

PROGRAMMING IN JAVA

Assignment 1

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: $10 \times 1 = 10$

QUESTION 1:

Which of the following is/are correct way(s) of initializing a variable in Java?

a. Different line declaration and initialization

```
int a,b;  
a=5;  
b=6;
```

b. Single line declaration and initialization (One at a each line)

```
int a = 5;  
int b = 6;
```

c. Single line declaration and initialization (One line multiple variable)

```
int a=10,b=20;
```

d. Single line declaration and initialization (One line multiple variable)

```
int a, b = 11, 21;
```

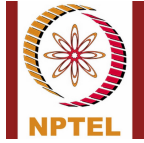
Correct Answer: a,b,c

QUESTION 2:

Which of the following is/are non-primitive data type(s) in Java?

- a. int
- b. String
- c. short
- d. double

Correct Answer: b



Detailed Solution:

A String in Java is actually a non-primitive data type, because it refers to an object.

Others are primitive data type in Java programming language.

QUESTION 3:

Following is a program given for this question.

```
public class Question1{  
    public static void main(String args[]){  
        char x='1',y='2';  
        System.out.println(x-y+x);  
    }  
}
```

What will be the output of the above program?

- a. 1
- b. 0
- c. 48
- d. 121

Correct Answer: c

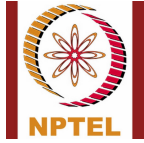
Detailed Solution:

The argument will take the + and - operator as the arithmetic addition and subtraction respectively on the ASCII values instead of characters.

QUESTION 4:

Which of the following is not a Language Processor?

- a. Assembler
- b. Compiler
- c. Interpreter
- d. Fortran



Correct Answer: d

Detailed Solution:

A computer understands instructions in machine code i.e., in the form of 0s and 1s. Special translators are required for this operation like Assembler, Compiler and Interpreter. Fortran is a programming language but not a language processor.

QUESTION 5:

So far the declaration of main() method is concerned, which of the following specification is not valid?

- a. void
- b. public
- c. static
- d. private

Correct Answer: d

Detailed Solution:

The main() method should not return anything, hence its return type is void, it should be declared as public, as the method should be invoked externally, it is being static method, no object of the class in which the method is to be created.

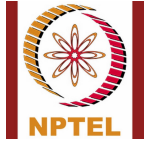
QUESTION 6:

Consider the following program.

```
public class Question1{  
    public static void main(String args[]){  
        int arr[]={0,1,2,3,4,5,6,7};  
        for(int b=5;b>2;b-=2){  
            System.out.println(arr[--b]);  
        }  
    }  
}
```

What will be the output of the program if it is executed?

- a. 4



- b. 2
- c. 3
- d. 5

Correct Answer: a

QUESTION 7:

Which of the following is not a correct statement?

- a. It is always necessary to use *new* operator to initialize an array.
- b. Array can be initialized using comma separated expressions surrounded by curly braces.
- c. Array can be declared and memory can be allotted in one statement.
- d. An array can be declared in one statement and memory can be allocated in other statement.

Correct Answer: a

Detailed Solution:

Array can be initialized using both new and comma separated expressions surrounded by curly braces example : `int a [] = new int[5]; int [] a; a = new int [10];` and `int a [] = { 0, 1, 2, 3, 4};`

QUESTION 8:

Which of the following can be used for a variable name in Java?

- a. malloc
- b. final
- c. case
- d. byte

Correct Answer: a

Detailed Solution:

final, case, byte are reserved keyword in Java, which cannot be used for naming a variable or class.

QUESTION 9:

What is the output of this program?

```
public class Question {  
    public static void main(String args[])  
    {  
        int i = 4;  
        System.out.print(--i * 8);  
    }  
}
```

- a. 24
- b. 25
- c. 32
- d. 31

Correct Answer: a

Detailed Solution:

First the value of i will be decremented and then multiplication is performed and the result will be printed.

QUESTION 10:

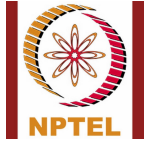
Which of the following is not an object-oriented programming paradigm?

- a. Encapsulation
- b. Inheritance
- c. Polymorphism
- d. Dynamic memory allocation

Correct Answer: d

Detailed Solution:

Dynamic memory allocation is a memory allocation strategy and not a programming paradigm.



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PROGRAMMING IN JAVA

Assignment2

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: $10 \times 1 = 10$

QUESTION 1:

What is the output of the following program?

```
public class Main{
    public static void main(String args[]){
        char a = '3';
        int b=011;
        System.out.println(a+b);
    }
}
```

- a. 60
- b. 3011
- c. 33
- d. 311

Correct Answer: a

Detailed Solution:

The argument will take the + operator as the arithmetic addition on the ASCII values instead of characters.

QUESTION 2:

Which of the following is called when a method having the same name as that the name of the class where it is defined?

- a. abstract
- b. this
- c. constructor
- d. final



Correct Answer: c

Detailed Solution:

In a class, if more than one method having the same name but with different signature is used, then it is called a constructor.

QUESTION 3:

Following is a program given for this question.

```
public class Main{
public static void main(String[] args) {
char[] copyFrom = { 'j', 'a', 'n', 'j', 'a', 'v', 'a',
                    'n', 'p', 't', 'e', 'l' };
char[] copyTo = new char[9];

System.arraycopy(copyFrom, 3, copyTo, 0, 9);
System.out.println(new String(copyTo));
}
}
```

What will be the output of the above program?

- a. javanptel
- b. npteljava
- c. janjavanptel
- d. janjavanp

Correct Answer: a

Detailed Solution:

QUESTION 4:

What will happen during the execution of the following code for the command line input?

```
public class Question {
public static void main (String[] args) {
for (String s: args) {
System.out.println(s+args[0]);
}
}
}
```

Consider the following input on command line and select the options with the correct output(s).



Input:

A: "jan java npTEL"

B: 1 2 3

- a. A : jannptel
javanptel
npTELnpTEL
- b. A : jan java npTELjan java npTEL
- c. B : 11
21
31
- d. B : 1 2 3 1

Correct Answer: b, c

Detailed Solution:

Java interpreted as a single argument, if the command line input is enclosing within quotation marks.

QUESTION 5:

Which of the following is/are TRUE about print() and println() methods?

- a. `print()` prints in a single line only and multiple lines cannot be printed in any way.
- b. `println()` prints and then appends a line break.
- c. `println()` prints in a single line only and multiple lines cannot be printed.
- d. `print()` prints and then appends a line break.

Correct Answer: b

Detailed Solution:

Method `print()` can be used to print in a single line only but multiple lines can be printed using escape sequence `'\n'`. Similarly, `println()` prints in a single line only and multiple lines can be printed using escape sequence `'\n'`. Method `print()` prints but does not append a line break. So, option (b) `println()` prints and then appends a line break is the only correct option.

QUESTION 6:

During constructor overloading, which of the following should be used in a parameterized constructor to call the default constructor?

- a. The parameterized constructor should be declared final in order for it to call the default constructor.
- b. The this() reference should be used as the first statement inside the parameterized constructor.
- c. The this() reference should be used anywhere inside the parameterized constructor.
- d. It is not possible to implicitly call the default constructor from parameterized constructor.

