



**Maratha Vidya Prasarak Samaj's**

**Rajarshi Shahu Maharaj Polytechnic, Nashik**

**Udoji Maratha Boarding Campus, Near Pumping Station, Gangapur Road, Nashik-13.**

**RSM POLY**

**Affiliated to MSBTE Mumbai, Approved by AICTE New Delhi, DTE Mumbai & Govt. of Maharashtra, Mumbai.**

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***Subject: Java Programming [22412]***



# SYLLABUS

<b>Chapter No.</b>	<b>Name of chapter</b>	<b>Marks Without Options</b>	<b>Marks With Options</b>
<b>1</b>	Basic Syntactical constructs in Java	10	14
<b>2</b>	Derived Syntactical Constructs in Java	18	24
<b>3</b>	Inheritance, Interface and Package	12	16
<b>4</b>	Exception Handling, and Multithreading	12	18
<b>5</b>	Java Applets and Graphics Programming	10	16
<b>6</b>	Managing Input /Output Files in Java	08	14
<b>Total Marks :-</b>		<b>70</b>	<b>102</b>



## **BOARD THEORY PAPER PATTERN**

### **FOR JPR[22412]**

<b>Q.1</b>	<b>Attempt any FIVE</b>	<b>5*2=10</b>	<b>Course Outcome (CO)</b>
	a) Basic Syntactical constructs in Java		CO-412.1
	b) Derived Syntactical Constructs in Java		CO-412.2
	c) Derived Syntactical Constructs in Java		CO-412.2
	d) Inheritance, Interface and Package		CO-412.3
	e) Exception Handling, and Multithreading		CO-412.4
	f) Java Applets and Graphics Programming		CO-412.5
	g) Managing Input /Output/ Files in Java		CO-412.6
<b>Q.2</b>	<b>Attempt any THREE</b>	<b>3*4=12</b>	
	a) Basic Syntactical constructs in Java		CO-412.1
	b) Derived Syntactical Constructs in Java		CO-412.2
	c) Exception Handling, and Multithreading		CO-412.4
	d) Managing Input /Output/ Files in Java		CO-412.6
<b>Q.3</b>	<b>Attempt any THREE</b>	<b>3*4=12</b>	
	a) Basic Syntactical constructs in Java		CO-412.1
	b) Inheritance, Interface and Package		CO-412.3
	c) Java Applets and Graphics Programming		CO-412.5
	d) Managing Input /Output/ Files in Java		CO-412.6
<b>Q.4</b>	<b>Attempt any FOUR</b>	<b>3*4=12</b>	
	a) Basic Syntactical constructs in Java		CO-412.1
	b) Derived Syntactical Constructs in Java		CO-412.2
	c) Inheritance, Interface and Package		CO-412.3
	d) Java Applets and Graphics Programming		CO-412.5



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	e)	Managing Input /Output/ Files in Java	CO-412.6
<b>Q.5</b>		<b>Attempt any TWO</b>	<b>2*6=12</b>
	a)	Derived Syntactical Constructs in Java	CO-412.2
	b)	Inheritance, Interface and Package	CO-412.3
	c)	Exception Handling, and Multithreading	CO-412.4
<b>Q.6</b>		<b>Attempt any Two</b>	<b>2*6=12</b>
	a)	Derived Syntactical Constructs in Java	CO-412.2
	b)	Exception Handling, and Multithreading	CO-412.4
	c)	Java Applets and Graphics Programming	CO-412.5

## CLASS TEST - I PAPER PATTERN JPR[22412]

### Syllabus

Unit No.	Name of the Unit	Course Outcome (CO)
1	Basic Syntactical constructs in Java	CO-412.1
2	Derived Syntactical Constructs in Java	CO-412.2
3	Inheritance, Interface and Package	CO-412.3

<b>Q.1</b>	<b>Attempt any FOUR</b>	<b>4*2=8Marks</b>	<b>Course Outcome (CO)</b>
a)	Basic Syntactical constructs in Java		CO-412.1
b)	Derived Syntactical Constructs in Java		CO-412.2
c)	Inheritance, Interface and Package		CO-412.3
d)	Basic Syntactical constructs in Java		CO-412.1
e)	Inheritance, Interface and Package		CO-412.3
<b>Q.2</b>	<b>Attempt any THREE</b>	<b>3*4=12 Marks</b>	
a)	Basic Syntactical constructs in Java		CO-412.1
b)	Derived Syntactical Constructs in Java		CO-412.2
c)	Derived Syntactical Constructs in Java		CO-412.2
d)	Inheritance, Interface and Package		CO-412.3



# **CLASS TEST - II**

## **PAPER PATTERN**

### **JPR[22412]**

#### **Syllabus**

<b>Unit No.</b>	<b>Name of the Unit</b>	<b>Course Outcome (CO)</b>
<b>4</b>	Exception Handling, and Multithreading	CO-412.4
<b>5</b>	Java Applets and Graphics Programming	CO-412.5
<b>6</b>	Managing Input /Output/ Files in Java	CO-412.6

<b>Q.1</b>	<b>Attempt any FOUR</b>	<b>4*2=8Marks</b>	<b>Course Outcome (CO)</b>
<b>a)</b>	Exception Handling, and Multithreading		CO-412.4
<b>b)</b>	Exception Handling, and Multithreading		CO-412.4
<b>c)</b>	Java Applets and Graphics Programming		CO-412.5
<b>d)</b>	Java Applets and Graphics Programming		CO-412.5
<b>e)</b>	Managing Input /Output/ Files in Java		CO-412.6
<b>Q.2</b>	<b>Attempt any THREE</b>	<b>3*4=12 Marks</b>	
<b>a)</b>	Exception Handling, and Multithreading		CO-412.4
<b>b)</b>	Java Applets and Graphics Programming		CO-412.5
<b>c)</b>	Managing Input /Output/ Files in Java		CO-412.6
<b>d)</b>	Exception Handling, and Multithreading		CO-412.4



# COURSE OUTCOME (CO)

**COURSE:- JPR (22412)**

**PROGRAMME: - CM**

<b>CO.NO</b>	<b>Course Outcome</b>
CO-412.1	Develop programs using Object Oriented methodology in Java
CO-412.2	Apply concept of inheritance for code reusability
CO-412.3	Develop programs using multithreading
CO-412.4	Implement Exception Handling
CO-412.5	Develop programs using graphics and applet.
CO-412.6	Develop programs for handling I/O and file streams.





## 1. BASIC SYNTACTICAL CONSTRUCTS IN JAVA

Position in Question Paper

Total Marks-10

Q.1.a) 2-Marks.

Q.2.a) 4Marks.

Q.3.a) 4Marks.

Q.4.a) 4Marks.

### Descriptive Questions

1. Explain inheritance and polymorphism features of Java.
2. List any eight features of Java.
3. Define a class circle having data members pi and radius. Initialize and display values of data members also calculate area of circle and display it.
4. Write a program to check whether given number is Prime or not.
5. Write a program to print the following output:  
1 1 1 1 1  
2 2 2 2  
3 3 3  
4 4  
5
6. Illustrate with example the use of switch case statement.
7. Define type casting. Explain its types with syntax and example.
8. Explain following terms related to Java features.  
i) Object Oriented      ii) Compiled and interpreted.
9. Explain any two logical operators in java with example
10. Write a program to print sum of even numbers from 1 to 20.
11. Write a program to find greater number among two numbers using Conditional (?:) operator.





