Informatics Practices
Question Bank

Slow Bloomers

1. **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).

   Ans: (d)Don't use any keyword at all (make it default).

2. **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.

   Ans: (d)Private protected.

3. **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.

   Ans: (c)Visible in all classes in the same package and subclasses in other packages

4. **What is an accessor method?**

   Ans. Acessor Method are used to return the value of private memebrs.

5. **Why is a StringBuffer class considered more flexible than String class?**

Ans. StringBuffer class considered more flexible than string class because String class creates the strings of fixed length whereas stringBuffer class creates the strings of flexible length where we can modify the contents of a string both content and size.

What is the value of the following

6. **String str="KV".concat("ONGC")**

   Ans **KVONGC**

7. **String str ="Dehradun".length()**

   Ans **8**

8. **String str =Integer.toString(1235)**

   Ans "1235"

9. **String str="Malyalam".equals("Delhi")**

   Ans false

10. **System.out.print(""+Math.sqrt(64));**

    Ans 8

Bloomers

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

   (a) Default (b) Abstract (c) Protected (d) Interface (e) Public.

2. **The default package is a package without any name and is imported for you. (T/F)**

   Ans: True

3. **Which command creates a package in java?**

   Ans: import

4. **What is friendly access of class members?**

   Ans A friendly access of class members can access all data of a class including private and protected data.The default access specifier is friendly, but it is not a keyword.

5. **What is public access of class members?**

Ans: The data members and methods having public as access specifier can be accessed by the class objects created outside the class.

Write the value for the following

6. **Char str="Computer".charAt(3)**

   Ans. 'p'

7. **String str="Kendriya Vidyalaya.subString(8)**

   Ans Vidyalaya

8. **int str="Computer".indexOf('p')**

   Ans 3

9. **String str="Naw Dalhi".replace('a','e')**

   Ans New Delhi

10. **String str=" Informatics Prcatices ".trim();**

    Ans Informatics Practices

High Achievers

1. **How are private members different from public members of a class?**

   Ans: A public member may be accessed by any class. A private member may only be accessed by the class in which it is contained.

   Example:

   ```
   // class A contains both a public int and a private int
   class A {
   public int publicNumber = 0;
   private int privateNumber = 0;
   }
   :
   :
   :
   ```

2. **What is java library? Give some examples.**

   Ans. A set of ready-made software routines (class definitions) that can be reused in new programs, is called a **Library.**

   Example – /math library, String library, utilities library, IO (Input-Output) library etc.

3. **How many different classes are available in java to work with character data?**

   Ans. There are three different classes are available in java to work with character data.

   1. Character class 2. String class 3. StringBuffer class

4. **Name some methods which are members of StringBuffer class but not in String class.**

   Ans. append() method

5. **int str= String.valueOf("3617")**

   Ans   3617

6. **System.out.print(""+Math.pow(8,2));**

   Ans   64

7. **System.out.print(""+Math.round(15.62))**

   Ans   16

8. **System.out.print(""+"IP for Class XII ".length());**

Ans   **16**

9.   **System.out.print("" +"   IP for class XII".ltrim().length());**

     Ans   **16**

10.   **String str="Naw Dalhi".replace('a','e').equals("New Delhi");**

     Ans   **true**

QUESTIONS FOR AVERAGE BLOOMERS

1. How many types of polymorphism?

Ans- 1.Static Polymorphism (compile time polymorphism/ Method overloading)

2.Dynamic Polymorphism (run time polymorphism/ Method Overriding)

2. What do you mean by Abstraction?

Ans - Abstraction in Object Oriented Programming refers to the ability to make a class abstract.

3. Which type of inheritance java support?

Ans – Multiple only

4. How one can make a test field un-editable on a frame ?

Ans- jTextField1.setEditable(false)

5. How many types of containers can a java GUI application contain?

Ans- A java GUI application can contain as many containers as it needs but with a condition that it must have atleast one top level container.

6. What is the use of Final Keyword in Java?

Ans – The **final keyword** in java is used to restrict the user.

