “Java is Good” 10 times using for loop, while loop and do-while loop?	CO1/PO2(8 marks)
3	A. Write a program to check the give number is prime or not?	CO1/PO1(8 makrs)
	B. Demonstrate a java program to implement Selection sort?	CO1/PO2 (7 marks)
4	A. Write a Java program that prints the following pattern  1 2 3 4 5 1 2 3 4 1 2 3 1 2 1	CO1/PO3(8marks)
	B.Demonstrate Loop in java and write a program to print 1 to 10 using for loop, while loop and do..while loop?	CO1/PO2(7mark)
5	A. Demonstrate a Java program to search an element using binary search.	CO1/PO1(7mark)
	B. Design a Java program to perform addition of two matrices, where the values are accepted to the both matrix at run time using Buffer Reader Class.	CO1/PO1(8mark)



6	A. Demonstrate a Java program to accept a number at run time using scanner class and check the given number is Armstrong or not?	CO1/PO1(7mark)
	B. Demonstrate a Java program to convert a binary number to decimal number	CO1/PO1(8mark)
7	A. Define for each loop in java with a suitable example?	CO1/PO1(7mark)
	B. Define static data member in java and demonstrate a suitable example to count the number of objects constructed using static data member?	CO1/PO2 (8mark)
8	A. Differentiate between Scanner class and Buffered Reader class in java with a suitable example?	CO1/PO1(7mark)
	B. Describe JVM and explain and draw the Architecture of JVM?	CO1/PO2(8 mark)

## UNIT-02

1	A. Design a java program to create to display your name, branch with your college name?	CO2/PO1(7 marks)
	B. Define function over loading and write a program to calculate the area of Circle, Sphere and Square using function overloading concept?	CO2/PO2(8 marks)
2	A. Differentiate between function over loading and constructor overloading with a suitable example?	CO2/PO1 (8mark)
	B. Discuss about constructor? Explain constructor overloading with example	CO2/PO1(7marks)
3	Define short notes any 3 of the following Static            b.final        c.garbage collection    d.constructor	CO2/PO1(15mark)
4	A. Differentiate between class and interface with suitable example?	CO2/PO1(7 mark)
	B. Write a Java program to implement Polymorphism.(Note: Consider a scenario, Bank is a class that provides method to get the rate of interest. But, rate of interest may differ according to banks. For example, SBI, ICICI and AXIS banks are providing 8.4%, 7.3% and 9.7% rate of interest	CO2/PO1 (8 mark)
5	1. Write a program to demonstrate the multipath inheritance for the classes having relations as shown in figure 1 .	CO2/PO3(15 marks)



6	A. State the difference between Method overloading and method overriding with example.	CO2/PO1 (8 mark)
	B. Differentiate between interface and abstract class with suitable example?	CO2/PO1 (7 mark)
7	A. Differentiate between auto boxing and unboxing?	CO2/PO1(7mark)
	B. Explain about collection in Java? Differentiate between Vector and Array List	CO2/PO1 (8 mark)
8	A. List out any five methods of String Buffer class by suitable example.	CO2/PO1(8 marks)
	B. List the 5 methods of String Buffer class with a suitable Example	CO2/PO1(7 marks)
9	A. Wap to accept a string and check whether it is a peliondramic or not ?	CO2/PO1 (7 marks)
	B. Classify the uses of super keyword and explain why it is used? Write a java program to find out cost, weight and volume of a box using multilevel inheritance and use super keyword at proper places?	CO2/PO1(8 marks)
10	A. Tell about package? Design a program to find out sum of product of consecutive digits of a number using interface, package and command line arguments? Suppose Number is 12345 then Result will be 1+2+3+4+5	CO2/PO2(8marks)
	B.Explain the following terms with respect to exception handling. i) try ii) catch iii) throw iv) finally	CO2/PO1(7 marks)
11	Explain following with example: i) Finalize()	CO2/PO1(15 marks)

	ii) static iii) super iv) final	
12	A. Describe Inheritance and its type with suitable diagrams CO2/PO1(8 marks)	CO2/PO1(8 marks)
	B. Differentiate String class and StringBuffer class?	CO2/PO1(7 marks)
13	Define short notes on any three of the following	CO2/PO1(15mark)
14	Recall package? Define the benefits of package? Explain Java API packages with a suitable example	CO2/PO1(15 marks)
15	1. Explain the following method uses in String Buffer class with examples? append() b.insert() c.replace() d. delete() e.length	CO2/PO1(15mark)

### UNIT-03

1	a. Compose a program to create two threads, one thread will print odd numbers and second thread will print even numbers between 1 to 20 numbers.	CO3/PO3(8 marks)
	b. Describe the difference between checked and unchecked exception? List at least 5 un-checked exception class names.	CO3/PO1(7 marks)
2	a. Explain about thread? Describe the complete life cycle of thread with example.	CO3/PO1 (10 marks)
	b. Design a JAVA Program to create a Thread and print the first 10 natural numbers along the Thread name by delay.	CO3/PO3(5marks)
3	a. Illustrate a program to input two numbers using scanner class and find the division of the entered number. Use an appropriate exception handling mechanism to handle arithmetic exception?	CO3/PO1(7 marks)
	b. Evaluate a program for computing $x^y$ doing repetitive multiplication. X and y are of type integer and are to be given as command line arguments. Raise and handle exception(s) for invalid values of x and y?	CO3/PO3(8 marks)
4	a. What is user defined Exception in Java ? WAP to accept student age and check whether he is eligible for vote or not? Show an appropriate message when the age is not eligible?	CO3/PO1(8mark)
	b. Write a java program to store "Java file is good" in to a file called "myfile.txt".	CO3/PO3 (7 marks)
5	A. .What is exception? And explain try, throw and catch with a	CO3/PO1(8 marks)

	suitable exemple?	
	b. Write a short note on Character Stream classes?	CO3/PO1(7 marks)
6	Write short notes on the following Join    b. sleep        c. start        d. sleep        e. yeild	CO3/PO1(15mark)
7	a. Write a java program to shows how to read and write Files Using a RandomAccessFile Object	CO3/PO1(10 marks)
	b. Differentiate the following:  1. Text I/O v/s Binary I/O	CO3/PO3 (5 marks)
8	Demonstrate a program to accept the first 10 natural numbers and store the even and odd numbers separately in to a text file called “odd.txt” and “even.txt” ?	CO3/PO2(15 marks)

### **UNIT-04**

1	a. What is an Applet? Explain the life cycle of Applet by a neat diagram?	CO4/PO3(8marks)
	b. Explain life cycle of Applet. Create a simple Applet having a message Hello?	CO4/PO3 (7 marks)
2	A. Write a Java program to display digital clock by using Applet.	CO4/PO3 (8mark)
	b. Write a Java program of event handling by implementing Action Listener?	CO4/PO3 (7mark)
3	A. Write a Java program to implement Mouse Motion Adapter?	CO4/PO3 (8mark)
	b. Design an applet having a circle which is moving from left to right and reflected back from right to left continuously?	CO4/PO3(7 marks)
4	A. Design an applet that having three scroll bars for three colors red, green and blue with minimum 0 and maximum 255 values. The background color of applet changes depending on the value of the scroll bar at that time.	CO4/PO3(15 marks)