12. Define a class and object. Write syntax to create class and object with an example.
13. What is type casting? Explain its types with proper syntax and example.
14. State & explain scope of variable with an example.
15. Explain the concept of platform independence and portability with respect to Java language.
16. Describe instance Of and dot (.) operators in Java with suitable example.
17. Explain any two bit-wise operators with example.
18. What is byte code? Explain any two tools available in JDK.
19. Write general syntax of any two decision making statements and also give its examples.
20. Define a class item having data member code and price. Accept data for one object and display it.
21. How java is different than other programming language?
22. Explain any two relational operators in Java with example.
23. Write a program to find sum of digit of number entered by user.
24. Write a program to generate Fibonacci series 1 1 2 3 5 8 13 21 34 55 89.
25. Write all primitive data types available in Java with their storage sizes in bytes.
26. What is scope of variable? Give example of class variable, instance variable and local variable.

## MCQ Question

(Total number of Question=Marks\*3=10\*3=30)

Note: Correct answer is marked with **bold**.

- 1 Following option leads to the portability and security of Java.
  - a. **Bytecode is executed by JVM**
  - b. The applet makes the Java code secure and portable
  - c. Use of exception handling
  - d. Dynamic binding between objects
- 2 \_\_\_\_\_ of the following is not a Java features?
  - a. Dynamic
  - b. Architecture Neutral
  - c. **Use of pointers**
  - d. Object-oriented
- 3 \_\_\_\_\_ is used to find and fix bugs in the Java programs.
  - a. JVM
  - b. JRE
  - c. JDK
  - d. **JDB**
- 4 \_\_\_\_\_ of the following is a valid declaration of a char?
  - a. **char ch = '\utea';**
  - b. char ca = 'tea';
  - c. char cr = \u0223;
  - d. char cc = '\itea';
- 5 \_\_\_\_\_ of the following tool is used to generate API documentation in HTML format from doc comments in source code?
  - a. javap tool
  - b. javaw command
  - c. **Javadoc tool**
  - d. javah command
- 6 \_\_\_\_\_ of the following for loop declaration is not valid?
  - a. **for ( int i = 99; i >= 0; i / 9 )**
  - b. for ( int i = 7; i <= 77; i += 7 )
  - c. for ( int i = 20; i >= 2; - -i )
  - d. for ( int i = 2; i <= 20; i = 2\* i )
- 7 Command to execute a compiled java program is :
  - a. javac
  - b. **java**
  - c. run
  - d. execute
- 8 \_\_\_\_\_ of these is necessary condition for automatic type conversion in Java?
  - a. The destination type is smaller than source type.
  - b. **The destination type is larger than source type**
  - c. The destination type can be larger or smaller than source type
  - d. None of the mentioned
- 9 Literal can be of which of these data types?
  - a. Integer
  - b. Float
  - c. Boolean
  - d. **all of the mentioned**
- 10 \_\_\_\_\_ of these cannot be used for a variable name in Java?
  - a. Identifier
  - b. Keyword
  - c. identifier & keyword
  - d. None of the mentioned



- b. **Keyword**
- 11 \_\_\_\_\_ of these is an incorrect string literal?
- a. "Hello World"  
b. "Hello\nWorld"  
c. "\Hello World"  
d. **"Hello world"**
- 12 This of the following is not OOPS concept in Java.
- a. Inheritance  
b. Encapsulation  
c. Polymorphism  
d. **Compilation**
- 13 These selection statements test only for equality.
- a. If  
b. **Switch**  
c. if & switch  
d. none of the mentioned
- 14 These are selection statements in Java.
- a. **if()**  
b. for()  
c. continue  
d. break
- 15 The following loops will execute the body of loop even when condition controlling the loop is initially false.
- a. **do-while**  
b. while  
c. For  
d. none of the mentioned
- 16 These jump statements can skip processing the remainder of the code in its body for a particular iteration.
- a. Break  
b. Return  
c. Exit  
d. **continue**
- 17 This of the following statement is incorrect:
- a. switch statement is more efficient than a set of nested ifs  
b. **two case constants in the same switch can have identical values**  
c. switch statement can only test for equality, whereas if statement can evaluate any type of Boolean expression  
d. it is possible to create a nested switch statements
- 18 \_\_\_\_\_provides runtime environment for java byte code to be executed?
- a. JDK  
b. **JVM**  
c. JRE  
d. JAVAC
- 19 \_\_\_\_\_ is known as father of Java Programming Language?
- a. **James Gosling**  
b. M.P.Java  
c. Charles Babbage  
d. Blais Pascal
- 20 Byte code in Java is:
- a. **Code generated by a Java compiler**  
b. Code generated by a Java Virtual Machine  
c. Name of Java source code file  
d. Code written inside a class



- 21 \_\_\_\_\_ of the following are not Java keywords
- a. double
  - b. Switch
  - c. **then**
  - d. instanceof
- 22 \_\_\_\_\_ of these have highest precedence?
- a. ()
  - b. ++
  - c. \*
  - d. >>
- 23 Java language was initially called as \_\_\_\_\_.
- a. Sumatra
  - b. J++
  - c. **Oak**
  - d. Pine
- 24 \_\_\_\_\_ of these is not a bitwise operator
- a. '&' Operator
  - b. '&=' Operator
  - c. '|=' Operator
  - d. '<=' Operator
- 25 This statement transfer execution to different parts of your code based on the value of an expression.
- a. If
  - b. **Switch**
  - c. Nested if
  - d. If-else-if
- 26 The Type Conversions available in Java language are:
- a. Narrowing Type Conversion
  - b. Widening Type Conversion
  - c. **A and B**
  - d. None of the above
- 27 The result of a Narrowing type conversion is?
- a. **Loss of data**
  - b. Addition of data
  - c. Corruption of data
  - d. None of the above
- 28 Explicit Type Conversion in Java refers to \_\_\_\_?
- a. **Narrowing Type Conversion**
  - b. Widening Type Conversion
  - c. No Type Conversion
  - d. None of the above
- 29 Division operator has \_\_\_\_\_ precedence over multiplication operator.
- a. Highest
  - b. Least
  - c. **Equal**
  - d. None of these
- 30 The full form of JVM is:
- a. Java Very Large Machine
  - b. Java Verified Machine
  - c. Java Very Small Machine
  - d. **Java Virtual Machine.**



## 2. DERIVED SYNTACTICAL CONSTRUCTS IN JAVA

Position in Question Paper

Total Marks-18

Q.1.b) 2-Marks.

Q.1.c) 2-Marks.

Q.2.b) 4Marks.

Q.4.b) 4Marks.

Q.5.a) 6Marks.

Q.6.a) 6Marks.