Correct Answer: b

Detailed Solution:

The this() reference should be used as the first statement inside the parameterized constructor in order to redirect

QUESTION 7:

Which of the following is a valid declaration of an object of class, say Box?

- a. Box obj = new Box();
- b. Box obj = new Box;
- c. obj = new Box();
- d. new Box obj;

Correct Answer: a

Detailed Solution:

Others are invalid declarations.

QUESTION 8:

Following is a program given for this question.

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

        boolean m=Integer.valueOf(1).equals(Long.valueOf(1));
        System.out.println(m);
    }
}
```



What will be the output of the above program?

- a. false
- b. true
- c. 0
- d. 1

Correct Answer: a

Detailed Solution:

The two objects (the Integer and the Long) have different types.

QUESTION 9:

Which of the following can be used to take input from user during the execution of a program?

- a. Using the string array provided as a parameter to the main method.
- b. getText() method can be used to get user input from the command line.
- c. Scanner class can be used by passing the predefined object System.in
- d. Once the execution starts, there is no way to provide user input.

Correct Answer: c

Detailed Solution:

The easiest way to read input in a Java program during execution is by using the Scanner class in java.util package. It can be used for obtaining the input of the primitive types like int, double, etc. and strings. The argument values provided in the main method is only applicable when the execution starts but during execution no value can be passed in that argument.

QUESTION 10:

What is the output of the following program?

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

        inti = 10;
        int n = i++%5;
        int m = ++i%5;
        System.out.println(i+n+m);
    }
}
```



-
- a. 14
 - b. 13
 - c. 15
 - d. 11

Correct Answer: a



PROGRAMMING IN JAVA

Assignment3

TYPE OF QUESTION: MCQ

Number of questions:10

Total mark: $10 \times 1 = 10$

QUESTION 1:

```
public class Question
{
    public static int x = 3;
    public static void main(String[] args) {

        Question a = new Question ();
        Question b = new Question ();
        a.x = 2;
        b.x = 1;
        System.out.println(a.x+b.x+Question.x);
    }
}
```

What is the output of the above program?

- a. 6
- b. 3
- c. 9
- d. runtime error

Correct Answer: b

Detailed Solution:

Because x is defined as a public static int in the class `Question`, every reference to x will have the value that was last assigned because x is a static variable (and therefore a class variable) shared across all instances of the class. That is, there is only one x: when the value of x changes in any instance it affects the value of x for all instances of `Question`.



QUESTION 2:

Advantage(s) of inheritance in Java programming is/are

- a. Code sharing
- b. Codemaintainability
- c. Code reusability
- d. All of the above

Correct Answer: d

Detailed Solution:

In fact, above benefits are related to each other. Frequent use of inheritance in Java language is for deriving classes from existing classes that provides reusability. In simple terms, once we have written a class then it can be extended or sub classed without changing the code of base class.

QUESTION 3:

Which of the following statement(s) is/are not TRUE?

- a. Hiding internal data from the outside world, and accessing it only through publicly exposed methods is known as data **encapsulation**.
- b. Common behavior can be defined in a **superclass** and inherited into a **subclass** using the **extends** keyword.
- c. The term "class variable" is another name for **non-static field**.
- d. A local variable stores temporary state; it is declared outside a **method**.

Correct Answer: c,d

Detailed Solution:

The term "class variable" is another name for **static field**.

QUESTION 4:

Consider the following class definition:

```
class Student extends String {  
  
}
```

Which of the following statement(s) is/ are TRUE?

- a. Code will compile successfully.
- b. Code will not compile because of the super class String.
- c. Code will not compile because the class is not declared as public.
- d. Code will not compile because the body is not defined.

Correct Answer: b

QUESTION 5:

Consider the following piece of code in Java.

```
class Test {  
    protected int method(int a, int b){  
        return 0;  
    }  
}
```

Which of the following method(s) is/are declaration is/are invalid in a class that extends class Test?

- a.

```
public int method(int a, int b) {  
    return 0;  
}
```
- b.

```
private int method(int a, int b) {  
    return 0;  
}
```
- c.

```
static protected intmethod(int a, int b) {  
    return 0;  
}
```
- d.

```
public short method(int a, int b) {  
    return 0;  
}
```

Correct Answer: b,c,d



Detailed Solution:

Option 'a' is correct because the class that extends Test is just simply overriding method. Others are not. So others are incorrect.

QUESTION 6:

Which of the following is called when a method having the same name as that of the class is defined?

- a. abstract
- b. this
- c. final
- d. constructor

Correct Answer: d

Detailed Solution:

In a class, if more than one method having the same name but with different signature is used, then it is called a constructor.

QUESTION 7:

```
public class Test1{
    Test1() {
Test1 obj1 = new Test1();
    }

    public static void main(String []args) {
Test1 obj = new Test1();
System.out.println("Hello");
    }
}
```

Which of the following statements is/ are not true?

- a. Output will be : Hello
- b. Program will compile successfully.
- c. There will be a compile-time error.



- d. The program will give a runtime error.

Correct Answer: a, c

Detailed Solution:

Constructor if you defined recursively, then it will show runtime error.

QUESTION 8:

Hiding internal data from the outside world, and accessing it only through publicly exposed methods is known as data_____

- a. Polymorphism
- b. Encapsulation.
- c. Inheritance.
- d. Duplication.

Correct Answer: b

Detailed Solution: Hiding the internal details from the outside world is known as encapsulation.

QUESTION 9:

Which of following statement(s) is/are not FALSE?

- a. Instance methods can access instance variables and instance methods directly.
- b. Instance methods cannot access class variables and class methods directly.
- c. Class methods can access class variables and class methods directly.
- d. Class methods cannot access instance variables or instance methods directly—they must use an object reference.

Correct Answer: a, c, d

Detailed Solution:

Instance methods can access class variables and class methods directly.



QUESTION 10:

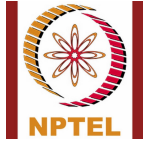
Which of the following statement(s) is/aren't TRUE?

- a. A final method can be overridden in a subclass.
- b. The advantage of private static methods is that they can be reused later if you need to reinitialize the class variable.
- c. Class methods can use this keyword as there is instance for this to refer to.
- d. A final method cannot be overridden in a subclass.

Correct Answer: a,c

Detailed Solution:

A final method cannot be overridden in a subclass. Class methods cannot use this keyword as there is no instance for this to refer to. The advantage of private static methods is that they can be reused later if you need to reinitialize the class variable.



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PROGRAMMING IN JAVA

Assignment4

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: $10 \times 1 = 10$

QUESTION 1:

Which of the following statement(s) is/are true?

- a. The default package in the Java language is java.lang.
- b. String is a final class and it is present in java.lang package.
- c. Runnable is a class present in java.lang package.
- d. Thread is a class present in java.lang package.

Correct Answer: a,b,d

Detailed Solution:

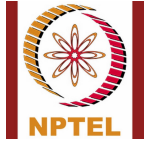
Runnable is an interface in java.lang package.