7. What do you understand by packages?

Ans – - Packages are used in Java in order to prevent naming conflicts, to control access, to make searching/locating and usage of classes, interfaces, enumerations and annotations easier, etc.

8. **Name any two packages.**

 Ans- **java.lang** , **java.io**

9. **What is method?**

Ans – A **method** is a subprogram that acts on data and often returns a value.

10. **What is the use of access specifier?**

 Ans – To set access levels for classes, variables, methods and constructors.

Questions for Brilliant achiever

1. **What is Static Polymorphism ?**

Ans - The ability to execute different method implementations by altering the argument used with the method name is known as method overloading.

2. **What is Dynamic Polymorphism /run time polymorphism/ Method Overriding?**

Ans - When you create a subclass by extending an existing class, the new subclass contains data and methods that were defined in the original superclass. In other words, any child class object has all the attributes of its parent.

3. **Which keyword is used for inheritance in JAVA ?**

Ans – In java extends keyword is used for inheritance.

4. **What is the use of final keyword,explain?**

 Ans – The **final keyword** in java is used to restrict the user. The java final keyword can be used in many context. Final can be:

1. variable
2. method
3. class

The final keyword can be applied with the variables, a final variable that have no value it is called blank final variable or uninitialized final variable. It can be initialized in the constructor only.

5. Give an example of packages?

Ans - /* File name : Animal.java */

package animals;

interface Animal {

public void eat();

public void travel();   }

6. What is the use of access specifier ? Explain.

Ans - Java provides a number of access modifiers to set access levels for classes, variables, methods and constructors. The four access levels are:

- Visible to the package. the default. No modifiers are needed.
- Visible to the class only (private).
- Visible to the world (public).
- Visible to the package and all subclasses (protected).

7. What is default access specifier?

Ans-   Default access modifier means we do not explicitly declare an access modifier for a class, field, method, etc. A variable or method declared without any

access control modifier is available to any other class in the same package. The fields in an interface are implicitly public static final and the methods in an interface are by default public.

8. Can a variable which is declared private accessed outside ? Explain with reason.

Ans- Yes,Variables that are declared private can be accessed outside the class if public getter methods are present in the class.

9. Give an example of private access specifier?

Ans- public class Logger {

   private String format;

   public String getFormat() {

  return this.format;

   }

   public void setFormat(String format) {

   this.format = format;

   }

}

Here, the *format* variable of the Logger class is private, so there's no way for other classes to retrieve or set its value directly.

10. Explain protected access specifier?

Ans – The protected access modifier cannot be applied to class and interfaces. Methods, fields can be declared protected, however methods and fields in a interface cannot be declared protected. Protected access gives the subclass a chance to use the helper method or variable, while preventing a nonrelated class from trying to use it.

Example:

The following parent class uses protected access control, to allow its child class override *openSpeaker()* method:

class AudioPlayer {

    protected boolean openSpeaker(Speaker sp) {

    // implementation details

  }

}

class StreamingAudioPlayer {

    boolean openSpeaker(Speaker sp) {

    // implementation details

    }

}

Here, if we define *openSpeaker()* method as private, then it would not be accessible from any other class other than *AudioPlayer*. If we define it as public, then it would become accessible to all the outside world. But our intension is to expose this method to its subclass only, thats why we used *protected* modifier.

Question for late bloomers

1. What is encapsulation?

Ans - It refers to binding the data and its associated methods together in a single unit .

2. What is Polymorphism ?

Ans – polymorphism refers to do many task.

3. What is Inheritance?

Ans- The process of deriving multiple functions from one class to another.

4. What is class?

Ans – A class is a template for objects.

5. What is object?

Ans – An *object* is an instance of a class.

6. What is sub class ?

Ans- The derived class is a **subclass** or a child class.

7. What is message ?

Ans – A message is the information sent to the application.