### Descriptive Questions

1. Name the wrapper class methods for the following:
  - (i) To convert string objects to primitive int.
  - (ii) To convert primitive int to string objects.
2. Define array. List its types.
3. Differentiate between String and String Buffer.
4. What is the use of wrapper classes in Java? Explain float wrapper with its methods.
5. Write a program to accept number from command line and print square root of the number.
6. Differentiate between array and Vector.
7. Enlist types of constructor. Explain any two with example.
8. Define a class student with int id and string name as data members and a method void setData ( ). Accept and display the data for five students.
9. Describe break and continue statement with example.
10. Write a program to accept two numbers as command line arguments and print the addition of those numbers.



11. State syntax and describe working of „for each“ version of for loop with one example.
12. Perform following string/ string buffer operations, write java program. (i) Accept a password from user  
(ii) Check if password is correct then display “Good”, else display “Wrong”  
(iii) Display the password in reverse order.  
(iv) Append password with “welcome”
13. Explain the four access specifies in Java.
14. Define a class item having data member code and price. Accept data for one object and display it.
15. What is the use of new operator? Is it necessary to be used whenever object of the class is created? Why?
16. List any four methods of string class and state the use of each.
17. Write a program to create a vector with seven elements as (10,30,50,20,40,10,20). Remove elements 3rd and 4th position. Insert new elements at 3rd position. Display original and current size of vector.
18. Write a java program to implement following functions of string:  
(1) Calculate length of string      (2) Compare between strings  
(3) Concatenating strings
19. Write a program to add 2 integer, 2 string and 2 float objects to a vector. Remove element specified by user and display the list.
20. What is garbage collection in Java? Explain finalize method in Java.



## MCQ Question

(Total number of Question=Marks\*3=18\*3=54)

Note: Correct answer is marked with **bold**

- 1 This is false about constructor.
  - a) Constructors cannot be synchronized in Java
  - b) Java does not provide default copy constructor
  - c) **Constructor have a return type**
  - d) “this” and “super” can be used in a constructor
- 2 What is true about constructor?
  - a) It can contain return type
  - b) **It can take any number of parameters**
  - c) can have any non-access modifiers
  - d) It cannot throw an exception
- 3 What would be the behavior if one parameterized constructor is explicitly defined?
  - a) Compilation error
  - b) Compilation succeeds
  - c) Runtime error
  - d) **Compilation succeeds but at the time of creating object using default constructor, it throws compilation error.**
- 4 \_\_\_\_\_ is an incorrect array declaration
  - a) `int arr[] = new int[5]`
  - b) `int [] arr = new int[5]`
  - c) `int arr[] = new int[5]`
  - d) **`int arr[] = int [5] new`**
- 5 \_\_\_\_\_ of these class object can be used to form a dynamic array?
  - a. ArrayList
  - b. Map
  - c. **Vector**
  - d. ArrayList & Vector
- 6 Which of these methods is used to add elements in vector at specific location?
  - a. add()
  - b. set()
  - c. AddElement()
  - d. **addElement()**
- 7 We can use .....feature to convert primitive data types to wrapper class types automatically.
  - a. autoboxing
  - b. unboxing
  - c. annotations
  - d. **Both A and B**
- 8 \_\_\_\_\_the following method call returns negative if S1<S2, positive if S1>S2 and zero if S1 is equal to S2.
  - a. S2.compareTo(S1)
  - b. **S1.compareTo(S2)**
  - c. compare S1 To S2
  - d. S1.compare(S2)
- 9 If you need to extract more than one character at a time you can use the .....
  - a. CharAt()
  - b. **getChars()**
  - c. MultipleChar()
  - d. getBytes()





- 10 .....method is used to remove any leading or trailing white space that may have inadvertently been entered by the user.
- a. trim() c. replace()  
b. remove() d. length()
- 11 The ..... method concatenates the string representation of any other type of data to the end of the invoking StringBuffer object.
- a. append() c. setLength()  
b. concat() d. convert()
- 12 The ..... method is used to convert object numbers to primitive numbers.
- a. Constructor c.typeValue()  
b. String() d. Parsing
- 13 The ... method converts data from its internal format into a human- readable form.
- a. convert() b. compare()  
c. valueOf() d. getValue()
- 14 We can convert numeric string to primitive number using .....
- a. parsing methods b. constructor methods  
c. wrapper classes d. abstract classes
- 15 The method ..... sets the length of the string S1 to n. If  $n < S1.length()$  S1 is truncated. If  $n > S1.length()$  zeros are added to S1.
- a. S1.setLength(n) c. S1.LengthAdd(n)  
b. S1.AddLength(n) d. S1.Append(n)
- 16 What allows the programmer to destroy an object x?
- a. x.finalize()  
b. x.delete()  
c. Runtime.getRuntime().gc()  
d. Only the garbage collection system can destroy an object.
- 17 Which statement is true?
- a. Programs will not run out of memory.  
b. Objects that are referred to by other objects will never be garbage collected.  
c. Objects that will never again be used are eligible for garbage collection.  
d. Objects that can be reached from a live thread will never be garbage collected.
- 18 \_\_\_\_\_ of these keywords is used to make a class?
- a. class c. int  
b. struct d. none of the mentioned
- 19 \_\_\_\_\_ of the following is a valid declaration of an object of class Box?



- a. **Box obj = new Box();**  
b. Box obj = new Box;  
c. obj = new Box();  
d. new Box obj;
- 20 \_\_\_\_ of these operators is used to allocate memory for an object?  
a. malloc  
b. alloc  
c. **new**  
d. give
- 21 \_\_\_\_ of these statement is incorrect?  
a. **Every class must contain a main() method**  
b. Applets do not require a main() method at all  
c. There can be only one main() method in a program  
d. main() method must be made public
- 22 \_\_\_\_ of the following statements is correct?  
a) **Public method is accessible to all other classes in the hierarchy**  
b) Public method is accessible only to subclasses of its parent class  
c) Public method can only be called by object of its class  
d) Public method can be accessed by calling object of the public class
- 23 \_\_\_\_ of this method is given parameter via command line arguments?  
a) **main()**  
b) recursive() method  
c) Any method  
d) System defined methods
- 24 \_\_\_\_ of these data types is used to store command line arguments?  
a) Array  
b) Stack  
c) **String**  
d) Integer
- 25 How many arguments can be passed to main()?  
a) **Infinite**  
b) Only 1  
c) System Dependent  
d) None of the mentioned
- 26 \_\_\_\_ of these cannot be declared static?  
a) class  
b) **object**  
c) variable  
d) method
- 27 \_\_\_\_ of these keywords are used to prevent content of a variable from being modified?  
a) **final**  
b) last  
c) constant  
d) static
- 28 String in Java is a?  
a) **class**  
b) object  
c) variable  
d) character array
- 29 \_\_\_\_ of these method of String class is used to obtain character at specified index?