QUESTION 2:

Which of the following statement(s) is/are false?

- a. With the import statement, generally import only a single package member or an entire package.
- b. To import all the types contained in a particular package, use the import statement with the asterisk (*) wildcard character.
`import package.*;`
- c. `import package.A*;` it used to match a subset of the classes in a package starts with "A".
- d. `import package.A*;` it generates compilation error.

Correct Answer: c



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Detailed Solution:

import package.A*; it generates compilation error.

QUESTION 3:

Which of the following is/are class(es) of `java.awt` package?

- a. CardLayout
- b. Checkbox
- c. Choice
- d. MenuContainer

Correct Answer: a,b,c

Detailed Solution:

MenuContainer is interface of `java.awt` package, all others are class.

QUESTION 4:

For which purpose packages are used in Java?

- a. Categorizes data
- b. Organizing java classes into namespaces
- c. For faster compilation
- d. None

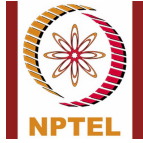
Correct Answer:b

Detailed Solution:

Java packages resolve the name conflicts among different classes.

QUESTION 5:

Which of the following is/are false?



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- 1) Every class is a part of some package.
 - 2) All classes in a file are part of the same package.
 - 3) If no package is specified, the classes in the file go into a special unnamed package.
 - 4) If no package is specified, a new package is created with folder name of class and the class is put in this package.
-
- a. Only 1, 2 and 3
 - b. Only 3 and 4
 - c. Only 1 and 3
 - d. Only 3

Correct Answer: b,c,d

Detailed Solution:

This according to the property of package concept in Java.

QUESTION 6:

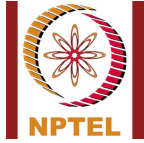
Which of the following statement(s) is (are) Not CORRECT regarding an interface in Java?

- a. An interface can contain only abstract methods and standard methods but no static methods are allowed.
- b. Method bodies in an interface doesn't exist for default methods and abstract methods.
- c. An interfaces cannot be instantiated but can be implemented by classes.
- d. An interfaces cannot be instantiated but can be extended by other interfaces.

Correct Answer: a,b

Detailed Solution:

In the Java programming language, an interface is a reference type, similar to a class, which can contain only constants, method signatures, default methods, static methods, and nested types. Method bodies exist only for default methods and static methods. Interfaces cannot be instantiated—they can only be implemented by classes or extended by other interfaces.



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QUESTION 7:

How Java Runtime Environment (JRE) knows where to look for a package that you create?

- a. It searches in the current directory.
- b. It searches in the location set in the CLASSPATH environment variable.
- c. A user can set the path during runtime using the `-classpath` option.
- d. Using the `-path` option, a user can set the path.

Correct Answer: a, b, c

Detailed Solution:

- First, by default, the Java run-time system uses the current working directory as its starting point. Thus, if your package is in a sub-directory of the current directory, it will be found.
- Second, you can specify a directory path or paths by setting the CLASSPATH environmental variable.
- Third, you can use the `-classpath` option with **java** and **javac** to specify the path to your classes.

QUESTION 8:

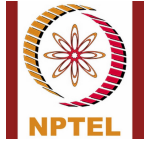
Which of the following is/are correct regarding packages in Java?

- a. Java supports both pre-defined and user-defined packages.
- b. Packages are used to organize a set of related classes and interfaces.
- c. Pre-defined packages help to develop programs easily by providing thousands of classes.
- d. Packages are used to organize only a set of related classes and not interfaces.

Correct Answer: a,b,c

Detailed Solution:

A package is a namespace that organizes a set of related classes and interfaces. It is just like a folder in your computer, where, you might keep HTML pages in one folder, images in another,



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and scripts or applications in yet another. Since, Java programs can be composed of hundreds or thousands of individual classes, it makes sense to keep things organized by placing related classes and interfaces into packages.

QUESTION 9:

Consider the program given below.

```
import static java.lang.System.*;
public class Question{
    public static void main(String args[])
    {
        out.println("JAVA");
    }
}
```

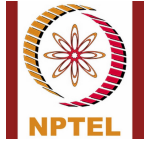
What will be the output if the above program is executed?

- a. It will give compile-time error
- b. It will give run-time error
- c. JAVA
- d. JAV

Correct Answer: c

Detailed Solution:

QUESTION 10:



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```
import java.lang.Math.*;  
public class Main{  
    public static void main(String args[]){  
  
        System.out.println(Math.PI*0.5);  
    }  
}
```

Consider the program given below.

What will be the output if the above program is executed?

- a. It will give compile-time error
- b. It will give run-time error
- c. 1.0
- d. 3.14

Correct Answer: a

Detailed Solution:

The static import statement is used to import the static members(e.g. ,PI) of java.lang.Math.
`import static java.lang.Math.*;`

*****END*****



PROGRAMMING IN JAVA

Assignment5

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

All interface methods are implicitly

- a. public and final
- b. public and abstract
- c. protected and abstract
- d. private and abstract

Correct Answer: b

Detailed Solution:

All interface methods are implicitly public and abstract. In other words, a programmer need not to explicitly type the public or abstract modifiers in the method declaration.

QUESTION 2:

If a class, say B inherits from a class, say A, then which of the following statement is true?

- a. A data but not method if it is declared in A cannot be declared in B.
- b. A method but not data if it is declared in A cannot be declared in B.
- c. Both data and method declared in A can be declared in B.
- d. Neither data nor method once declared in A cannot be declared in B.

Correct Answer:c

Detailed Solution:

Java inheritance supports method overriding, hence, method once defined in a base class can be redefined in a derived class. Further, java supports static scope rule, so a data with the same declaration is allowed both in base and derived class.

QUESTION 3:

All interface methods must not be?



- a. public
- b. static
- c. final
- d. abstract

Correct Answer: b, c

Detailed Solution:

An interface method must not be static. Also, it should not be final, as in the derived class it should be implemented.

QUESTION 4:

Which access type data gets derived as private member in derived class?

- a. private
- b. public
- c. protected
- d. default

Correct Answer:c

Detailed Solution:

A data/ method with protected becomes the private in the derived class.

QUESTION 5:

Suppose A and B are two classes. Then which of the following statements is true?

- a. `class D extends A, B { ... }`
- b. `class D extends A implements B { ... }`
- c. `class D implements A, B { ... }`
- d. `class D implements A extends B { ... }`
- e. None of the above

Correct Answer: e

Detailed Solution:



A class cannot extend two classes (i.e., multiple inheritance is not possible with classes). Further, A class cannot come under “implements” specification.

QUESTION 6:

Which of the following best describes the inheritance in Java?

- a. A sub class can access all the methods in the base class.
- b. A sub class can access all data in the base class.
- c. A sub class can access both data and methods in the base class.
- d. A sub class not necessarily can access all data and all methods in the base class.

Correct Answer: d

Detailed Solution:

A sub class can inherit only the data and methods which are specified with public/ protected access specifier.

QUESTION 7:

If a derived class object is created, which constructor is called first?

- a. Base class constructor is called first and then the derived class constructor.
- b. Derived class constructor is called first and then the base class constructor.
- c. Only derived class constructor is called.
- d. Only base class constructor is called.

Correct Answer:a

Detailed Solution:

The constructors are called in the order of level of inheritance, that is, if D inherits B, then B() is called first and then D().

QUESTION 8:

All variables defined in an interface should be

- a. public
- b. static



- c. final
- d. None of the above

Correct Answer: a, b, c

Detailed Solution:

All variables defined in an interface should be public, static and final. In other words, interfaces can declare only constants, no instance variables.

QUESTION 9:

Which of the following is true, for a derived class C when A and B are two interfaces?

- a. `class C extends A, B { ... }`
- b. `class C extends A implements B { ... }`
- c. `class C implements A, B { ... }`
- d. `class C implements A extends B { ... }`

Correct Answer: c

Detailed Solution:

In case of inheritance, `extends` is not applicable to interface.

QUESTION 10:

Which of the following is not true so far the inheritance with interfaces is concerned?

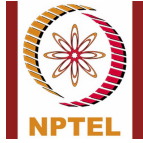
- a. An interface can extends one or more other interfaces.
- b. An interface cannot implements another interface or class.
- c. An class can inherit from multiple interfaces at the same level
- d. An interface can inherit from multiple interfaces at the same level

Correct Answer: a, b, c, d

Detailed Solution:

All of the above statements are true.

*****END*****



PROGRAMMING IN JAVA

Assignment6

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: $10 \times 1 = 10$

QUESTION 1:

Which of the following is a correct constructor for a thread object?

- a. `Thread(Runnable a, String str);`
- b. `Thread(Runnable a, int priority);`
- c. `Thread(Runnable a, ThreadGroup t);`
- d. `Thread(int priority);`

Correct Answer: a

Detailed Solution:

`Thread(Runnable a, String str)` creates a new Thread object. The others are not valid constructors to create a thread object.

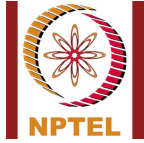
QUESTION 2:

The following is a simple program using the concept of thread.

