Part A: True/False Questions

1. The name of a Java program file must match the name of the class with the extension .java
   A. True   B. False
2. Two methods cannot have the same name in Java.
   A. True   B. False
3. The modulus operator (%) can be used only with integer operands.
   A. True   B. False
4. Declarations can appear anywhere in the body of a Java method.
   A. True   B. False
5. All the bitwise operators have the same level of precedence in java.
   A. True   B. False
6. When x is a positive number, the operations x > > 2 and x > > > 2 both produce the same result.
   A. True   B. False
7. If a = 10 and b = 15, then the statement x = (a > b)? a : b;
   assigns the value 15 to x.
   A. True   B. False
8. In evaluating a logical expression of type

   ```
   boolean expression1 && boolean expression2
   ```

   both the boolean expressions are not always evaluated.
   A. True   B. False
9. In evaluating the expression (x = = y && a < b) the boolean expression x = = y is evaluated first and
   then a < b is evaluated.
   A. True   B. False

10. The **default** case is always required in the switch selection structure.
    A. True   B. False
11. The **break** statement is required in the default case of a switch selection structure.
    A. True   B. False
12. The expression (x = = y && a < b) is true if ether x = = y is true or a < b is true.
    A. True   B. False
13. A variable declared inside the **for** loop control cannot be referenced outside the loop.
    A. True   B. False
14. Java always provides a default constructor to a class.
    A. True   B. False
15. When present, **package** must be the first noncomment statement in the file.
    A. True   B. False
16. The **import** statement is always the first noncomment statement in a Java program file.
    A. True   B. False
17. Objects are passed to a method by use of call-by-reference.
    A. True   B. False
18. It is perfectly legal to refer to any instance variable inside of a **static** method.
    A. True   B. False
19. When we implement an interface method, it should be declared as **public**.
    A. True   B. False
20. We can overload methods with differences only in their return type.
    A. True   B. False
21. It is an error to have a method with the same signature in both the super class and its subclass.
    A. True   B. False
22. A constructor must always invoke its super class constructor in its first statement.
    A. True   B. False
23. Subclasses of an abstract class that do not provide an implementation of an abstract method, are also abstract.
    A. True   B. False
24. Any class may be inherited by another class in the same package.
    A. True   B. False
25. Any method in a super class can be overridden in its subclass.
    A. True   B. False
26. One of the features of Java is that an array can store many different types of values.
    A. True   B. False
27. An individual array element that is passed to a method and modified in that method will contain the modified value when the called method completes execution.
    A. True   B. False
28. Members of a class specified as a **private** are accessible only to the methods of the class.
    A. True   B. False
29. A method declared as **static** cannot access **non-static** class members.
    A. True   B. False
30. A **static** class method can be invoked by simply using the name of the method alone.
    A. True   B. False
31. It is an error, if a class with one or more **abstract** methods is not explicitly declared **abstract**.
    A. True   B. False

32. It is perfectly legal to assign an object of a super class to a subclass reference without a cost.
    A. True   B. False
33. It is perfectly legal to assign a subclass object to a super class reference.
    A. True   B. False
34. Every method of a **final** class is implicitly **final**.
    A. True   B. False
35. All methods in an **abstract** class must be declared **abstract**.
    A. True   B. False
36. When the **String** objects are compared with = =, the result is true if the strings contain the same values.
    A. True   B. False
37. A **String** object cannot be modified after it is created.
    A. True   B. False
38. The length of a **String** object **s1** can be obtained using the expression **s1.length**.
    A. True   B. False
39. A **catch** can have comma-separated multiple arguments.
    A. True   B. False
40. It is an error to catch the same type of exception in two different **catch** blocks associated with a particular **try** block.
    A. True   B. False
41. Throwing an **Exception** always causes program termination.
    A. True   B. False
42. Every call to **wait** has a corresponding call to **notify** that will eventually end the waiting.
    A. True   B. False
43. Declaring a method **synchronized** guarantees that the deadlock cannot occur.
    A. True   B. False
44. The programmer must explicitly create the **System.in** and **System.out** objects.
    A. True   B. False
45. If the file-position pointer points to a location in a sequential file other than the beginning, we must use the **seek** method to bring the pointer to the beginning, to read from the beginning of the file again.
    A. True   B. False
46. To delete a file, we can use an instance of class **File**.
    A. True   B. False
47. A panel cannot be added to another panel.
    A. True   B. False
48. Frames and applets cannot be used together in the same program.
    A. True   B. False
49. A **final** class may not have any **abstract** methods.
    A. True   B. False
50. A class may be both **abstract** and **final**.
    A. True   B. False
51. A thread wants to make a second thread ineligible for execution. To achieve this, the first thread can call the **yield( )** method on the second thread.
    A. True   B. False
52. A thread can make a second thread ineligible for execution by calling the **suspend( )** method on the second thread.