- 40 \_\_\_\_ of the following statements are incorrect?
- a) default constructor is called at the time of object declaration
  - b) constructor can be parameterized
  - c) finalize() is called when an object goes out of scope and is no longer needed**
  - d) finalize() method must be declared protected
- 41 \_\_\_\_ is not the use of “this” keyword in Java?
- a) Passing itself to another method
  - b) Calling another constructor in constructor chaining
  - c) Referring to the instance variable when local variable has the same name
  - d) Passing itself to method of the same class**
- 42 \_\_\_\_ of these access specifier must be used for main() method?
- a) private
  - b) public**
  - c) protected
  - d) none of the mentioned
- 43 \_\_\_\_ of these is used to access a member of class before object of that class is created?
- a) public
  - b) private
  - c) static**
  - d) protected
- 44 \_\_\_\_ of these is used as a default for a member of a class if no access specifier is used for it?
- a) private**
  - b) public
  - c) public, within its own package
  - d) protected
- 45 The process by which we can control what parts of a program can access the members of a class.
- a) Polymorphism
  - b) Abstraction
  - c) Encapsulation**
  - d) Recursion
- 46 The following is not an access modifier?
- a) Public
  - b) Private
  - c) Protected
  - d) Void**
- 47 All the variables of class should be ideally declared as?
- a) private**
  - b) public
  - c) protected
  - d) default
- 48 How can a protected modifier be accessed?
- a) accessible only within the class
  - b) accessible only within package
  - c) accessible within package and outside package but through inheritance only**
  - d) accessible by all
- 49 How many copies of static and class variables are created when 10 objects are created



of a class?

a) **1, 10**

c) 10, 1

b) 10, 10

d) 1, 1

**50** \_\_\_ of these is the method which is executed first before execution of any other thing takes place in a program?

a) main method

**c) static method**

b) finalize method

d) private method

**51** \_\_\_\_\_ is the process of defining more than one method in a class differentiated by parameters?

a) Function overriding

c) Function doubling

**b) Function overloading**

d) None of the mentioned

**52** \_\_\_ of these data type can be used for a method having a return statement in it?

a) void

c) float

b) int

**d) both int and float**

**53** The following statement is incorrect:

a) Two or more methods with same name can be differentiated on the basis of their parameters data type

b) Two or more method having same name can be differentiated on basis of number of parameters

c) Any already defined method in java library can be defined again in the program with different data type of parameters

**d) If a method is returning a value the calling statement must have a variable to store that value.**

**54** The ... method converts data from its internal format into a human- readable form.

a. convert()

b. compare()

**c. valueOf()**

d. getValue()



### 3. INHERITANCE, INTERFACE AND PACKAGE

Position in Question Paper

Total Marks-12

Q.1.d) 2-Marks.

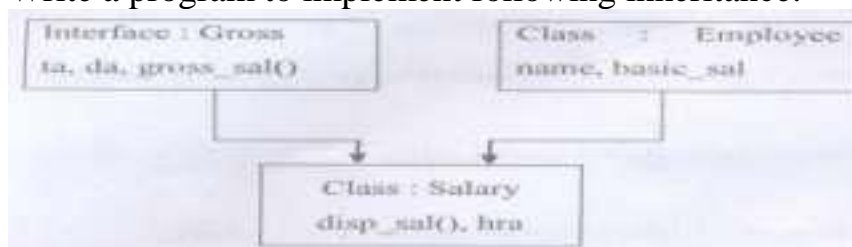
Q.3.b) 4-Marks.

Q.4.c) 4Marks.

Q.5.b) 6Marks.

#### Descriptive Questions

1. List the types of inheritances in Java.
2. List any four Java API packages.
3. Explain method overriding with suitable example.
4. What is use of super and final with respect to inheritance.
5. Write a program to demonstrate multiple inheritances
6. How to add new class to a package? Explain with an example.
7. Explain dynamic method dispatch in Java with suitable example
8. Differentiate between class and interfaces.
9. What is interface? How to add interfaces to packages.
10. Write a program to implement following inheritance:





11. What is package? How do we create it? Give the example to create and to access package.
12. What is importance of super and this keyword in inheritance? Illustrate with suitable example.
13. Write a single program to implement inheritance and polymorphism in java.
14. Write a java program to implement multilevel inheritance with 4 levels of hierarchy.
15. Write a java program to extend interface assuming suitable data.
16. Describe final variable and final method.
17. Write a thread program for implementing the Runnable interface.
18. What is single level inheritance? Explain with suitable example.
19. Design a package containing a class which defines a method to find area of rectangle. Import it in java application to calculate area of a rectangle.



## MCQ Question

(Total number of Question=Marks\*3=12\*3=36)

- 1 \_\_\_\_\_keyword must be used to inherit a class?  
a) super  
b) this  
c) extent  
d) **extends**
- 2 A class member declared protected becomes a member of subclass of which type  
a) public member  
b) **private member**  
c) protected member  
d) static member
- 3 \_\_\_\_ of these is correct way of inheriting class A by class B?  
a) class B + class A { }  
b) class B inherits class A { }  
c) **class B extends A { }**  
d) class B extends class A { }
- 4 \_\_\_\_\_is not type of inheritance?  
a) Single inheritance  
b) **Double inheritance**  
c) Hierarchical inheritance  
d) Multiple inheritance
- 5 Using which of the following, multiple inheritance in Java can be implemented?  
a) **Interfaces**  
b) Multithreading  
c) Protected methods  
d) Private methods
- 6 All classes in Java are inherited from which class?  
a) java.lang.class  
b) java.class.inherited  
c) java.class.object  
d) **java.lang.Object**
- 7 In order to restrict a variable of a class from inheriting to subclass, how variable should be declared?  
a) Protected  
b) **Private**  
c) Public  
d) Static
- 8 \_\_\_\_of the following is used for implementing inheritance through an interface?  
a) inherited  
b) using  
c) extends  
d) **implements**
- 9 \_\_\_\_of the following is used for implementing inheritance through class?  
a) inherited  
b) using  
c) **extends**  
d) implements
- 10 \_\_\_\_\_keyword can be used in a subclass to call the constructor of superclass?  
a) **super**  
b) this  
c) extent  
d) extends
- 11 \_\_\_\_is the process of defining a method in a subclass having same name & type signature as a method in its superclass?  
a) Method overloading  
c) **Method hiding**





- b) extends  
d) none of the mentioned
- 23 \_\_\_ of these keywords is used to define packages in Java?  
a) pkg  
b) Pkg  
c) **package**  
d) Package
- 24 \_\_\_ of this access specifier can be used for a class so that its members can be accessed by a different class in the same package?  
a) Public  
b) Protected  
c) No Modifier  
d) **All of the mentioned**
- 25 \_\_\_ of these is a mechanism for naming and visibility control of a class and its content?  
a) Object  
b) **Packages**  
c) Interfaces  
d) None of the Mentioned.
- 26 \_\_\_ of the following is the correct way of importing an entire package 'pkg'?  
a) import pkg.  
b) Import pkg.  
c) **import pkg.\***  
d) Import pkg.\*
- 27 \_\_\_ of these access specifiers can be used for a class so that its members can be accessed by a different class in the different package?  
a) **Public**  
b) Protected  
c) Private  
d) No Modifier
- 28 Following is an incorrect statement about packages?  
a) Package defines a namespace in which classes are stored  
b) A package can contain other package within it  
c) Java uses file system directories to store packages  
d) **A package can be renamed without renaming the directory in which the classes are stored**
- 29 \_\_\_ of the following package stores all the standard java classes?  
a) lang  
b) **java**  
c) util  
d) java.packages
- 30 \_\_\_ of these can be used to fully abstract a class from its implementation?  
a) Objects  
b) Packages  
c) **Interfaces**  
d) None of the Mentioned
- 31 \_\_\_ of the following is the correct way of implementing an interface salary by class manager?  
a) class manager extends salary { }  
b) **class manager implements salary { }**  
c) class manager imports salary { }  
d) none of the mentioned