8. What is super class ?

 Ans – The original class that is used to derive a new class is called a **superclass.**

9. **What command do you need to write in actionPerformed() event handler of a button, in order to make aexit button ?**
   Ans- System.exit(0);
10. How can you make a Text Field un-editable on a frame ?

Ans- jTextField1.setEditable(false);

Java GUI Programming Fundamental: Review of class XI

Late Bloomers

1) What are GUI Components?

ANS: Graphical user interface based application contains windows , Button, Level , Text Boxes , dialogues boxes and menus etc are GUI component.

2) Why do we write a comment in a program? What are the two ways of writing comment in a java Program?

ANS: Comments are added to a program for the following purposes:-

1. Make the more readable and understandable

2. For future references

We can add comments in a Java program in the following ways:

1. Adding // before the line which is to be commented. This can be used only for single line comments.

2. using a pair of /* and */ for multi-line comments.

3) What is IDE? Name two IDE for Programming in java.

ANS: A programming environment, where all the tools required for programming are available under one roof is called IDE.

Two IDE for Java are Netbeans and BlueJ

4) Name different type of Tokens available in Java.

ANS: Keyword, Identifier, Literal, Punctuators ad Operators.

5) What are primitive data types? Name the various primitive data type available in Java.

ANS: Data types that are directly available with java are called primitive data type. Various primitive data types available in java are byte, short, int, long, float, double, char and boolean.

6) What are Reference data types?

ANS: Data types created by the programmer using the primitive data type are called reference data type e.g. Classes, interfaces etc.

7) What is type casting?

ANS: Converting a value form one type to another is called type casting.

For e.g. int a = 5 .here 'a' is a integer, which can be cased to float as follows

float b = (float) a;

8) What are Keywords? Give two examples of keywords available in Java.

ANS: Keywords are words that have a specific predefined meaning in Java. They cannot be used as variable names. Eg. void, private, if, while etc.

9) What is the difference between = and == operator in java?

ANS: = represent an assignment operator. It sets the value of the variable on its left side with the result of expression on its right side.

== represent a conditional equal to operator. It checks for the equality of both its operands. If both the operands are equal, condition evaluates to true otherwise to false.

10) What do you means by parsing?

Ans-The parsing refers to coverts textual data from GUI components in to numeric type.

Byte.parseByte(String a)

Short .parseShort (String a)

Integer.parseInt(String a)

Long.parseLong(String a)

Float.parseFloat(String a)

Double.parseDoubleString a)

Byte.parseByte(String a)

Exa- int a=Integer.parseInt(JtextField1.getText());

Average Learner

1) Name the two type of selection statement available in Java.

ANS: Two selection statement available in java are 'if' and 'Switch'

2) Write the purpose of Switch Statement with the help of an example. Which Java Statement can be used in place of switch statement? In the switch statement, what happens if every case fails and there is no default option?

ANS: A Switch statement is used execute a statement from a group of statement based on the result of a expression. The expression must result in either of byte, short, integer or character.

An '*if statement*' can be used in place of switch statement

In a *switch statement* if none of the statement satisfies and even there is no default case then <u>nothing</u> would happen. This would not result in any sort of error.

3) Name any four packages available in java .

ANS: Some of the common packages in java are

* Java.io
* Java.net
* Java.awt
* Java.applet
* Java.lang

4) What is the purpose of 'continue' statement in java?

ANS: Continue statement skips the remaining part of the current loop and begins the next iteration of the loop.

5) Write any two differences between entry control loop and exit control loop.

ANS: Difference between an entry control loop and an exit control loop.

Entry Control Loop	Exit Control Lop
It first checks or evaluates the terminating condition and then executes the loop body.	It first evaluates the loop body and then checks the terminating condition. If the condition is found true the loop continues otherwise the loop stops.
In case if the condition is false in first time only then the loop will not get execute even once.	In case if the condition is false in first time only then the loop will still get execute at-least once.

6) What is iteration? Name two statement which provide iteration in Java.