    A. True   B. False

53. A Java monitor must either extend **Thread** class or implement **Runnable** interface.
    A. True   B. False

54. The **CheckboxGroup** class is a subclass of the **Component** class.
    A. True   B. False

55. If a frame uses a Grid layout manager and does not contain any panels, then all the components within the frame are of the same width and height.
    A. True   B. False

56. With a Border layout manager, the component at the centre gets all the space that is left over, after the components at North and South have been considered.
    A. True   B. False

57. The CODE value in an <APPLET> tag must name a class file that is in the same directory as the calling HTML page.
    A. True   B. False

58. If **getParameter( )** returns null, then assigning the return value to a variable of type **String** may cause an exception to be thrown.
    A. True   B. False

59. It is possible to use the **File** class to list the contents of the current working directory.
    A. True   B. False

60. **Reader** class has a method that can read and return floats and doubles.
    A. True   B. False

Part B: Multiple-choice Questions

1. The range of values for the long type data is
    A. -2^{31} to $2^{31} - 1$ B. -2^{64} to 2^{64}
    C. -2^{63} to $2^{63} - 1$ D. -2^{32} to $2^{32} - 1$

2. Which of the following represent(s) of a hexadecimal number?
    A. 570   B. (hex) 5
    C. 0X9F   D. 0X5

3. Which of the following assignments are valid?
    A. float x = 123.4;   B. long m = 023;
    C. int n = (int)false;   D. double y = 0X756;

4. The default value of char type variable is
    A. '\u0020'   B. '\u00ff'
    C. " "   D. '\u0000'

5. What will be the result of the expression 13 & 25?
    A. 38   B. 25
    C. 9   D. 12

6. What will be result of the expression 9 | 9?
    A. 1   B. 18
    C. 9   D. None of the above

7. Which of the following are correct?
    A. int a = 16, a >> 2 = 4
    B. int b = −8, b >> 1 = −4
    C. int a = 16, a >>> 2 = 4

D. int b = –8, b >>> 1 = – 4

E. All the above

8. What will be the values of x, m, and n after execution of the following statements?

```
int x, m, n;
m = 10;
n = 15;
x = ++m + n++;
```

A. x = 25, m = 10, n = 15 B. x = 27, m = 10, n = 15

C. x = 26, m = 11, n = 16 D. x = 27, m = 11, n = 16

9. If m and n are int type variables, what will be the result of the expression

```
m % n
```

when m = 5 and n = 2?

A. 0   B. 1

C. 2   D. None of the above

10. If m and n are int type variables, what will be the result of the expression

```
m % n
```

when m = – 14 and n = –3?

A. 4   B. 2   C. –2

D. –4   E. None of the above

11. Consider the following statements:

```
int x = 10, y = 15;
x = ( (x<y) ? (y+x) : (y−x) ;
```

What will be the value of x after executing these statements?

A. 10   B. 25   C. 15

D. 5   E. Error. Cannot be executed.

12. Which of the following operators are overloaded for String objects?

A. –   B. +   C. + =

D. &   E. <<   F. None of these

13. What is the result of the expression

```
(1 & 2) + (3 | 4)
```

in base ten.

A. 1   B. 2   C. 8

D. 7   E. 3

14. Which of the following will produce a value of 22 if x = 22.9?

A. ceil(x)   B. round(x)   C. rint(x)

D. abs(x)   E. floor(x)

15. Which of the following will produce a value of 10 if x = 9.7?

A. floor(x)   B. abs(x)   C. rint(x)

D. round(x)   E. ceil(x)

16. Which of the following expressions are illegal?

A. (10 | 5)   B. (false && true)   C. boolean x = (boolean)10;

D. float y = 12.34;

17. Which of the following lines will not compile?
    1. byte b1 = 5, b2 = 3, b3;
    2. short s = 25;
    3. b2 = s;
    4. b3 = b1 * b2;
    A. Line 1 only   B. Line 3 only   C. Line 4 only
    D. Line 1 and Line 4 only   E. Line 3 and Line 4 only
18. Which of the following are illegal loop constructs?
    A. while(int i > 0)
       {i- -; other statements;}
    B. for(int i = 10, int j = 0; i+j > 5; i = i−2, j++)
       {
            Body statements
       }
    C. int i = 10;
       while (i)
       {
            Body statements
       }
    D. int i = 1, sum = 0;
       do {loop statements}
       while(sum < 10 || i<5);
19. Consider the following code

    ```
    if (number >= 0)
        if (number > 0)
            System.out.println ("Number is positive") ;
        else
            System.out.println ("Number is negative") ;
    ```

    What will be the output if number is equal to 0?
    A. Number is negative   B. Number is positive
    C. Both A and B   D. None of the above
20. Which of the following control expressions are valid for an if statement?
    A. an integer expression   B. a boolean expression
    C. either A or B   D. Neither A nor B
21. In the following code snippet, which lines of code contain error?
    1. int j = 0;
    2. while(j < 10) {
    3. j++;
    4. if(j == 5) continue loop;
    5. System.out.println("j is" + j); }
    A. Line 2   B. Line 3   C. Line 4
    D. Line 5   E. None of the above
22. Consider the following code:

    ```
    char c = 'a' ;
    switch (c)
    {
    ```

```
        case 'a' :
        System.out.println ("A") ;
        case 'b' :
        System.out.println ("B") ;
        default:
        System.out.println ("C") ;
    }
```

For this code, which of the following statement is true?