- 32 \_\_\_\_\_ of the following is an incorrect statement about packages?
- a) Interfaces specifies what class must do but not how it does
  - b) Interfaces are specified public if they are to be accessed by any code in the program
  - c) All variables in interface are implicitly final and static
  - d) All variables are static and methods are public if interface is defined public**
- 33 An interface with no fields or methods is known as a \_\_\_\_\_.
- a. Runnable Interface
  - b. Marker Interface**
  - c. Abstract Interface
  - d. CharSequence Interface
- 34 \_\_\_\_\_ keyword is used for accessing the features of a package?
- a. package
  - b. import**
  - c. extends
  - d. export
- 35 Dynamic dispatch is a feature that
- a. selects which polymorphic operation to call at run time**
  - b. selects which polymorphic operation to call at compile time
  - c. Both a and b
  - d. None
- 36 Overloaded methods in java
- a. Compiler uses method signature to determine which method to invoke. They may have different functionality**
  - b. They are not available in fundamental classes
  - c. They have the same name and signature
  - d. None



#### **4. EXCEPTION HANDLING, AND MULTITHREADING**

**Position in Question Paper**

**Total Marks-12**

**Q.1.e) 2-Marks.**

**Q.2.c) 4Marks.**

**Q.5.c) 6Marks.**

**Q.6.b) 6Marks.**

#### **Descriptive Questions**

1. Define error. List types of error.
2. Write a program to input name and balance of customer and thread an user defined exception if balance less than 1500.
3. Define exception. State built-in exceptions.
4. Explain life cycle of thread.
5. Write a program to create two thread one to print odd number only and other to print even numbers.
6. Explain following clause w.r.t. exception handling  
i) try ii) catch iii) throw iv) finally
7. Define throws & finally statements with its syntax and example.
8. With proper syntax and example explain following thread methods:  
(1) wait( ) (2) sleep( ) (3) resume( ) (4) notify( )
9. Explain the two ways of creating threads in Java.
10. What is exception? How it is handled? Explain with suitable example.
11. What is synchronization? When do we use it? Explain synchronization of two threads.
12. What is thread priority? Write default priority values and methods to change them.
13. What is exception? WAP to accept a password from the user and throw "Authentication Failure" exception if the password is incorrect.
14. Write a program to create two threads, one to print numbers in original order and other in reverse order from 1 to 10.





## MCO Question

(Total number of Question=Marks\*3=12\*3=36)

- When Exceptions in Java does arise in code sequence?
  - Run Time**
  - Compilation Time
  - Can Occur Any Time
  - None of the mentioned
- Which of these keywords is not a part of exception handling?
  - try
  - finally
  - thrown**
  - catch
- Which of these keywords must be used to monitor for exceptions?
  - try**
  - finally
  - throw
  - catch
- Which of these keywords must be used to handle the exception thrown by try block in some rational manner?
  - try
  - finally
  - throw
  - catch**
- Which of these keywords is used to manually throw an exception?
  - try
  - finally
  - throw**
  - catch
- What will be the output of the following Java program?
  - class** exception\_handling
  - {
  - public static void** main(String args[])
  - {
  - try**
  - {
  - System.out.print("Hello" + " " + 1 / 0);
  - }
  - catch**(ArithmeticException e)
  - {
  - System.out.print("World");
  - }
  - }
  - }
  - Hello
  - World**
  - HelloWorld
  - Hello World
- What will be the output of the following Java program?
  - class** exception\_handling
  - {
  - public static void** main(String args[])
  - {
  - try**

```
6.      {
7.          int a, b;
8.          b = 0;
9.          a = 5 / b;
10.         System.out.print("A");
11.     }
12.     catch(ArithmeticException e)
13.     {
14.         System.out.print("B");
15.     }
16. }
17. }
```

- a) A  
b) **B**  
c) Compilation Error  
d) Runtime Error

8 Which of the following keywords is used for throwing exception manually?

- a) finally  
b) try  
c) **throw**  
d) catch

9 Which of the following classes can catch all exceptions which cannot be caught?

- a) Runtime Exception  
b) **Error**  
c) Exception  
d) Parent Exception

10 Which of the following is a super class of all exception type classes?

- a) Catchable  
b) Runtime Exceptions  
c) String  
d) **Throwable**

11 Which of the following operators is used to generate instance of an exception which can be thrown using throw?

- a) thrown  
b) alloc  
c) malloc  
d) **new**

12 Which of the following keyword is used by calling function to handle exception thrown by called function?

- a) **throws**  
b) throw  
c) try  
d) catch

13 Which of the following handles the exception when a catch is not used?

- a) finally  
b) throw handler  
c) **default handler**  
d) java run time system

14 Which part of code gets executed whether exception is caught or not?

- a) **finally**  
b) try  
c) catch  
d) throw

15 Which of the following should be true of the object thrown by a thrown statement?

- a) Should be assignable to String type  
b) Should be assignable to Exception type  
c) **Should be assignable to Throwable**  
d) Should be assignable to Error type

16 At runtime, error is recoverable.





- a) True b) False
- 17 Which of these is a super class of all exceptional type classes?  
a) String c) **Throwable**  
b) Runtime Exceptions d) Cacheable
- 18 Which of these class is related to all the exceptions that can be caught by using catch?  
a) Error c) Runtime Exception  
**b) Exception** d) All of the mentioned
- 19 Which of this class is related to all the exceptions that cannot be caught?  
**a) Error** c) Runtime Exception  
b) Exception d) All of the mentioned
- 20 Which of these handles the exception when no catch is used?  
**a) Default handler** c) throw handler  
b) finally d) Java run time system
- 21 What exception thrown by parseInt() method?  
a) ArithmeticException c) NullPointerException  
b) ClassNotFoundException **d) NumberFormatException**
- 22 Which of these keywords is used to generate an exception explicitly?  
a) try c) **throw**  
b) finally d) catch
- 23 Which of this class is related to all the exceptions that are explicitly thrown?  
a) Error c) **Throwable**  
b) Exception d) Throw
- 24 Which of this operator is used to generate an instance of an exception than can be thrown by using throw?  
**a) new** c) alloc  
b) malloc d) thrown
- 25 Which of these keywords is used to by the calling function to guard against the exception that is thrown by called function?  
a) try c) **throws**  
b) throw d) catch
- 26 Which of this clause will be executed even if no exceptions are found?  
a) throws c) throw  
**b) finally** d) catch
- 27 A single try block must be followed by which of these?  
a) finally c) **finally & catch**  
b) catch d) none of the mentioned
- 28 Which of these exceptions handles the divide by zero error?  
**a) ArithmeticException** c) IllegalAccessException