```
public class Question extends Thread{
    public void run(){
        for(int i=1;i<5;i++){
            System.out.println(i++);
        }
    }
    public static void main(String args[]){
        Question t1=new Question();
        t1.run();
    }
}
```

What is the output of the above program?

- a. 1
3
- b. 1
2



- 3
4
c. Runtime error
d. 1
2

Correct Answer: a

Detailed Solution:

QUESTION 3:

Which of the following will contain the body of the thread?

- a. `run()` ;
b. `start()` ;
c. `stop()` ;
d. `main()` ;

Correct Answer: a

Detailed Solution:

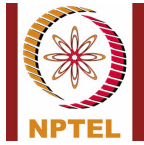
The `run()` method of a thread is same as the `main()` method for an application. Starting the thread causes the object's run method to be called.

QUESTION 4:

For the program given below, what will be the output after its execution?

```
public class Main{  
    public static void main(String[] args){  
        Thread thread=Thread.currentThread();  
        System.out.println(thread.activeCount());  
    }  
}
```

- a. 0
b. true
c. 1
d. false



Correct Answer: c

Detailed Solution:

java.lang.Thread.activeCount() : Returns an estimate of the number of active threads in the current thread's thread group and its subgroups.

QUESTION 5:

Which of these keyword(s) is used to manually throw an exception?

- a. try
- b. finally
- c. throw
- d. catch

Correct Answer: c

Detailed Solution:

The throw keyword is used to manually throw an exception

QUESTION 6:

Which of the following can be used to create an instance of Thread?

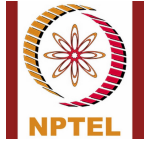
- a. By implementing the `Runnable` interface.
- b. By extending the `Thread` class.
- c. By creating a new class named `Thread` and calling method `run()`.
- d. By importing the `Thread` class from package.

Correct Answer: a, b

Detailed Solution:

An application that creates an instance of `Thread` must provide the code that will run in that thread. There are two ways to do this:

- *Provide a `Runnable` object.* The `Runnable` interface defines a single method, `run`, meant to contain the code executed in the thread. The `Runnable` object is passed to the `Thread` constructor
- *Subclass `Thread`.* The `Thread` class itself implements `Runnable`, though its `run` method does nothing. An application can subclass `Thread`, providing its own implementation of `run`



Reference: <https://docs.oracle.com/javase/tutorial/essential/concurrency/runthread.html>

QUESTION 7:

Which of the following statement(s) is/are true?

- a. `public int getId():` returns the id of the thread.
- b. `public boolean isAlive():` tests if the thread is alive.
- c. `public void interrupt():` interrupts the thread.
- d. `public boolean isInterrupted():` tests if the thread has been interrupted.

Correct Answer: a,b,c,d

Detailed Solution:

All options are correct.

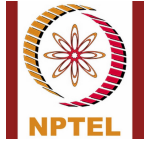
QUESTION 8:

What is the output of the following program?

```
public class Question
{
    public static void main(String[] args) {
        try {
            int a=5/0;
        } catch (Exception e) {
        } catch (ArithmeticException a) {
        }