A. output will be A

B. output will be A followed by B

C. output will be A, followed by B, and then followed by C

D. code is illegal and therefore will not compile

23. Consider the following class definition.

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

What happens when we try to compile this class?

A. Will not compile because class body is not defined

B. Will not compile because the class is not declared **public**

C. Will not compile because String is **abstract**

D. Will not compile because String is **final**

E. Will compile successfully.

24. What is wrong in the following class definitions?

```
    abstract class Print
    {
        abstract show ( ) ;
    }
    class Display extends Print
    {
    }
```

A. Nothing is wrong

B. Wrong. Method **show( )** should have a return type

C. Wrong. Method **show( )** is not implemented in Display

D. Wrong. **Display** does not contain any members

25. What is the error in the following class definition?

```
    abstract class XY
    {
        abstract sum (int x, int y) { }
    }
```

A. Class header is not defined properly

B. Constructor is not defined

C. Method is not defined properly

D. No error

26. Consider the following class definitions:

```
    class maths
    {
```

```
        Student student1;
    }
    class Student
    {
        String name;
    }
```

This code represents:

A. an 'is a' relationship   B. a 'has a' relationship

C. both   D. neither

27. Consider the following class definition:

```
    class A extends B
    {
        public A (int x) { }
        public A (int x, int y)
        {
            super (x, y) ;
        }
    }
```

Which of the following are legal statements to construct A type objects?

A. A a = new A( );

B. A a = new A(4, 2, 7);

C. A a = new A(5, 6);

D. A a = new A(10);

E. A a = new A(Base(4, 5), 6);

28. Which of the following are overloading the method

```
    int sum(int x, int y) { }
```

A. int sum(int x, int y, int z) { }

B. float sum(int x, int y) { }

C. int sum(float x, float y) { }

D. int sum(int a, int b) { }

E. float sum(int x, int y, float z) { }

29. What is the error in the following code?

```
    class Test
    {
        abstract void display ( ) ;
    }
```

A. No error

B. Method **display( )** should be declared as **static**

C. **Test** class should be declared as **abstract**

D. **Test** class should be declared as **public**

30. Which of the following statements are true?

1. We cannot use abstract classes to instantiate objects directly.

2. The abstract methods of an abstract class must be defined in its subclass.

3. We cannot declare abstract constructors.

4. We may declare abstract static methods.

A. Line 1 only   B. Line 2 only

C. Line 1 and line 2 only   D. Line 1, line 2 and line 3 only

E. All are true

31. Which keyword can protect a class in a package from accessibility by the classes outside the package?

A. private

B. protected

C. final

D. don't use any keyword at all (make it default)

32. We would like to make a member of a class visible in all subclasses regardless of what package they are in. Which one of the following keywords would achieve this?

A. private   B. protected

C. public   D. private protected

33. The use of protected keyword to a member in a class will restrict its visibility as follows:

A. Visible only in the class and its subclass in the same package.

B. Visible only inside the same package.

C. Visible in all classes in the same package and subclasses in other packages

D. Visible only in the class where it is declared.

34. Which of the following are not keywords?

A. NULL   B. implements   C. protected

D. extended   E. string

35. Which of the following are keywords?

A. switch   B. integer   C. default

D. boolean   E. object

36. Which of the following keywords are used to control access to a class member?

A. default   B. abstract   C. protected

D. interface   E. public

37. The keywords reserved but not used in the initial version of Java are:

A. union   B. const   C. inner

D. goto   E. boolean   F. synchronized

38. Consider the following code:

```
class ClassA
{
    public static void main (String args [ ] )
    {
        ClassB b = classB ( ) ;
    }
    ClassA (int x) { }
}
class ClassB extends ClassA
{
}
```

What will happen when we compile and run this code?