- b) MathException  
d) IllegalException
- 29 Which of these exceptions will occur if we try to access the index of an array beyond its length?  
a) ArithmeticException  
b) ArrayException  
c) ArrayIndexException  
d) **ArrayIndexOutOfBoundsException**
- 30 What is the use of try & catch?  
a) It allows us to manually handle the exception  
b) It allows to fix errors  
c) It prevents automatic terminating of the program in cases when an exception occurs  
d) **All of the mentioned**
- 31 Which of these keywords are used for the block to be examined for exceptions?  
a) try  
b) catch  
c) throw  
d) check
- 32 Which of these keywords are used for the block to handle the exceptions generated by try block?  
a) try  
b) **catch**  
c) throw  
d) check
- 33 Which of these keywords are used for generating an exception manually?  
a) try  
b) catch  
c) **throw**  
d) check
- 34 Which of these statements is incorrect?  
a) try block need not to be followed by catch block  
b) try block can be followed by finally block instead of catch block  
c) try can be followed by both catch and finally block  
d) **try need not to be followed by anything**
- 35 Which of these method is used to implement Runnable interface?  
a) stop()  
b) **run()**  
c) runThread()  
d) stopThread()
- 36 Which of these method is used to begin the execution of a thread?  
a) run()  
b) **start()**  
c) runThread()  
d) startThread()
- 37 Which of this statement is incorrect?  
a) A thread can be formed by implementing Runnable interface only  
b) A thread can be formed by a class that extends Thread class  
c) start() method is used to begin execution of the thread  
d) **run() method is used to begin execution of a thread before start() method in special cases**
- 38 Which of this method of Thread class is used to find out the priority given to a thread?  
a) get()  
b) ThreadPriority()  
c) **getPriority()**  
d) getThreadPriority()



- 39 Which of this method of Thread class is used to Suspend a thread for a period of time?  
a) sleep() c) suspend()  
b) terminate() d) stop()
- 40 Which function of pre-defined class Thread is used to check whether current thread being checked is still running?  
a) isAlive() c) isRunning()  
b) Join() d) Alive()
- 41 What will be the output of the following Java code?  
1. **class** multithreaded\_programing  
2. {  
3. **public static void** main(String args[])  
4. {  
5. Thread t = Thread.currentThread();  
6. t.setName("New Thread");  
7. System.out.println(t);  
8. }  
9. }  
a) Thread[5,main] c) Thread[main,5,main]  
b) Thread[New Thread,5] d) **Thread[New Thread,5,main]**
- 42 What is the priority of the thread in output in the following Java program?  
1. **class** multithreaded\_programing  
2. {  
3. **public static void** main(String args[])  
4. {  
5. Thread t = Thread.currentThread();  
6. t.setName("New Thread");  
7. System.out.println(t.getName());  
8. }  
9. }  
a) main c) **New Thread**  
b) Thread d) Thread[New Thread,5,main]
- 43 What is the name of the thread in output in the following Java program?  
1. **class** multithreaded\_programing  
2. {  
3. **public static void** main(String args[])  
4. {  
5. Thread t = Thread.currentThread();  
6. System.out.println(t.getPriority());  
7. }  
8. }  
a) 0 c) 4



- b) 1 d) 5
- 44 What is the name of the thread in output in the following Java program?
- ```
1. class multithreaded_programing
2. {
3.     public static void main(String args[])
4.     {
5.         Thread t = Thread.currentThread();
6.         System.out.println(t.isAlive());
7.     }
8. }
```
- a) 0 c) true  
b) 1 d) false
- 45 What is multithreaded programming?
- a) It's a process in which two different processes run simultaneously  
**b) It's a process in which two or more parts of same process run simultaneously**  
c) It's a process in which many different process are able to access same information  
d) It's a process in which a single process can access information from many sources
- 46 Which of these are types of multitasking?
- a) Process based c) **Process and Thread based**  
b) Thread based d) None of the mentioned
- 47 Thread priority in Java is?
- a) **Integer** c) double  
b) Float d) long
- 48 What will happen if two thread of the same priority are called to be processed simultaneously?
- a) Anyone will be executed first c) None of them will be executed  
lexographically  
b) Both of them will be executed d) **It is dependent on the operating**  
simultaneously system



## 5. JAVA APPLETS AND GRAPHICS PROGRAMMING

Position in Question Paper

Total Marks-10

Q.1.f) 2-Marks.

Q.3.c) 4Marks.

Q.4.d) 4Marks.

Q.6.c) 6Marks.

### Descriptive Questions

1. Give the syntax of < param > tag to pass parameters to an applet
2. Write a applet program to set background with red colour and foreground with blue colour.
3. Explain applet life cycle with suitable diagram.
4. Differentiate between Applet and Application
5. Design an applet which displays rectangle filled with blue colour and display message as "MSBTE EXAM" in red colour below it.
6. Describe the use of following methods:  
(i) Drawoval ( ) (ii) getFont ( ) (iii) drawRect ( ) (iv) getFamily ( )
7. Write syntax and example of following Graphics class methods:  
(i) drawOval( ) (ii) drawPolygon( ) (iii)drawArc( ) (iv) drawRect( )
8. Explain all attributes available in <applet>tag.
9. Describe the following attributes of applet.  
(i) Codebase (ii) Alt (iii) Width (iv) Code
10. Design an applet which accepts username as a parameter for html page and display number of characters from it.
11. Explain life cycle of Applet.
12. With proper syntax and example explain following graphics methods:  
1) SetColor( ) 2) SetForeground( ) 3) getFont( ) 4) setSize( )
13. Define applet. Write a program to create an applet to display message "Welcome to java applet".
14. Describe following methods of applet:  
i) suspend ( ) ii) resume ( ) iii) sleep ( ) iv) notify ( ) v) stop ( ) vi) wait ( )
15. Write a program to draw a bar chart for plotting students passing percentage in last 5 years.





## MCQ Question

(Total number of Question=Marks\*3=12\*3=36)

- 1 Which of these functions is called to display the output of an applet?
  - a) display()
  - b) **paint()**
  - c) displayApplet()
  - d) PrintApplet()
- 2 Which of these methods can be used to output a string in an applet?
  - a) display()
  - b) print()
  - c) **drawString()**
  - d) transient()
- 3 Which of these methods is a part of Abstract Window Toolkit (AWT) ?
  - a) display()
  - b) **paint()**
  - c) drawString()
  - d) transient()
- 4 Which of these modifiers can be used for a variable so that it can be accessed from any thread or parts of a program?
  - a) transient
  - b) **volatile**
  - c) global
  - d) No modifier is needed
- 5 Which of these operators can be used to get run time information about an object?
  - a) getInfo
  - b) Info
  - c) **instanceof**
  - d) getinfoof
- 6 What is the Message is displayed in the applet made by the following Java program?
  1. **import** java.awt.\*;
  2. **import** java.applet.\*;
  3. **public class** myapplet **extends** Applet
  4. {
  5.     **public void** paint(Graphics g)
  6.     {
  7.         g.drawString("A Simple Applet", 20, 20);
  8.     }
  9. }
  - a) **A Simple Applet**
  - b) A Simple Applet 20 20
  - c) Compilation Error
  - d) Runtime Error
- 7 What is the length of the application box made by the following Java program?
  1. **import** java.awt.\*;
  2. **import** java.applet.\*;
  3. **public class** myapplet **extends** Applet
  4. {
  5.     **public void** paint(Graphics g)
  6.     {
  7.         g.drawString("A Simple Applet", 20, 20);
  8.     }
  9. }