        System.out.println("Hello World");
    }
}
```

- a. Hello World



- b. 5
- c. Compile time error
- d. ArithmeticException

Correct Answer: c

Detailed Solution:

This first handler catches exceptions of type Exception; therefore, it catches any exception, including ArithmeticException. The second handler could never be reached. This code will not compile.

QUESTION 9:

Which of the following is NOT a method of the Thread class in Java?

- a. `isInterrupted()`
- b. `interrupt()`
- c. `join()`
- d. `sleep()`

Correct Answer: c

Detailed Solution:

`join()` is a method in the pre-defined Java class Thread but not `join()`. Other methods like `isInterrupted()`, `interrupt()` and `sleep()` are defined in the Thread class.

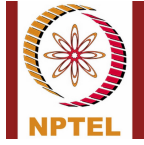
QUESTION 10:

Which one of these keywords must be used to handle the exception thrown by try block in some rational manner?

- a. `try`
- b. `finally`
- c. `throw`
- d. `catch`

Correct Answer: d

Detailed Solution:



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The catch block is responsible for handling the exceptions raised by try block.

*****END*****



PROGRAMMING IN JAVA

Assignment7

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: $10 \times 1 = 10$

QUESTION 1:

Which of the following is/are NOT Standard Stream(s)?

- a. System.in
- b. System.out
- c. System.err
- d. System.console

Correct Answer: d

Detailed Solution:

The Java platform supports three Standard Streams: Standard Input, accessed through System.in; Standard Output, accessed through System.out; and Standard Error, accessed through System.err.

QUESTION 2:

Which of the following statement(s) is/are false?

- a. In unbuffered I/O, each read or write request is handled directly by the underlying OS.
- b. Buffered input streams read data from a memory area known as a buffer; the native input API is called only when the buffer is empty.
- c. Buffered output streams write data to a buffer, and the native output API is called only when the buffer is full.
- d. In buffered I/O scheme, each read or write request often triggers disk access, network activity.

Correct Answer: d

Detailed Solution:

In unbuffered I/O scheme, each read or write request often triggers disk access, network activity. So it is less efficient.



QUESTION 3:

Which of the following streams contains the classes which can work on byte stream?

- a. InputStream
- b. OutputStream
- c. FileReader
- d. FileWriter

Correct Answer: a,b

Detailed Solution:

Note: InputStream and OutputStream classes work on byte streams.

QUESTION 4:

In which Java APIs the classes for handling all IO-streams are defined?

- a. java.lang
- b. java.util
- c. java.io
- d. java.awt

Correct Answer: c

Detailed Solution:

java.io package is meant for handling io-streams in Java program.

QUESTION 5:

Which of the following statements is/ are true?

- a. While you are creating an instance of File class, and if you do not use the file naming according to the convention of the local machine, the constructor will throw an exception of class `IOException`.
- b. A File object can be opened for both reading and writing simultaneously.
- c. When you create an object of Fileclass for writing, if the corresponding file does not exist on the local file system, then it will be created.



- d. Closing operation of a File object never faces any run-time error and hence need not to be placed under try-catch block.

Correct Answer: a,c,d

Detailed Solution:

You can open a File object either in read or write mode, but not both.

QUESTION 6:

Which of the following statement(s) is/are true?

- a. DataStreams detects an end-of-file condition by using EOFException, instead of testing for an invalid return value.
- b. DataStreams uses floating point numbers to represent monetary values.
- c. Data streams support I/O of primitive data types.
- d. Object streams support I/O of objects.

Correct Answer: a,b,c,d

Detailed Solution:

All options are correct.

DataStream detects an end-of-file condition by catching EOFException, instead of testing for an invalid return value.

QUESTION 7:

Which of the following statement(s) is/are true for RandomAccessFile object?

- a. It can allow to open a file both in read and write mode.
- b. It can allow to store the data fields of any object and then reading the same.
- c. The seek(0) method of the object place the file pointer at the beginning of the file.
- d. It cannot be used to read a network line.

Correct Answer: a,b,c

Detailed Solution:

The RandomAccessFile is related to secondary storage only.



QUESTION 8:

Which of the following syntax(s) is/are valid?

- a. *.abc – Matches all strings that end in .abc.
- b. ??? – Matches all strings with exactly three letters or digits.
- c. *[0-9]* – Matches all strings containing 0 or 9 only.
- d. b?*.doc – Matches any string beginning with b, followed by at least one letter or digit, and ending with .doc

Correct Answer: a,b,d

Detailed Solution:

[0-9] – Matches all strings containing a numeric value.

QUESTION 9:

Which of the following interface(s) is/are member(s) of java.io package?

- a. FileFilter
- b. ObjectInput
- c. Runnable
- d. Flushable

Correct Answer: a,b,d

Detailed Solution:

Runnable is defined in java.lang package, and the other interfaces are defined in java.io package.

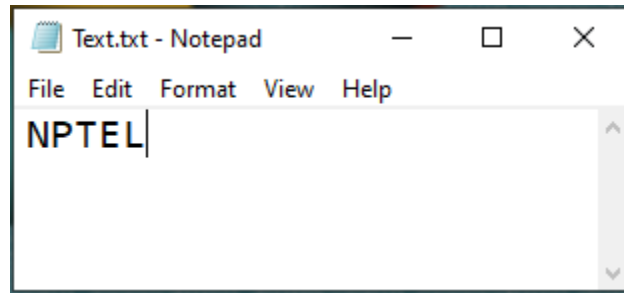
QUESTION 10:

```
import java.io.*;

public class Question7{
public static void main(String[]args){
    try{
        InputStream file =new FileInputStream("../Text.txt");
        System.out.print(file.available());
    }
    catch(Exception e){
        System.out.print(e);
    }
}
}
```



The file `./Text.txt` when opened with the Notepad text editor, it shows the content as shown below.

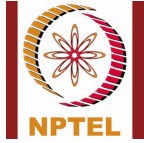


Which of the following is the correct output for the ‘try’ portion of the code?

- a. Prints the number of characters in the file.
- b. Prints ‘true’, if the file is present; else prints ‘false’.
- c. Prints nothing, as an exception will be caught.
- d. Prints the number of bytes in the file.

Correct Answer: d

Detailed Solution: Returns an estimate of the number of remaining bytes that can be read (or skipped over) from this input stream without blocking by the next invocation of a method for this input stream. The next invocation might be the same thread or another thread. A single read or skip of this many bytes will not block, but may read or skip fewer bytes.



PROGRAMMING IN JAVA

Assignment8

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: $10 \times 1 = 10$

QUESTION 1:

Which of the following statement(s) is/are NOT true?

- a. An applet can extend the java.applet.Applet class or the java.swing.JApplet class.
- b. The java.applet.Applet class extends the java.awt.Panel class and enables you to use the GUI tools in the AWT package.
- c. The java.swing.JApplet class is a subclass of java.applet.Applet that also enables you to use the Swing GUI tools.
- d. An applet can make network connections to any host on the Internet

Correct Answer: d

Detailed Solution:

An applet can only connect to the host that it came from.

QUESTION 2:

Which of the following is NOT a class of java.awt package?

- a. Button
- b. Component
- c. Dialog
- d. Paint

Correct Answer: d

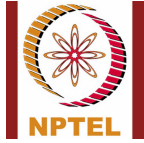
Detailed Solution:

Paint is interface of java.awt package.

QUESTION 3:

Which of the following statement(s) is/are correct?

- a. AWT components are platform-independent.
- b. AWT follows the MVC (Model View Controller).
- c. Swing components are platform-dependent.
- d. Swing follows MVC (Model View Controller).



Correct Answer: d

Detailed Solution:

AWT components are platform dependent and not follow MVC. Swing components follow MVC and are platform independent.

QUESTION 4:

When we invoke `repaint()` for a `java.awt.Component` object, the AWT invokes which of the following method ?

- a. `draw()`
- b. `show()`
- c. `update()`
- d. `paint()`

Correct Answer: c

Detailed Solution:

The `repaint()` method calls automatically `update()` method and in turn `update()` method calls `paint()` method.

QUESTION 5:

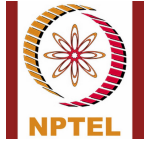
Which package provides many event classes and Listener interfaces for event handling?

- a. `java.awt`
- b. `java.lang`
- c. `java.io`
- d. `java.util`

Correct Answer: a

Detailed Solution:

The class `Event` is declared in `java.awt` package which is used for event classes and Listener interfaces for event handling.



QUESTION 6:

What is the name of the method used to get the timestamp of an event in AWT `ActionEvent` class ?

- a. `getWhen()`.
- b. `getModifiers()`.
- c. `paramString()`.
- d. `getActionCommand()`.

Correct Answer: a

Detailed Solution:

`getWhen()` method of `ActionEvent` class returns the timestamp of the event when it is occurred.

QUESTION 7:

Which is/are used to create a Frame?

- 1. By creating the object of Frame class (association)
 - 2. By extending Frame class (inheritance)
- a. Only 1
 - b. Only 2
 - c. Both
 - d. None

Correct Answer: c

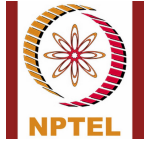
Detailed Solution:

A Frame object can be created using the Frame class itself as well as extending the Frame class.

QUESTION 8:

Which of the following methods is called only once during the run time of an applet?

- a. `stop()`
- b. `paint()`
- c. `init()`
- d. `destroy()`



Correct Answer: c

Detailed Solution:

The `init()` is used to initialize an applet. Hence, it is called only once.

QUESTION 9:

Which of the following methods can be used to change the size of a `java.awt.Component` object?

- (A) `dimension()`
 - (B) `setSize()`
 - (C) `area()`
 - (D) `size()`
 - (E) `resize()`
- a. (A), (B), (C) & (E)
 - b. (D) & (E)
 - c. (A), (B) & (E)
 - d. (B) & (E)

Correct Answer: d

Detailed Solution:

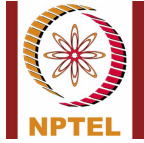
The two methods, namely `setSize()` and `resize()` can be used to change the size of a component.

QUESTION 10:

The `APPLET` tag is used to start an applet from both an HTML document and from an applet viewer.

- a. True
- b. False
- c. `APPLET` tag is not mandatory in both cases
- d. None of the above

Correct Answer: a

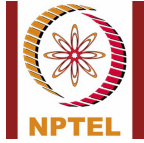


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Detailed Solution:

The APPLET tag needs to be used to start an applet from both an HTML document and from an applet viewer.



OBJECT ORIENTED PROGRAMMING WITH JAVA

Assignment9

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: $10 \times 1 = 10$

QUESTION 1:

Select the correct statement(s) in the following.

- a. JTextField cannot be used as an alternative to JLabel.
- b. JLabel cannot be used as an alternative to JTextField.
- c. Button grouped radio button can be used as an alternative to JComboBox.
- d. The class JPasswordField extends the class JLabel.

Correct Answer: b,c

Detailed Solution:

- a) **False:** Setting JTextField property 'setEditable=False'; it can be used as a label.
 - b) **True:** Label cannot be used to input data (it is never editable).
 - c) **True:** In a button grouped radio button, only one item can be selected similar to JComboBox. So, they can be used interchangeably.
 - d) **False:** JPasswordField extends JTextField.
-

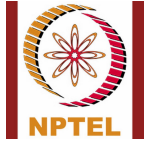
QUESTION 2:

In Java AWT, TextArea and TextField are subclass of:

- a. List.
- b. Label.
- c. TextComponent.
- d. TextComponent and Label, respectively.

Correct Answer: c

Detailed Solution: TextArea and TextField are the two sub classes of TextComponent in Java AWT.



QUESTION 3:

Analyze the following code.