A. Compile and run successfully

B. Error. ClassA does not define a no-argument constructor

C. Error. ClassB does not define a no-argument constructor

D. Error. There is no code in the class ClassB

E. Error. There is no code in the constructor ClassA (int x)

39. A package is a collection of
    A. classes   B. interfaces
    C. editing tools   D. classes and interfaces
40. Which of the following statements are true?
    A. An abstract class may not have any final methods.
    B. A final class may not have any abstract methods.
    C. An inner class may be declared with any accessibility keyword.
    D. Transient variables must be static.
41. Which of the following defines a legal abstract class?
    A. class Vehicle {
               abstract void display( ); }
    B. abstract Vehicle {
               abstract void display( ); }
    C. abstract class Vehicle {
               abstract void display( ); }
    D. class abstract Vehicle {
               abstract void display( ); }
    E. abstract class Vehicle {
               abstract void display( ); {
               System.out.println("Car"); }}
42. Package p1 contains the following code:

```
package p1;
public class Student { Body of student }
class Test { Body of Test }
```

Now consider the following code:

```
import p1.*;
class Result
{
    Student s1;
    Test t1;
}
```

This code will not compile because
A. Class Result should be declared public.
B. Student class is not available.
C. Test class is not available.
D. Result body is not fully defined.
43. Consider the following code:

```
interface Area
{
    float compute (float x, float y) ;
}
class Room implements Area
{
    float compute (float x, float y)
    {
```

```
            return (x & y) ;
        }
    }
```

What is wrong with the code?

A. Interface definition is incomplete

B. Method **compute( )** in interface **Area** should be declared public

C. Method **compute( )** in class **Room** should be declared public

D. All the above

44. The concept of multiple inheritance is implemented in Java by

    A. extending two or more classes

    B. extending one class and implementing one or more interfaces

    C. implementing two or more interfaces

    D. all the above

45. Which of the following statements are valid array declaration?

    A. int number( );

    B. float average[ ];

    C. double[ ] marks;

    D. counter int[ ];

46. Consider the following code

```
    int number [ ] = new int [5] ;
```

    After execution of this statement, which of the following are true?

    A. number[0] is undefined

    B. number[5] is undefined

    C. number[4] is null

    D. number[2] is 0

    E. number.length( ) is 5

47. What will be the content of array variable table after executing the following code?

```
    for (int i=0; i<3; i++)
        for (int j=0, j<3; j++)
            if (j == i) table [i] [j] = 1;
            else table [i] [j] = 0;
```

    A. 0 0 0   B. 1 0 0   C. 0 0 1   D. 1 0 0

       0 0 0   1 1 0   0 1 0   0 1 0

       0 0 0   1 1 1   1 0 0   0 0 1

48. Which of the following classes are available in the **java.lang** package?

    A. Stack   B. Object   C. Math

    D. Random   E. String   F. StringBuffer

    G. Vector

49. Which of the following are the wrapper classes?

    A. Random   B. Byte   C. Vector

    D. Integer   E. Short   F. Double

    G. String

50. Which of the following contain error?

    A. int x[ ] = int[10];

    B. int[ ] y = new int[5];

C. float d[ ] = {1, 2, 3};

D. x = y = new int [10];

E. int a[ ] = {1, 2}; int b[ ]; b = a;

F. int i = new int(10);

51. Which of the following methods belong to the **String** class?

A. length( )   B. compareTo( )   C. equals( )

D. substring( )   E. All of them   F. None of them

52. Given the code

```
String s1 = "yes";
String s2 = "yes";
String s3 = new String (s1) ;
```

Which of the following would equate to **true**?

A. s1 = = s2   B. s1 = s2   C. s3 = = s1

D. s1.equals(s2)   E. s3.equals(s1)

53. Suppose that s1 and s2 are two strings. Which of the statements or expressions are correct?

A. String s3 = s1 + s2;   B. String s3 = s1 – s2;   C. s1 <= s2

D. s1.compareTo(s2);   E. int m = s1.length( );

54. Given the code

```
String s = new String ("abc") ;
```

Which of the following calls are valid?

A. s.trim( )   B. s.replace('a', 'A')   C. s.substring(3)

D. s.toUpperCase( )   E. s.setCharAt(1,'A')   F. s.append("xyz")

55. The methods **wait( )** and **notify( )** are defined in

A. java.lang.String   B. java.lang.Runnable   C. java.lang.Object

D. java.lang.Thread   E. java.lang.ThreadGroup

56. Which of the following statements are true?

A. A Java monitor must either extend Thread or implement Runnable.

B. The sleep( ) method should be enclosed in try ... catch block.

C. The yield( ) method should be enclosed in try ... catch block.

D. A thread can be temporarily suspended from running by using the wait( ) method.

E. A suspended thread using suspend( ) method can be revived using the resume( ) method.

57. Given the following code:

```
class Base { int x = 10; }
class Derived extends Base
{ int x = 20; }
Base b = new Base ( ) ;
Derived d = new Derived( ) ;
Base bd = new Derived( ) ;
```

The statement

```
System.out.println (b.x + " " + d.x + " " + bd.x) ;
```

will produce the output

A. 10 20 20   B. 10 20 10

C. 20 10 20   D. 20 20 10

58. Given the class definitions

```
class Base
```

```
        {
            void display( )
            { System.out.println ("Base") ; }
        }
        class Derived extends Base
        {
            void display ( )
            { System.out.println ("Derived") ; }
        }
```

and objects

```
        Base b = new Base( );
        Derived d = new Derived( );
        Base bd = new Derived( );
```

then the print statements

```
        System.out.print(b.display( ) + " ");
        System.out.print(d.display( ) + " ");
        System.out.print(bd.display( ) + " ");
        System.out.println( );
```

will display:

A. Base Base Derived

B. Base Derived Base

C. Base Derived Derived

D. Derived Derived Derived

59. When we invoke **repaint( )** for a Component, the AWT invokes the method:

A. draw( )   B. show( )

C. update( )   D. paint( )

60. What does the following line of code do?

```
        TextField text = new TextFiled(10);
```

A. Creates text object that can hold 10 rows of text.

B. Creates text object that can hold 10 columns of text.

C. Creates the object text and initializes it with the value 10.

D. The code is illegal.

61. Which of the following applet tags is legal to embed an applet class named Test into a Web page?

A. < applet

class = Test width = 200 height = 100>

< /applet>

B. < applet>

code = Test.class width = 200 height = 100>

< /applet>

C. < applet

code = Test.class width = 200 height = 100

< /applet>

D. < applet

param = Test.class width = 200 height = 100>

< /applet>

E. < applet
code = Test.class width = 200 height = 100>
< / applet>

62. Which of the following methods can be used to draw the outline of a square?
A. fillRect( )   B. drawLine( )   C. drawRect( )
D. drawString( )   E. drawPolygon( )

63. Which of the following methods can be used to change the size of a component
A. dimension( )   B. setSize( )   C. area( )
D. size( )   E. resize( )

64. Which of the following methods can be used to remove a component from the display?
A. delete( )   B. remove( )   C. disappear( )
D. hide( )   E. move( )

65. The setBackground( ) method is part of the class
A. Graphics   B. Applet   C. Component
D. Container   E. Object

66. When we implement the Runnable interface, we must define the method
A. start( )   B. init( )   C. run( )
D. runnable( )   E. resume( )   F. main( )

67. Which of the following strings can be used as mode strings for creating a RandomAccessFile object?
A. " r "   B. " w "   C. " rw "
D. " wr "   E. " 0 "

68. What will be the output of the following program?

```
class Main1
{
    public static void main(String args [ ])
    {
        boolean b = true;
        System.out.println("XXX");
        return;
        System.out.println("YYY");
    }
}
```

A. XXX
B. YYY
C. XXX followed by YYY
D. Error. Won't compile

69. What will be output of the following program?

```
class Main2
{
    public static void main(String args[ ])
    {
        boolean b = true;
        System.out.println("XXX");
        if( !b ) return;
        System.out.println("YYY");
    }
}
```

    A. XXX

    B. YYY

    C. XXX followed by YYY

    D. Error. Won't compile

70. DataInput is

    A. an abstract class defined in java.io.

    B. a class we can use to read primitive data types.

    C. an interface that defines methods to open files.

    D. an interface that defines methods to read primitive data types.

71. Which of the following statements are *true*?

    A. Unicode characters are all 16 bits.

    B. UTF characters are all 24 bits.

    C. Reader class has methods that can read integers and floats.

    D. File class may be used to rename a file.

    E. DataOutputStream objects are used to write primitive data to a file.

72. Which are the valid ways to create DataInputStream streams?

    A. new DataInputStream( );

    B. new DataInputStream("in.dat", "r");

    C. new DataInputStream("in.dat")

    D. new DataInputStream(new File("in.dat"));

    E. new DataInputStream(new FileInputStream("in.dat");

73. Which exception is thrown by the read( ) method of InputStream class?

    A. Exception   B. FileNotFoundException

    C. ReadException   D. IOException

    E. None of the above

74. In the code below, what data types the variable x can have?

```
byte b1 = 5;
byte b2 = 10;
x = b1 * b2;
```

    A. byte   B. int   C. short

    D. long   E. float   F. double

75. If you want to assign a value of 99 to the variable year, then which of the following lines can be used within an <applet> tag?

    A. number = getParameter(99)   B. < number = 99 >

    C. < param = radius value = 99 >   D. < param name = number value = 99 >

    E. < param number = 99 >

76. What is java_g used for?

    A. Using the jdb tool

    B. Executing a class with optimization turned off

    C. To provide information about deprecated methods

    D. None of the above

77. With javadoc, which of the following denotes a javadoc comment?

    A. //#   B. /*

    C. /**   D. //**

78. Given file is a File object, which of the following are legal statements to create a new file

A. file.create( );

B. FileOutputStream fos = new FileOutputStream(file);

C. FileWriter out = new FileWriter(file);

D. FileInputStream fis = new FileInputStream(file);

E. RandomAccessFile raf = new RandomAccessFile(file);

79. Which javadoc tage is used to denote a comment for a method parameter?

    A. @method   B. @parameter   C. @argument

    D. @param   E. @value

80. Which of the following command lines options generates documentation for all classes and methods?

    A. –protected   B. –public   C. –private

    D. –verbose   E. –encoding

81. Given the declarations

```
int x, m = 2000;
short y;
byte b1 = −40, b2;
long n;
```

which of the following assignment statements will evaluate correctly?