- a) 20  
b) 50
- c) 100  
d) System dependent
- 8 What is the length of the application box made the following Java program?
1. **import** java.awt.\*;
  2. **import** java.applet.\*;
  3. **public class** myapplet **extends** Applet
  4. {
  5.     Graphic g;
  6.     g.drawString("A Simple Applet", 20, 20);
  7. }
- a) 20  
b) Default value
- c) **Compilation Error**  
d) Runtime Error
- 9 What will be the output of the following Java program?
1. **import** java.io.\*;
  2. **class** Chararrayinput
  3. {
  4.     **public static void** main(String[] args)
  5.     {
  6.         String obj = "abcdefgh";
  7.         **int** length = obj.length();
  8.         **char** c[] = **new char**[length];
  9.         obj.getChars(0, length, c, 0);
  10.         CharArrayReader input1 = **new** CharArrayReader(c);
  11.         CharArrayReader input2 = **new** CharArrayReader(c, 1, 4);
  12.         **int** i;
  13.         **int** j;
  14.         **try**
  15.         {
  16.             while((i = input1.read()) == (j = input2.read()))
  17.             {
  18.                 System.out.print(**(char)**i);
  19.             }
  20.         }
  21.         **catch** (IOException e)
  22.         {
  23.             e.printStackTrace();
  24.         }
  25.         }
  26.     }
- a) abc  
b) abcd
- c) abcde  
d) **none of the mentioned**





- 10 Which of these package is used for text formatting in Java programming language?  
a) **java.text** c) java.awt.text  
b) java.awt d) java.io
- 11 Which of this class can be used to format dates and times?  
a) Date c) **DateFormat**  
b) SimpleDateFormat d) textFormat
- 12 Which of these method returns an instance of DateFormat that can format time information?  
a) getTime() c) getTimeDateinstance()  
b) **getTimeInstance()** d) getDateFormatinstance()
- 13 Which of these class allows us to define our own formatting pattern for dates and time?  
a) DefinedDateFormat c) ComplexDateFormat  
b) **SimpleDateFormat** d) UsersDateFormat
- 14 Which of these formatting strings of SimpleDateFormat class is used to print AM or PM in time?  
a) **a** c) c  
b) b d) d
- 15 Which of these formatting strings of SimpleDateFormat class is used to print week of the year?  
a) **w** c) s  
b) W d) S
- 16 7. What will be the output of the following Java program?  
1. **import** java.text.\*;  
2. **import** java.util.\*;  
3. **class** Date\_formatting  
4. {  
5. **public static void** main(String args[])  
6. {  
7. Date date = new Date();  
8. SimpleDateFormat sdf;  
9. sdf = **new** SimpleDateFormat("mm:hh:ss");  
10. System.out.print(sdf.format(date));  
11. }  
12. }
- a) 3:55:4 c) **55:03:04**  
b) 3.55.4 d) 03:55:04
- 17 What will be the output of the following Java program?  
1. **import** java.text.\*;  
2. **import** java.util.\*;  
3. **class** Date\_formatting



```
4. {
5.     public static void main(String args[])
6.     {
7.         Date date = new Date();
8.         SimpleDateFormat sdf;
9.         sdf = new SimpleDateFormat("hh:mm:ss");
10.        System.out.print(sdf.format(date));
11.    }
12. }
```

- a) 3:55:4                                                        c) 55:03:04  
b) 3.55.4                                                        d) **03:55:04**

**18** What will be the output of the following Java program?

```
1. import java.text.*;
2. import java.util.*;
3. class Date_formatting
4. {
5.     public static void main(String args[])
6.     {
7.         Date date = new Date();
8.         SimpleDateFormat sdf;
9.         sdf = new SimpleDateFormat("E MMM dd yyyy");
10.        System.out.print(sdf.format(date));
11.    }
12. }
```

- a) **Mon Jul 15 2013**                                                        c) 55:03:04 Mon Jul 15 2013  
b) Jul 15 2013                                                        d) 03:55:04 Jul 15 2013

**19** What will be the output of the following Java program?

```
1. import java.text.*;
2. import java.util.*;
3. class Date_formatting
4. {
5.     public static void main(String args[])
6.     {
7.         Date date = new Date();
8.         SimpleDateFormat sdf;
9.         sdf = new SimpleDateFormat("z");
10.        System.out.print(sdf.format(date));
11.    }
12. }
```

- a) z  
b) Jul
- 20 What does AWT stands for?  
a) All Window Tools  
b) All Writing Tools  
c) **Abstract Window Toolkit**  
d) Abstract Writing Toolkit
- 21 The graphics class provides methods to draw a number of graphical figure including  
i) Text ii) Lines iii) Images iv) Ellipse  
A) i, ii and iii only  
B) ii, iii and iv only  
C) i, iii and iv only  
D) **All i, ii, iii and iv**
- 22 The ..... method is called to clear the screen and calls the paint( ) method.  
A) **update( )**  
B) paint( )  
C) repaint( )  
D) reupdate( )
- 23 The ..... method is automatically called the first time the applet is displayed on the screen and every time the applet receives focus.  
A) update( )  
B) **paint( )**  
C) repaint( )  
D) reupdate( )
- 24 The ..... method is defined by the AWT which causes the AWT runtime system to execute a call to your applet's update( ) method.  
A) update( )  
B) paint( )  
C) **repaint( )**  
D) reupdate( )
- 25 Text field can be created by which of the following methods.  
i) TextField( ) ii) TextFieldString( ) iii) TextField(int) iv) TextField(string, int)  
A) i, ii and iii only  
B) ii, iii and iv only  
C) **i, ii and iv only**  
D) All i, ii, iii and iv
- 26 In java applet, we can display numerical values by first converting them into string and then using the ..... method.  
A) paint( )  
B) drawstring( )  
C) **draw( )**  
D) convert( )
- 27 We can change the text to be displayed by an applet by supplying new text to be displayed by an applet by supplying new text to the applet through a ..... tag.  
A) <EDIT>  
B) <CHANGE>  
C) <REPLACE>  
D) **<PARAM>**
- 28 Which of the following is/are the possible values for alignment attribute of Applet tag.  
i) Top ii) Left iii) Middle iv) Baseline  
A) i, ii and iii only  
B) ii, iii and iv only  
C) i, iii and iv only  
D) **All i, ii, iii and iv**
- 29 The ..... attribute of applet tag specifies the amount of horizontal blank space the browser should leave surrounding the applet.



- A) SPACE=pixels  
B) HSPACE=piexls
- 30 .... attribute of applet tag specify the width of the space on the HTML page that will reserved for the applet.
- A) WIDTH=pixels  
B) HSPACE=piexls
- C) HWIDTH=piexls  
D) HBLANK=pixels
- C) HWIDTH=piexls  
D) HBLANK=pixels



## **6. MANAGING INPUT /OUTPUT FILES IN JAVA**

Position in Question Paper

Total Marks-08

Q.1.g) 2-Marks.

Q.2.d) 4Marks.

Q.3.a) 4Marks.

Q.4.a) 4Marks.