```
import java.awt.*;
import javax.swing.*;

public class Test {
    public static void main(String[] args) {
        JFrame frame = new JFrame("My Frame");
        frame.add(new JButton("Cancel"));
        frame.add(new JButton("OK "));
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(200, 200);
        frame.setVisible(true);
    }
}
```

Which button will be displayed(or can be seen by user)?

- a. OK
- b. Cancel
- c. both
- d. None

Correct Answer: a

Detailed Solution:

By default, the layout of the content pane in a JFrame is BorderLayout. Button Cancel is placed in the center of content pane, then button OK is placed in the same place. So you only can see button OK.

QUESTION 4:

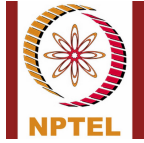
In JLabel(Icon, int) method/constructor, the int argument specifies the horizontal alignment of the label's contents within its drawing area.

Which of the following is/are not a valid constants for horizontal alignment?

- a. RIGHT
- b. LEADING
- c. TRAILING
- d. TOP

Correct Answer: d

Detailed Solution:



TOP is not a valid constant for horizontal alignment.

QUESTION 5:

Which of the following is/ are not related with keyboard event?

- a. Class KeyEvent is used to notify if any key pressed occurs or not.
- b. The KeyListener should be added either in init() or the main method.
- c. RequestFocus should be added either in init() or the main method.
- d. The class InputEvent should be imported explicitly in the program.

Correct Answer: d

Detailed Solution:

The InputEvent class is the super class of all the sub classes dealing with events from different sources. When, we import java.awt.*, we import it automatically. No need to import it explicitly.

QUESTION 6:

Which of the following Listener(s) is/are supported by button (Swing component)?

- a. ActionListener
- b. ChangeListener
- c. ItemListener
- d. WindowListener

Correct Answer: a,b,c

Detailed Solution:

Except WindowListner, all other Listeners supported by button component.

This table lists Swing components with their specialized listeners

Component	Action Listener	Caret Listener	Change Listener	Document Listener, Undoable Edit Listener	Item Listener	List Selection Listener	Window Listener	Other Types of Listeners
button	✓		✓		✓			
check box	✓		✓		✓			
color chooser			✓					
combo box	✓				✓			
dialog							✓	
editor pane		✓		✓				hyperlink
file chooser	✓							
formatted text field	✓	✓		✓				
frame							✓	

QUESTION 7:

Which of the following Listener Interface does not have an Adapter Class?

- a. ActionListener
- b. ChangeListener
- c. ComponentListener
- d. ItemListener

Correct Answer: a,b,d

Detailed Solution:

Only ComponentListener is having an Adapter class *ComponentAdapter* (among the options).

ActionListener, changeListener, ItemListener doesn't have an Adapter class hence a,b,d is right answer.

QUESTION 8:

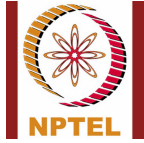
To set a FlowLayout in a panel, say jp, which of the following method(s) that you can not use?

- a. `jp.setLayout(new FlowLayout());`
- b. `jp.setLayout(new FlowLayout(FlowLayout.CENTER));`
- c. `jp.setLayout(new FlowLayout(FlowLayout.center));`
- d. `jp.setLayout(FlowLayout());`

Correct Answer: c, d

Detailed Solution:

(c) and (d) are not valid according to the syntax.



QUESTION 9:

Which of the following is/are interface(s) in javax.swing package?

- a. MenuElement
- b. BoxLayout
- c. JComponent
- d. Scrollable

Correct Answer: a, d

Detailed Solution:

MenuElement:

Any component that can be placed into a menu should implement this interface.

Scrollable:

An interface that provides information to a scrolling container like JScrollPane.

All others are Class.

QUESTION 10:

Which package provides many methods for graphics programming?

- a. java.awt
- b. java.Applet
- c. java.Graphics
- d. java.io

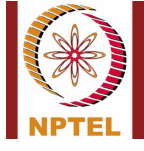
Correct Answer: a

Detailed Solution:

There is no package like java.Graphics and java.Applet. The Graphics class and other classes, which are necessary for GUI programming is defined in java.awt package.

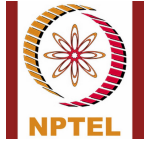
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PROGRAMMING IN JAVA

Assignment10

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: $10 \times 1 = 10$

QUESTION 1:

Which of the following statement(s) is/are NOT true?

- a. URL is the acronym for Uniform Resource Locator.
- b. A URL takes the form of a string that describes how to find a resource on the Internet.
- c. URLs have two main components: the protocol needed to access the resource and the location of the resource.
- d. The URL class is present in the java.io package.

Correct Answer: d

Detailed Solution:

The URL class is present in the java.net package.

QUESTION 2:

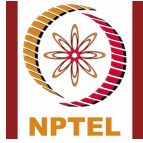
Which of the following package contains classes and interfaces for networking?

- a. java.io
- b. java.util
- c. java.net
- d. javax.swing

Correct Answer: c

Detailed Solution:

The java.net packages includes many classes and interfaces for network programming in Java.



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QUESTION 3:

In the following, which are the protocol follows connection oriented service?

- a. TCP
- b. Internet Control Message Protocol
- c. UDP
- d. Internet Protocol (IP)

Correct Answer: a

Detailed Solution:

TCP is connection-oriented and all others are connection less.

QUESTION 4:

Which of the following statement(s) is(are) NOT true?

- a. TCP is a reliable but slow.
- b. UDP is not reliable but fast.
- c. File Transfer Protocol (FTP) is a standard Internet protocol for transmitting files between computers on the Internet over TCP/IP connections.
- d. In HTTP, all communication between two computers are encrypted.

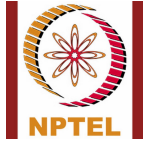
Correct Answer: d

Detailed Solution:

HTTPS is the secure version of HTTP, where all communications between two computers are encrypted. The secure communication is not true in case with HTTP.

QUESTION 5:

In the socket programming, for an IP address, which can be used to find the host name and IP address of a client/ server?



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- a. The ServerSocket class
- b. The Socket class
- c. The InetAddress class
- d. The Connection interface

Correct Answer: c

Detailed Solution:

An object of the InetAddress class is used to obtain the IP address and the host name of a client/server computer connected in a network.

QUESTION 6:

Which of these is a protocol for breaking and sending packets to an address across a network?

- a. TCP/IP
- b. DNS
- c. Socket
- d. Proxy Server

Correct Answer: a

Detailed Solution:

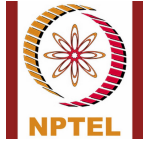
TCP/IP is the protocol that breaks the packets and sends them in a network channel.

QUESTION 7:

In the following URL, identify the protocol identifier?

`https://nptel.ac.in:8080/course.php`

- a. https
- b. nptel.ac.in
- c. //nptel.ac.in:80/course.php
- d. 8080



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Correct Answer: a

Detailed Solution:

Here, https is the protocol for communication between two communication. The option (b) is the identity of the server, where course.php can be found. (c) is called resource name and 80 is the port number, that is, the address for a logical connection so that a client program can connect to the server program.

QUESTION 8:

Which of the following statement(s) is/are true?

- a. isLoopback(): it indicates if the network interface is a loopback interface.
- b. isPointToPoint(): it indicates if the network interface is a point-to-point interface.
- c. isVirtual(): it indicates if the network interface is a virtual interface.
- d. isUP() : it indicates the network interface is running.

Correct Answer: a,b,c,d

Detailed Solution:

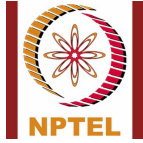
All options are correct.

QUESTION 9:

Once a JDBC driver has been registered, which of the following method is used to make a database connection?

- a. getConnection(String url, String userID, String password)
- b. setConnection(String url, String userID, String password)
- c. Connect(String url, String userID, String password)
- d. Any one of the above.

Correct Answer: a



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Detailed Solution:

The `getConnection(String url, String userID, String password)` method is used to make the database connection.

QUESTION 10:

Which of the following best describes about JDBC?

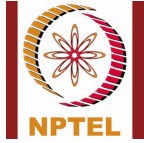
- a. JDBC works like a bridge connecting a Java application to a RDBMS, execute SQL commands and return results to the application.
- b. JDBC is a software component, which is both network and database independent.
- c. JDBC should be installed in the same machine from where the Java application will run.
- d. JDBC should be installed in the same server that of the database.

Correct Answer: a

Detailed Solution:

The JDBC driver for different databases is different. But, as an end-user, we don't have to bother about their implementation. The networking is also not an issue for the users. Further, JDBC can be installed anywhere in between the client and server.

*****END*****



OBJECT ORIENTED PROGRAMMING WITH JAVA

Assignment11

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: $10 \times 1 = 10$

QUESTION 1:

Which of the following statement(s) is/are TRUE?

- a. Statement: Used to implement simple SQL statements with no parameters.
- b. PreparedStatement: Used for pre-compiling SQL statements that might contain input parameters.
- c. CallableStatement: Used to execute stored procedures that may contain both input and output parameters.
- d. The SELECT statement specifies which columns to include in the result set.

Correct Answer: a,b,c,d

Detailed Solution:

All options are correct.

QUESTION 2:

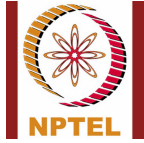
Which of the following statement(s) is/are true?

- a. The default ResultSet type is TYPE_FORWARD_ONLY.
- b. The default ResultSet type is TYPE_SCROLL_SENSITIVE.
- c. The default ResultSet type is TYPE_SCROLL_INSENSITIVE.
- d. The default ResultSet type is CONCUR_READ_ONLY.

Correct Answer: a

Detailed Solution:

The default ResultSet type is TYPE_FORWARD_ONLY.



QUESTION 3:

As with Statement objects, to execute a PreparedStatement object, it need to be call an execute statement. Which of the following statement(s) is/are true regarding this?

- a. executeQuery: if the query returns only one ResultSet (such as a SELECT SQL statement).
- b. executeUpdate : if the query does not return a ResultSet (such as an UPDATE SQL statement).
- c. execute : if the query might return more than one ResultSet object.
- d. executupdateQuery : if the query does return a ResultSet (such as an UPDATE SQL statement).

Correct Answer: a,b,c

Detailed Solution:

All options are correct except option (d).

QUESTION 4:

Which of the following statement(s) is/are true, when the return value for executeUpdate is 0 ?

- a. The statement executed was an update statement that affected zero rows.
- b. The statement executed was a DDL statement.
- c. The statement executed was an update statement that affected one row.
- d. The statement executed was a DCL statement.

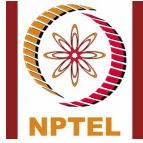
Correct Answer: a, b

Detailed Solution:

Either the statement executed was an update statement that affected zero rows or the statement executed was a DDL statement, when the return value for executeUpdate is 0.

QUESTION 5:

Which of the following class/interface is NOT related to database management in Java?



- a. Socket
- b. Connection
- c. Statement
- d. ResultSet

Correct Answer: a

Detailed Solution:

Except for Socket, every other options are related to DBMS in Java.

QUESTION 6:

Once a JDBC driver has been registered, which of the following method is used to make a database connection?

- a. getConnection(String url, String userID, String password)
- b. setConnection(String url, String userID, String password)
- c. Connect(String url, String userID, String password)
- d. Any one of the above.

Correct Answer: a

Detailed Solution:

The `getConnection(String url, String userID, String password)` method is used to make the database connection.

QUESTION 7:

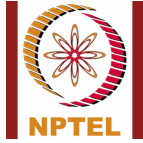
The SQL command “USE test” implies, which of the following?

- a. List all the databases those are there in the database server.
- b. List all the tables those are there under the database.
- c. Create a table called test.
- d. Set test as the current working database, so that any SQL command bind to the test database only.

Correct Answer: d

Detailed Solution:

The USE command is used to set the current working database.



QUESTION 8:

What happens after execution of the following code?