    A. x = m * b1;   B. y = m * b1;

    C. n = m * 3L;   D. x = m * 3L;

82. Given the declarations

```
boolean b;
short x1 = 100, x2 = 200, x3 = 300;
```

Which of the following statements are evaluated to *true*?

A. b = x1 * 2 = x2;

B. b = x1 + x2 != 3 * x1;

C. b = (x3 – 2*x2<0) || ((x3 = 400) <2**x2);

D. b = (x3 – 21*x2>0) || (x3 = 400) 2*x2);

83. In which of the following code fragments, the variable x is evaluated to 8.

    A. int x = 32;'   B. int x = 33;

       x = x >> 2;   x = x >> 2;

    C. int x = 35;   D. int x = 16;

       x = x >> 2;   x = x >> 1;

84. Consider the following code snippet:

```
.....
.....
try {
int x = 0;
int y = 50/x;
System.out.println("Division by zero");
}
catch(ArithmeticException e) {
System.out.println("catch block");
}
.....
.....
```

What will be the output?
A. Error. Won't compile
B. Division by zero
C. Catch block
D. Division by zero
   Catch block

85. Which of the following represent legal flow control statements?

A. break;	B. break( );	C. continue outer;
D. continue(inner);	E. return;	F. exit( );

Part C: Short-answer Questions

1. What will be the output of the following code?

```
byte x = 64, y;
y = (byte) (x << 2);
System.out.println(y);
```

2. What will be the output of the following code:

```
byte b;
double d = 417.35;
b = (byte) d;
System.out.println(b);
```

3. Given the value of a variable, write a statement, without using if construct, which will produce the absolute value of the variable.

4. What is wrong with the following code?

```
switch(x)
{
    case 1:
    n1 = 10;
    n2 = 20;
    case 2:
    n3 = 30;
    break;
    n4 = 40;
}
```

5. What will be the output of the following program code?

```
int m = 100;
int n = 300;
while (++m < −−n);
System.out.println(m);
```

6. What does the following fragment display

```
String s = "six:" + 3 + 3;
System.out.println(s);
```

7. What is the output of the following code?

```
String s;
System.out.println("s = " + s);
```

8. What is the output of the following code?

```
String s = new String( );
System.out.println("s = " + s);
```

9. What is the problem with the following snippet?

```
class Q9
{
    public static void main(String args[ ])
    {
        int i = 5, j = 10;
        if ( (i<j) || (i=10) )
            System.out.println("OK");
        System.out.println("NOT OK");
    }
}
```

10. What will be the output of the following code snippet?

```
int x = 10;
int y = 20;
if ((x<y) || (x=5)>10)
    System.out.println(x);
else
    System.out.println(y);
```

11. Show the output the following code:

```
int a, b;
a = 5;
b = 10;
if(a > 5)
    if(b > 5)
    {
        System.out.println("b is " + b);
    }
    else
        System.out.println("a is " + a);
```

12. State the output of the following code:

```
int a = 10;
int b = 5;
if(a > b)
{
    if(b > 5)
    System.out.println("b is " + b);
}
else
    System.out.println("a is" + a);
```

13. Give the output of the following code:

```
int m = 100;
while(true)
{
```

```
        if(m < 10)
            break;
        m = m — 10;
    }
    Systm.out.println("m is " + m);
```

14. Give the output of the following code:

```
int m = 100;
while(true)
{
    if(m < 10)
    continue;
    m = m — 10;
}
System.out.println("m is " + m);
```

15. Using a single line of code, complete the following class so that it returns x+y if the value of x is equal to y, otherwise returns 0:

```
public class XY
{
    public return int fun(int x, int y)
    {
        .......... (one line code her)
    }
}
```

16. Given a package named **EDU.Student**, how would you import a class named **Test** contained in this package? Write one line statement.

17. Consider the following class definition:

```
class Student

{

    abstract double result( )

}
```

This code will not compile since a keyword is missing in the first line. What is the keyword?

18. Consider the following class file?

```
import java.awt.*;
import java.io.*;
package studentBase;
class Test
{
    void display( )
    {
        System.out.println("RESULTS");
    }
}
```

Will it compile? YES or NO. Give reason, if No:

19. Consider the following code:

```
class Product
{
    public static void main(String args [ ])
    {
        int x = 10, y = 20;
        System.out.println(mu1 (x, y));
    }
    int mul(int a, int b)
    {
        return(a * b);
    }
}
```

Will it compile? YES or NO. Give reason, if No:

20. Given below are two files:

File Employee.java

```
package purchase;
public class Employee
{
    protected double age = 35.00;
}
```

File Company.java

```
import purchase.Employee;
public class Company
{
    public static void main(String arg[ ])
    {
        Employee e = new Employee( );
        System.out.println("Age = " + e.age);
    }
}
```

Will the file Company.java compile? YES or NO. Give reason, if No.