ANS: Repetition of a one or more statement a number of times under a set of condition is termed as iteration. Two statement which provide iteration in Java are:

* While Loop
* Do- while
* For Loop

7) Differentiate between while and do while loop of Java giving suitable examples.

ANS: Difference between while and do while loop -

While Loop	Do while Loop
While Loop is a entry control loop	Do while is a exit control loop

int x= 100;
 	
while (x> 0)
 	
{
 	
   System.out.println(X);
 	
   X= x- 10;
 	
}
	int x= 100;
	
	do
	
	{
	
	   System.out.println(X);
	
	   X= x - 10;
	
	}
	
	while (x> 0);

8) Evaluate the following expressions separately in Java. Assume all variable to be integers and initial value of a as 10 and b as 20

a. x = a ++ + b++;

b. x= ++a + ++ b;

c. x= ++a + b++;

d. x = a / b % b;

e. x= b / a % b;

f. x = b + a++ % b;

g. x = a+ b *a * b;

 ANS: Output:

a. 30

b. 32

c. 31

d. 0

e. 2

f. 30

g. 4010

9) What would be output of the following code segment written in java.

```java
public static void  main(String [] args)
{
    int a=10, b= 9;
    boolean x;
    x = a++ == ++b;
    System.out.print("x = "+x);
}
```

ANS: Output:

x = true (due to Boolean data type)

10)   Find the output of the following code snippet written in java

```java
public static void main(String []args)
{
    int x=10, y=5;
    System.out.println(x++);
    System.out.println(++y);
    System.out.println((x++ + ++y));
    System.out.println((++x - y++));
    System.out.println((x++) + (++y));
    System.out.println((++x)-(y++));
    System.out.println((x++) + (++x));
    System.out.println("x = "+ X +"  y="+ y);
}
```

ANS: Output:

10

6

18

6

22

6

32

x= 17   y =10

Brilliant Learners

1) Correct the errors in the following program segment written in JAVA. You are just required to write the corrected code, underlying the corrections made.

```
Public Static Void Main (String [] args)
{
    Integer Nos = 100;
    while (Nos => 45)
    {
        If (Nos % 5 = 0);
            Nos+=10;
        otherwise
            Nos + = 20;
    }
}
```

ANS: Corrected Code

```
Public static void main (String [] args)
{
    Int Nos = 100;
    while (Nos>= 45)
    {
        if (Nos % 5 == 0)
            Nos+=10;
        else
            Nos + = 20;
    }}
```

2) Convert the following 'while loop' into its equivalent 'for loop without altering the output of the program.

```
int x = 100, a = 30;
while ( x>= 10)
```

```
{
    System.out.println("New Amount ="+(x + a));
    a++;
    x - = a;
}
```

 ANS:

```
int x, a =30;
for(x= 100; x>= 10; x-=a)
{
System.out.println("New Amount ="+(x + a));
    a++;
}
```

3) Text entered in a jTextField is of String type. A programmer wants to store it in a variable of type integer. Is it possible how? Explain.

ANS: Yes, it is possible to store a text in a jTextField in a Integer variable. To store the   text, first it must be converted into intertype using the pareInt() method.

intstud_cnt= Integer.pareInt(JTextFiled1.getText());

In the a above statement, first the getText() function obtains the text written in the jTextField1 and then convert it into integer type using parseInt() method of available in Integer class

4) Assume the following interface built using Netbeans used for bill calculation of a ice-cream parlor. The parlor offers three verities of ice-cream – vanilla, strawberry, chocolate. Vanilla ice-cream costs Rs. 30, Strawberry Rs. 35 and Chocolate Rs. 50. A customer can chose one or more ice-creams, with quantities more than one for each of the variety chosen. To calculate the bill parlor manager selects the appropriate check boxes according to the verities of ice-cream chosen by the customer and enter their respective quantities.