```
import java.sql.*;
class InsertPrepared{
    public static void main(String args[]){
        try{
            Class.forName("com.mysql.jdbc.Driver");
            Connection con=DriverManager.getConnection(
                "jdbc:mysql://localhost/database","Java","july");
            PreparedStatement stmt=con.prepareStatement("INSERT INTO
table VALUES(?,?)");
            stmt.setInt(1,"Joe");
            stmt.setString(2,"Dan");
            stmt.executeUpdate();
            con.close();
        }
        catch(Exception e){
            System.out.println(e);
        }
    }
}
```

- a. Compilation error
- b. Runtime error
- c. 1, "Joe" is replaced by 2, "Dan"
- d. "Joe" and "Dan" both are inserted in different columns of same row.

Correct Answer: d

QUESTION 9:

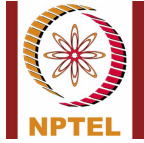
How do you know in your Java program that a SQL warning is generated as a result of executing a SQL statement in the database?

- a. You must catch the checked SQLException which is thrown by the method which executes the statement.
- b. You must catch the unchecked SQLWarningException which is thrown by the method which executes the statement.
- c. You must invoke the getWarnings() method on the Statement object (or a sub interface thereof).
- d. You must query the ResultSet object about possible warnings generated by the database.

Correct Answer: c

Detailed Solution:

The getWarnings() method can return, if the SQL database server returns any error or warning.



QUESTION 10:

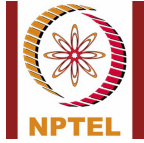
Which one of the following is a class in package java.sql?

- a. Timestamp
- b. Driver
- c. Connection
- d. ResultSet

Correct Answer: a

Detailed Solution:

Timestamp is a class in package **java.sql**. Others are interfaces in package **java.sql**.



—OBJECT ORIENTED PROGRAMMING WITH JAVA

Assignment12

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark: $10 \times 1 = 10$

QUESTION 1:

Execution of SQL command like `SELECT * FROM myTable` using JDBC program will return a `ResultSet` object. This object is

- a. Same as the myTable.
- b. All records in verbatim from the table.
- c. All records in verbatim from the table but those records with null values.
- d. All records in verbatim from the table but those records are not with null values.

Correct Answer: b

Detailed Solution:

The `ResultSet` object includes all records stored as an array of records and irrespective of whether a record contains null value(s) or not.

QUESTION 2:

Which of the following control expressions are not valid for an **if** statement?

- a. Any integer expression.
- b. Any Boolean expression.
- c. A String object.
- d. **Any** expression with mixed arithmetic.

Correct Answer: c,d

Detailed Solution:

Any expression with Boolean or integer variables are valid. The condition will evaluate to zero (false) or non-zero (true) values. Other options are not valid.

QUESTION 3:

Let's consider the following program in Java.

```
class Test extends Thread {  
    public void run() {  
        System.out.println("I am from Run...");  
    }  
}  
  
class MyProgram {  
    public static void main(String[] args) {  
        Test t = new Test();  
        t.start();  
    }  
}
```

If you run this program the how many threads will be executed altogether?

- a. One thread only.
- b. Two threads only.
- c. Three threads only.
- d. No thread will run in this case.

Correct Answer: b

Detailed Solution:

Here, two thread objects will be in execution: One is the thread due to the execution of the `main()` method and other is the `run()` of the object `t`.

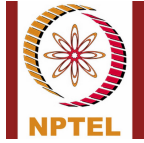
QUESTION 4:

Which of the statements are correct about Swing programming?

- a. AWT is a heavyweight programming.
- b. Swing is heavyweight programming.
- c. Swing is lightweight programming.
- d. Both AWT and Swing are lightweight programming

Correct Answer: c

Detailed Solution:



Swing is lightweight compared to the AWT.

QUESTION 5:

Which of the following displays components row-by-row in the order in which they were added to the JFrame?

- a. CardLayout
- b. FlowLayout
- c. BorderLayout
- d. GridLayout

Correct Answer: b

Detailed Solution:

Flow layout adds the components serially in the order in which they were added.

QUESTION 6:

Consider the following piece of code in Java.

```
public class Test {  
    public static void aMethod() throws Exception {  
        try {  
            throw new Exception();  
        }  
        finally {  
            System.out.print("finally ");  
        }  
    }  
    public static void main(String args[]){  
        try {  
            aMethod();  
        }  
        catch (Exception e) {  
            System.out.print("exception ");  
        }  
        System.out.print("finished ");  
    }  
}
```

What is the result, if the above-mentioned program is executed?

- a. finally

- b. exception finished
- c. exception finally finished
- d. finally exception finished
- e. Compilation fails

Correct Answer:d

Detailed Solution:

The program is syntactically correct and here for two try blocks, there is one catch block.

QUESTION 7:

Consider the following program:

```
public class Question
{
    public static void main(String[] args) {
        String str = "january java nptel.";
        System.out.println(str.charAt(8)+str.
substring(9, 12));
    }
}
```

What is the output of the following program?

- a. j ava
- b. iava
- c. javanptel
- d. january

Correct Answer: b

Detailed Solution:

QUESTION 8:

Which of the following statements would cause a compilation error?

- a. `float[] = new float(3);`
- b. `float f2[] = new float[];`
- c. `float[] f1 = new float[3];`
- d. `float f3[] = new float[3];`
- e. `float f5[]={ 1.0f, 2.0f, 2.0f };`
- f. `float f4[] = new float[] { 1.0f, 2.0f, 3.0f};`

Correct Answer: a,b

Detailed Solution:

Option (c), (d), (e) and (f) are syntactically correct for declaration of an array. And option (a) and (b) are not correct so they will cause error

QUESTION 9:

Consider the following program:

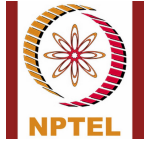
```
public class Question
{
    public static void main(String[] args) {
        String str = "april java npTEL.";
        System.out.println(str.length());
    }
}
```

What is the output of the following program?

- a. 16
- b. 15
- c. 19
- d. 17

Correct Answer: d

Detailed Solution:



QUESTION 10:

Which of the following method is used to set a frame, say `f` with size 200×300 pixels?

```
JFrame f = new JFrame ();
```

- a. `f.setSize(300, 200);`
- b. `f.setSize(200, 300);`
- c. `f.paint(300, 200);`
- d. `f.setVisible(300, 200);`

Correct Answer: b

Detailed Solution:

The `setSize(200,300)` method is used to do the job. Other are either syntactically not valid or not appropriate.

*****END*****