21. Consider the following code:

```
class A
{
    void method(int x)
    { System.out.println("x = " + x); }
}
class B extends A
{
    void method(int y)
    { System.out.println("y = " + y); }
    void method(String s)
    { System.out.println("s = " + s); }
    public static void main(String args[ ])
    {
        A a1 = new A( );
```

```
            A a2 = new B( );
            a1.method(10);
            a2.method(20);
        }
    }
```

What will be the output, when executed?

22. There are three classes that implement and **DataInput** and **DataOutput** interfaces. Two of them are **DataInputStream** and **DataOutputStream**. Which is the third one?

23. What output will the following program produce?

```
class Bits
{
    public static void main(String args[ ])
    {
        short s1 = 3; // 0000 0011
        short s2 = 13; // 0000 1101
        s1 = (short) (s1 ^ s2);
        System.out.println("Result is " + s1);
    }
}
```

24. State the output of the following program:

```
class Condition
    {
        public static void main(String args[ ])
        {
            int x = 10;
            int y = 15;
            System.out.println((x>y)? 3.14 : 3));
        }
    }
```

25. Which of the classes in **java.io** package defines a method to delete a file?

26. Given a valid File object reference, we can create a new file using two classes defined in **java.io** package. One is **FileOutputStream** class. Which is the other one?

27. If raf is an instance of **RandomAccessFile**, how can we move the file pointer to the end of the file? Write the statement.

28. What will be the output of the following program when it is executed with the command line
java Command Java is wonderful

```
class Command
{
    public staitic void main(String args[ ])
    {
        for(int i = 1; i < args.length; i++)
        {
            System.out.print(args[i]);
            if( i != args.length )
            System.out.print(" ");
        }
```

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

29. What will be the output of the following code snippet when combined with suitable declarations and run?

```
    StringBuffer city = new StringBuffer("Madras");
    StringBuffer string = new StringBuffer( );
    string.append(new String(city));
    string.insert(0, "Central ");
    String.out.println(string);
```

30. Consider the following program code:

```
    class Thread1 extends Thread
    {
        public void run( )
        {
            System.out.println("Begin");
            suspend( );
            resume( );
            System.out.println("End");
        }
    }
    class ThreadTest
    {
        public static void main(String args[ ])
        {
            Thread1 T1 = new Thread1( );
            T1.start( );
        }
    }
```

On execution, what will be the output?

31. Consider the following application:

```
    class Max
    {
        public static void main(String args[ ])
        {
            int max = 10;
            max(max, 20, 30);
            System.out.println(max);
        }
        static void max(int max, int x1, int x2)
        {
            if(x1 > x2)
            max = x1;
        else
            max = x2;
        }
    }
```

What value is printed out, when executed?

32. State the output of the following program:

```
class Recur
{
    public static void main(String args[ ])
    {
        int Result = result(10);
        System.out.println("Result = " + Result);
    }
    static int result(int m)
    {
        if (m <= 2)
            return m;
        else
            return m + result(m−2);
    }
}
```

33. Consider the class definition:

```
class Default
{
    public static void main(String args[ ])
    {
        int m;
        System.out.println("m is " + m);
    }
}
```

Will this code compile? YES or NO. Give reason, if No.

34. What is the output of the following program?

```
class Static
{
    static int m = 0;
    static int n = 0;
    public static void main(String args[ ])
    {
        int m = 10;
        int x = 20;
        {
            int n = 30;
            System.out.println("m + n = " + m + n);
        }
        x = m + n;
        System.out.println("x = " + x);
    }
}
```

35. Consider the following class definitions:

```
class Square
{
    private square( ) { }
```

```
        int area(int side)
        {
            return(side * side);
        }
    }
    class Constructor
    {
        public static void main(String args[ ])
        {
            Square S1 = new Square( );
            int area = S1.area(10);
            System.out.println(area);
        }
    }
```

Will the code above compile and run successfully. YES or NO. Give reason, if No.

36. Write a statement to draw a rounded rectangle with the following features:
    width = 200
    height = 100
    corner horizontal diameter = 20
    corner vertical diameter = 40
    Select a suitable upper-left corner of the rectangle.

37. Which line of the following HTML file contains an error?

```
    1.              < applet
    2.                                     WIDTH = 400 HEIGHT = 200
    3.                                     CODE = HelloJava.Class >
    4.              < param
    5.                                     NAME = "string"
    6.                                     VALUE = "Hello" >
    7.              </applet>
```

38. Give the output of the following program:

```
    class MainString
    {
        public static void main(String args[ ])
        {
            StringBuffer s = new StringBuffer("String");
            if(s.length()>5) &&
                            (s.append("Buffer").equals("X")
                            ; // empty statement
            System.out.println(s);
        }
    }
```

39. What is the range of the value that can be assigned to a variable of type long?

40. Consider the following program :

```
class Number
{
    int x;
    void store(Number num)
    {
        num.x++;
    }
}
class MainNumber
{
    public static void main(String args[ ])
    {
        Number n = new Number( );
        n.x = 10;
        n.store(n);
        System.out.println(n.x);
    }
}
```

What is the output?