Write Java code for the following:

h. On the click event of the button 'Bill', the application finds and displays the total bill of the customer. It first displays the rate of various ice-creams in the respective text fields. If a user doesn't select a check box, the respective ice-cream rate must become zero. The bill is calculated by multiplying the various quantities with their respective rate and later adding them all.

i. On the Click event of the clear button all the text fields and the check boxes get cleared.

j. On the click event of the close button the application gets closed.
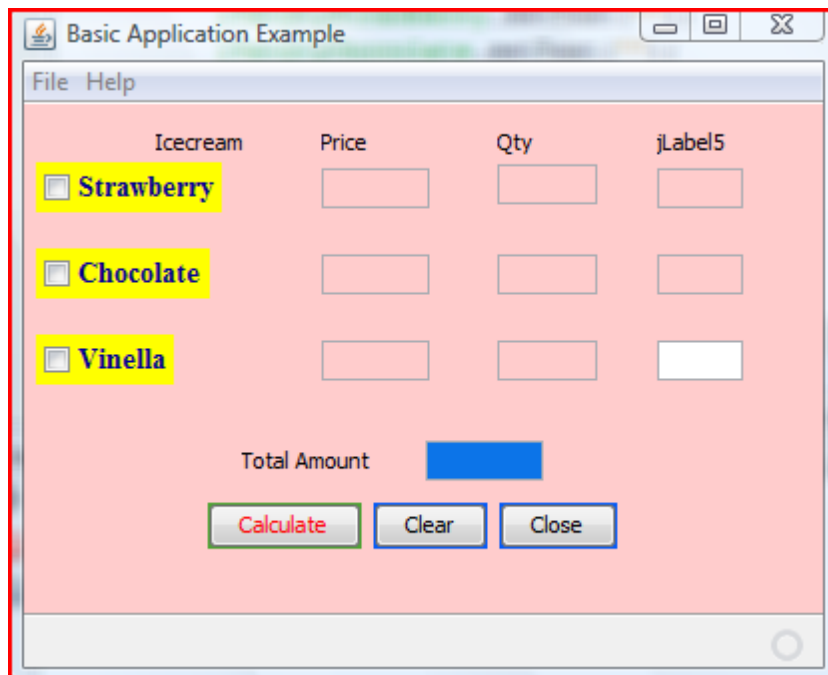
ANS:

A: private void jBtnCalculateMouseClicked(java.awt.event.MouseEventevt)

 {

if(jchkStrawberry.isSelected()==true)

jTxtPriceStrawberry.setText("35");

else

    {

jTxtPriceStrawberry.setText("0");

jTxtQtyStrawberry.setText("0");

    }

if(jChkChocolate.isSelected()==true)

jTxtPriceChocolate.setText("50");

else

    {

```java
jTxtPriceChocolate.setText("0");
jTxtQtyChocolate.setText("0");
    }
if(jChkVinella.isSelected()==true)
jtxtPriceVinella.setText("30");
else
    {
jtxtPriceVinella.setText("0");
jTxtQtyVinella.setText("0");
    }
int r1,r2,r3,q1,q2,q3,a1,a2,a3,gt;
    r1=Integer.parseInt(jTxtPriceStrawberry.getText());
    r2=Integer.parseInt(jTxtPriceChocolate.getText());
    r3=Integer.parseInt(jtxtPriceVinella.getText());
    q1=Integer.parseInt(jTxtQtyStrawberry.getText());
    q2=Integer.parseInt(jTxtQtyChocolate.getText());
    q3=Integer.parseInt(jTxtQtyVinella.getText());
    a1=r1*q1;
jTxtAmtStrawberry.setText(""+a1);
    a2=r2*q2;
jTxtAmtChocolate.setText(""+a2);
    a3=r3*q3;
jTxtAmtVinella.setText(""+a3);
gt=a1+a2+a3;
jTxtTotalAmt.setText(""+gt);
    }


 B:  private void jBtncloseActionPerformed(java.awt.event.ActionEventevt)
{
System.exit(0);
}
```

C: private void jBtnClearActionPerformed(java.awt.event.ActionEventevt)

 {

jTxtPriceStrawberry.setText("");

jTxtPriceChocolate.setText("");

jtxtPriceVinella.setText("");

jTxtQtyStrawberry.setText("");

jTxtQtyChocolate.setText("");

jTxtQtyVinella.setText("");

jTxtAmtStrawberry.setText("");

jTxtAmtChocolate.setText("");

jTxtAmtVinella.setText("");

jchkStrawberry.setSelected(false);

jChkChocolate.setSelected(false);

jChkVinella.setSelected(false);

    }

5) Define Container Control?