### **Descriptive Questions**

1. Define stream class. List its types.
2. List the methods of File Input Stream Class.
3. Explain the following classes.  
i)Byte stream class      ii)Character Stream Class
4. Draw the hierarchy of Writer stream classes, and hierarchy of Reader stream classes.
5. Write a program to copy contents of one file to another. Using byte stream classes.
6. Differentiate between Input stream class and Reader class.
7. Distinguish between Input stream class and output stream class
8. Write a program to count number of words from a text file using stream classes.
9. Explain Serialization in relation with stream classes.
10. Write a program that will count no. of characters in a file.
11. Write any four methods of file class with their use.



## MCO Question

(Total number of Question=Marks\*3=08\*3=24)

- 1 Which of these is used to perform all input & output operations in Java?  
a) **streams** c) classes  
b) Variables d) Methods
- 2 Which of these is a type of stream in Java?  
a) Integer stream c) **Byte stream**  
b) Short stream d) Long stream
- 3 Which of these classes are used by Byte streams for input and output operation?  
a) **InputStream** c) Reader  
b) OutputStream d) All of the mentioned
- 4 Which of these classes are used by character streams for input and output operations?  
a) InputStream c) ReadStream  
b) **Writer** d) OutputStream
- 5 Which of these class is used to read from byte array?  
a) InputStream c) ArrayInputStream  
b) BufferedInputStream d) **ByteArrayInputStream**
- 6 What will be the output of the following Java program if input given is 'abcqfghqbc'?'
  1. **class** Input\_Output
  2. {
  3. **public static void** main(String args[]) **throws** IOException
  4. {
  5. **char** c;
  6. **BufferedReader** obj = **new** **BufferedReader**(**new** **InputStreamReader** (System.in));
  7. **do**
  8. {
  9. c = (**char**) obj.read();
  10. System.out.print(c);
  11. } **while**(c != 'q');
  12. }
  13. }

a) abcqfgh c) **abcq**  
b) abc d) abcqfghq
- 7 What will be the output of the following Java program if input given: "abc'def/'egh'?"
  1. **class** Input\_Output
  2. {
  3. **public static void** main(String args[]) **throws** IOException
  4. {
  5. **char** c;
  6. **BufferedReader** obj = **new** **BufferedReader**(**new** **InputStreamReader**(System.in));
  7. **do**



```

8.      {
9.          c = (char) obj.read();
10         System.out.print(c);
11.     } while(c!='\n');
12.     }
13.     }
  
```

- a) abc' c) abc'def/'egh  
 b) abcdef/' d) abcqfghq

8 What will be the output of the following Java program?

```

1.  class output
2.  {
3.      public static void main(String args[])
4.      {
5.          StringBuffer c = new StringBuffer("Hello");
6.          System.out.println(c.length());
7.      }
8.  }
  
```

- a) 4 c) 6  
 b) 5 d) 7

9 Which exception is thrown by read() method?

- a) IOException c) SystemException  
 b) InterruptedException d) SystemInputException

10 Which of these is used to read a string from the input stream?

- a) get() c) read()  
 b) getLine() d) readLine()

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

- a) BufferedReader c) BufferedStreamReader  
 b) StringReader d) InputStreamReader

12 Which of these class is implemented by FilterInputStream class?

- a) InputStream c) BufferedInputStream  
 b) OutputStream d) SequenceInputStream

13 What will be the output of the following Java program if input is: "Hello stop World"?

```

1.  class Input_Output
2.  {
3.      public static void main(String args[]) throws IOException
4.      {
5.          string str;
6.          BufferedReader obj = new BufferedReader(new InputStreamReader(System.in));
7.          do
8.          {
  
```

```

9.         str = (char) obj.readLine();
10
11.         } while(!str.equals("strong"));
12.     }
13. }
  
```

- a) Hello c) World  
 b) Hello stop **d) Hello stop World**

**14** What will be the output of the following Java program?

```

1.  class output
2.  {
3.      public static void main(String args[])
4.      {
5.          StringBuffer c = new StringBuffer("Hello");
6.          StringBuffer c1 = new StringBuffer(" World");
7.          c.append(c1);
8.          System.out.println(c);
9.      }
10. }
  
```

- a) Hello c) Helloworld  
 b) World **d) Hello World**

**15** What will be the output of the following Java program?

```

1.  class output
2.  {
3.      public static void main(String args[])
4.      {
5.          StringBuffer s1 = new StringBuffer("Hello");
6.          s1.setCharAt(1,x);
7.          System.out.println(s1);
8.      }
9.  }
  
```

- a) xello c) Hxlllo  
 b) xxxxx d) Hexlo

**16** What will be the output of the following Java program if input is: "abc'def/'egh"?

```

1.  class Input_Output
2.  {
3.      public static void main(String args[]) throws IOException
4.      {
5.          char c;
6.  BufferedReader obj = new BufferedReader(new InputStreamReader(System.in));
7.          do
8.          {
  
```

```

9.      c = (char) obj.read();
10     System.out.print(c);
11.    } while(c != '\n');
12.    }
13.    }
  
```

a) abc'

b) abcdef/'

c) abc'def/'egh

d) abcqfghq

17 Which of these class contains the methods print() & println()?

a) System

b) System.out

c) BUfferedOutputStream

**d) PrintStream**

18 Which of these methods can be used to writing console output?

a) print()

b) println()

c) write()

**d) all of the mentioned**

19 Which of these classes are used by character streams output operations?

a) InputStream

**b) Writer**

c) ReadStream

d) InputOutputStream

20 Which of these class is used to read from a file?

a) InputStream

b) BufferedInputStream

**c) FileInputStream**

d) BufferedFileInputStream

21 What will be the output of the following Java program?

```

1.  class output
2.  {
3.      public static void main(String args[])
4.      {
5.          String a="hello i love java";
6.          S.o.p.(indexof('i')+" "+indexof('o')+" "+lastIndexof('i')+" "+lastIndexof('o') );
7.      }
8.  }
  
```

a) 6 4 6 9

b) 5 4 5 9

c) 7 8 8 9

d) 4 3 6 9

22 Which of these class contains the methods used to write in a file?

a) FileStream

**b) FileInputStream**

c) BUfferedOutputStream

d) FileBufferStream

23 Which of these exception is thrown in cases when the file specified for writing is not found?

a) IOException

b) FileException

**c) FileNotFoundException**

d) FileInputException

24 Which of these methods are used to read in from file?

a) get()

**b) read()**

c) scan()

d) readFileInput()



- 25 Which of these values is returned by read() method is end of file (EOF) is encountered?
- a) 0  
b) 1  
c) -1  
d) Null
- 26 Which of these exception is thrown by close() and read() methods?
- a) **IOException**  
b) **FileNotFoundException**  
c) **FileNotFoundException**  
d) **FileInputOutputException**
- 27 Which of these methods is used to write() into a file?
- a) put()  
b) putFile()  
c) **write()**  
d) writefile()
- 28 What will be the output of the following Java program?
1. **import** java.io.\*;
  2. **class** filesinputoutput
  3. {
  4.     **public static void** main(String args[])
  5.     {
  6.         InputStream obj = **new** FileInputStream("inputoutput.java");
  7.         System.out.print(obj.available());
  8.     }
  9. }
- Note: inputoutput.java is stored in the disk.
- a) true  
b) false  
c) **prints number of bytes in file**  
d) prints number of characters in file