41. Given the code:

```
class Continue
{
    public static void main(String args[ ])
    {
    int m = 0;
    loop1: for(int i=0; i<10; i++)
        loop2: for(int j=0;j<10;j++)
            loop3: for(int k=0;k<10;k++)
            {
                System.out.println(++m);
                if( (k%10) == 0)
                    continue loop2;
            }
    }
}
```

What is the last value printed?

42. Can an abstract method by declared final? YES or NO. If NO, give reason.

43. Can an abstract method be declared static? YES or NO. If NO, give reason.

44. Consider the following **try ... catch** block:

```
class TryCatch
{
    public static void main(String args[ ])
    {
        try
        {
            double x = 0.0;
```

```
            throw(new Exception("Thrown"));
            return;
        }
        catch(Exception e)
        {
            System.out.println("Exception caught");
            return;
        }
        finally
        {
            System.out.println("finally");
        }
    }
}
```

What will be the output?

45. Write a statement that would construct a 20 point bold Helvetica font.

ANSWERS

Part A: True/False Questions

1.	A	2.	B	3.	B	4.	A	5.	B
6.	A	7.	A	8.	A	9.	B	10.	B
11.	B	12.	B	13.	A	14.	B	15.	A
16.	B	17.	A	18.	B	19.	A	20.	B
21.	B	22.	B	23.	A	24.	B	25.	B
26.	B	27.	B	28.	A	29.	A	30.	B
31.	A	32.	B	33.	A	34.	A	35.	B
36.	B	37.	A	38.	B	39.	B	40.	A
41.	B	42.	A	43.	A	44.	B	45.	B
46.	A	47.	B	48.	B	49.	A	50.	B
51.	B	52.	A	53.	B	54.	B	55.	A
56.	B	57.	B	58.	B	59.	A	60.	B

Part B: Multiple-choice Questions

1.	C	2.	D & E	3.	B & D	4.	D	5.	C
6.	C	7.	A, B, & C	8.	C	9.	B	10.	C
11.	B	12.	B & C	13.	D	14.	C & E	15.	D & E
16.	C & B	17.	E	18.	A & C	19.	A	20.	B
21.	A	22.	B	23.	D	24.	C	25.	C
26.	B	27.	C & D	28.	A, C, & E	29.	C	30.	D
31.	D	32.	D	33.	C	34.	A, D & E	35.	A & C
36.	B, C & E	37.	B, C & D	38.	B	39.	D	40.	B & C
41.	C	42.	C	43.	C	44.	B & C	45.	B & C
46.	B, D & E	47.	D	48.	B, C, E & F	49.	B, D, E & F	50.	A, D, & F
51.	E	52.	A, D & E	53.	A, D, & E	54.	A, B, C & D	55.	C
56.	B, D & E	57.	B	58.	C	59.	C	60.	B

61.	E	62.	B, C & E	63.	B & E	64.	D	65.	C
66.	C	67.	A & C	68.	D	69.	C	70.	D
71.	A, D & E	72.	E	73.	D	74.	B, D, E & F	75.	D
76.	B	77.	C	78.	B, C & E	79.	D	80.	C
81.	A & C	82.	A & C	83.	A, B, C & D	84.	C	85.	A, C & E

Part C: Short answer Questions

1.	0	2.	161
3.	x = x < 0? –x :x;	4.	n = 40; is unreachable
5.	200	6.	six : 33
7.	null	8.	s =
9.	(i = 10) is the problem	10.	10
11.	a is 5	12.	No output
13.	m is 0	14.	No output; Infinite loop
15.	retrun (x = = y)? x+y : 0;	16.	import EDU.Student.Test;
17.	abstract	18.	No; The package definition must come first
19.	No; The static method trying to invoke a non-static method	20.	No; The field **age** in the Employee class should be public
21.	x = 10; y = 20	22.	RandomAccessFile class
23.	Result is 14	24.	Result = 3.0
25.	File class	26.	RandomAccessFile class
27.	raf.seek(raf.length(( );	28.	is wonderful
29.	Central Madras	30.	Begin
31.	10	32.	30
33.	No	34.	m + n = 40; x = 10
35.	No	36.	drawRoundRect (10,10,200,100,20,40);
37.	Line 3	38.	StringBuffer
39.	-2^{63} to $2^{63} -1$	40.	11
41.	100	42.	No
43.	No	44.	Exception caught finally
45.	new Font("Monospaced", Font.BOLD,20);		