Ans –A container is special types of component that can   hold other components. Some Swing containers are jPanel , jApplet ,jFrame,jWindow ,jdialog and jInternalFrame .The components contained in a container are called child component.

6) What is Access Specifies? What is the difference between private, protected and public access specifies?

ANS: Access specifies tells a compiler about the usability of a data member of a class in a Java program.

Private (or class-private) restricts the access to the class itself. Only methods that   are part of the same class can access private members.

Protected (or class-protected) allows the class itself and all its subclasses to access the member.

Public means that any code can access the member by its name.

Default These members are accessible only in the class that is in the same package class i.e in their own classes.

7) What is a package? Why do we design a package?

ANS: A Package is a group of logically related classes. Packages are usually defined using a hierarchical naming pattern, with levels in the hierarchy separated by periods (.)

8) Rewrite the following code fragment using switch :

```
        if(ch = = 'E')
                east++;
        if(ch = = 'W')
                west++;
        if(ch = = 'N')
                north++;
        if(ch = = 'S')
                south++;
        else
        JOptionPane.showMessageDialog(null, "unknown");
                switch(ch)
                {
                case 'E':   east++;        break;
                            case 'W':    west++;        break;
                            case 'N':    north++;      break;
                case 'S':   south++;      break;
                            default:     JOptionPane.showMessageDialog(null, "unknown");
                break;
                  }
```

●

Q9.Rewrite the following program code using if else if statement

```
        switch(ch)
        {
        case 'a' : system.out.println("It is a."); break;
        case 'b' : system.out.println("It is b."); break;
        case 'c' : system.out.println("It is c."); break;
```

ANS: if (ch=='a) {

```
system.out.println("It is a.");
else if (ch=='b')
system.out.println("It is b.");
elseif (ch=='c')
system.out.println("It is c."); }
```

Q10.How many times does the following loop execute? What is the value of num after the execution?

```
int num=5;
do
{
System.out.println("KENDRIYA VIDYALAYA SANGATHAN ");
num--;
}while (num>2);
```

ANS: 3 times and value of num=2

QUESTION BANK
CLASS: XII
SUBJECT: INFORMATICS PRACTICES (065)

DATABASE CONNECTIVITY TO **MYSQL**

Level- I   Questions

1. What is the importance of java.sql.*; in java jdbc connection ?
    Ans: The java.sql.package has to be imported first before we can create a java jdbc connection to the database.

2. What is DriverManager ?
    Ans: DriverManager a class of java.sql package that controls a set of JDBC drivers. Each driver has to be registere with this class.

3. What is the purpose of connection.close() method?
    Ans: This method is used for disconnecting the connection. It frees all the resources occupied by the database.

4. Name the four components of JDBC.
    Ans:JDBC consisits of four components: The JDBC API, JDBC Driver Manager, The JDBC Test Suite and JDBC-ODBC Bridge.

5. What are the steps involved in establishing a connection?
    Ans: To establishing a connection we need to follow two steps: a) loading the driver and b) making a connection.

6. What is ResultSet ?
    Ans: A Result Set (represented by a ResultSet object) refers to a logical set of records that are fetched from the database by executing a query and made available to the application program.

7. What type of parameter that used in executeQuery( ) method?
    Ans: The executeQuery( ) method has a single String parameter. This parameter must be valid SQL command.

8. What is Connection? What is its role?
    Ans: A Connection (represented through Connection object) is the session between the application program and the database. To do anything with database, one must have a connection object.

9. What all JDBC classes/objects are used in a database connectivity application?
    Ans: a) DriverManager Class b) Connection Object c)Statement Object d) ResultSet Object

10. What is JDBC? What is its basic functionality?
    Ans: The JDBC(Java Database Connectivity) API defines interfaces and classes for writing database applications in Java by making database connections. Using JDBC we can send SQL, PL/SQL statements to almost any relational database. JDBC is a Java API for executing SQL statements and supports basic SQL functionality. It provides RDBMS access by allowing us to embed SQL inside Java code. Because Java can run on a thin client, applets embedded in Web pages can contain downloadable JDBC code to enable remote database access.

LEVEL- II Questions

11. Name the methods which are useful for executing SQL statements.

Ans: There are two methods which are responsible for executing SQL statements. These are: • executeQuery( ) & executeUpdate( )

12. What is role of first() method of ResultSet object?

Ans:- It is used to move the cursor to the first row in the ResultSet object .

13. What is role of last() method of ResultSet object?

Ans:- It is used to move the cursor to the last row in the ResultSet object .

14. What is difference between executeQuery( ) & executeUpdate( )

Ans:- executeQuery( )- For SQL statements that produce a single result set (like simple SQL query).
executeUpdate( )- For executing INSERT,UPDATE OR DELETE statements .

15. What is role of next() method of resultSet object,

Ans:- It is used to move the cursor forward one row.

16. What are the main tasks of JDBC ?

Ans:- **The common tasks of JDBC are as follows:**

- Create an instance of a JDBC driver or the JDBC drivers can be loaded through the jdbc.drivers
- Register a driver
- Specify a database
- Open a database connection
- Submit a query
- Receive results
- Process results

17. Which package must be import to implement databse connection?

Ans: java.sql package.

18. Name the method used to trigger an update query using JDBC.

Ans:- executeUpdate( )

19. What is role of Class.forName() ?

Ans:- It registers the JDBC Driver.

20. What is a connection?

Ans:- A connection is the session between the application program and the database. To do anything with database, one must have a connection object.

LEVEL- III Questions

21. What is role of resultSet?

Ans:- A result set (represented by a ResultSet object) refers to a logical set records that are fetched from the database by executing a query and made available to the application –program.

22. What does DriverManager do?

Ans:-Once we have formed the DB_URL , then we can create connection using DriverManager class's getConnection() method.

23. Which methods are used to execute SQL queries?

Ans:- executeQuery( )

24. Write a statement to register driver com.mysql.jdbc.Driver with DriverManager?
    Ans:-Class.forName("com.mysql.jdbc.Driver");

25. Name the methods for the following?
(a) to fetch an integer value from the resultset.
(b) to fetch a float value from a resultset.
(c) To fetch a date value from the resultset
(d) To fetch a String value from the resultset.
Ans:-(a)resultsetObjectName.getInt(columnNm)
     (b)resultsetObjectName.getFloat(columnNm)
     (c)resultsetObjectName.getDate(columnNm)
     (d)resultsetObjectName.getString(columnNm)

26. What is the JDBC-ODBC Bridge?

    Ans: The JDBC-ODBC Bridge is a JDBC driver which implements JDBC operations by translating them into ODBC operations. To ODBC it appears as a normal application program. The Bridge implements JDBC for any database for which as ODBC driver is available. The Bridge is implemented as the sun.jdbc.odbc Java package and contains a native library used to access ODBC.

27. Write code to a mysql database namely school and then fetch all those records from table student where grade is "A".
    Ans:-try{
    Class.forName("java.sql.Driver");
    Connection con=DriverManager.getConnection("jdbc:mysql://localhost/school","root","");
    Statement stmt=con.createStatement();
    String query="SELECT *FROM STUDENT WHERE GRADE='A';";
    ResultSet rs=stmt.executeQuery(query);
    While rs.next()
    {
    Get data here according to columnName
    }

28.What are the various steps involved in establishing a JDBC connection?
    Ans:- Steps for Creating Database Connectivity Application There are mainly six steps –
    Step-1 Import the Packages Required for Database Programming.
    Step-2 Register the JDBC Driver
    Step-3 Open a Connection
    Step-4 Execute a Query
    Step-5 Extract Data from Result set
    Step-6 Clean up the Environment

29.   Differentiate between JDBC and ODBC ?
    Ans:- **ODBC** is procedural and **JDBC** is object oriented. 2. **ODBC** is used to provide connection **between** front-end application(other than java) and back-end (database like ms-access) and **JDBC** is used to provide connection **between** JAVA and database(oracle,sybase,DB2,ms-access).

30.Explain the purpose of DriverManager.
    Ans:The DriverManager looks after the managing the drivers for a JDBC application. When it is instantiated it makes an attempt to load the driver classes. When the method getConnection( ) is invoked, the driver manager attempts to locate the suitable driver. The DriverManager obtains the information about the drivers such as

registering, locating, finding the drivers loaded, setting the time to wait when it tries to get the connection to a database.

Monthly Test (APRIL-2017)

Q.1. Differentiate between star topology and bus topology of network?.

Ans.

S.NO.	STAR TOPOLOGY	BUS TOPOLOGY
1.	All nodes are connected to a central node called hub.	All nodes are connected to a common single cable called backbone.
2.	If central node fails , all network will fail	If backbone fails all network will fail
3.	It is easy to repair problematic host	It is not easy to repair problematic nodes. Need to search one by one.
4.	Limited no. of nodes can be connected	Many no. of nodes can be added

Q2.   Name any two transmission medium for networking.

Ans.   Guided transmission medium: coaxial cable, twisted pair cable and fiber optics
            Unguided transmission medium: Radiowaves, IR, MICROWAVE

Q3.   How would you extract manufacture id and card no. from a MAC ADDRESS.

Ans.   The first 3 bytes of a MAC ADDRESS represents manufacturer id and the last three bytes represent card no.

Q.4.   In how many ways can you type Indian scripts on computer?

Ans. Indian scripts can be entered in two different ways as follows:
   a.   Using phonetic text entries
   b.   Using keymap based entries

Q.5.   What is the geological scope of LAN, MAN and WAN?

Ans.   LAN covers a small area such as the building or a group of buildings
            MAN covers a small city or town.
            WAN spans large area possibly several continents.

Q.6.   Define a network? What are different types of network?

Ans. A network is an interconnected collection of autonomous computers or devices through same kind of transmission machine . There are three categories
A.LAN   B. MAN   C.WAN

Q.7. What do you mean by router?

Ans. Router is a network device which applies on physical media. This device works on three layers of OSI Model. This device is capable of routing the data from higher congestion to lower congestions.

Q.8. Give the full forms of AM, FM , PM.

Ans. AM: Amplitude Modulation
      FM: Frequency Modulation
      PM: Phase Modulation

Q.9. What is the basic principle for working of optical fibres ?

Ans. Total internal Reflection

Q.10. What do you mean by Bluetooth?

Ans. Bluetooth is a wireless network which is used for data transfer between two devices within the range of 10 m. It uses the standards of 802.11 a/b/g

Q.1. Two neighbourhood schools at a distance of 120 m has decided to join there LANS using UTP   Cable to share their resources . But after joining their LANS , they are not able to share their resources due to loss of signals between. Which device should be used so that signal is amplified in between.

Ans. Repeater

Q.2.   Define the following terms
        a. data channel
        b. Baud

Ans.   Data channel: It is the medium used to carry information or data from one point to another

Baud: It is the unit of measurement for the information carrying capacity of a   communication channel of analog type .It is synonymous with bps.

Q.3.   Write the application of cyberlaw?

Ans.   Cyber law encompasses a wide variety of political and legal issues related to the internet and other communication technologies, including intellectual property, privacy, freedom of expression and jurisdiction.

Q.4. Define 'Domain Name Resolution'.

Ans. The process of getting IP address from the given URL.

Q.5. Write one advantage and one disadvantage of using Optical fiber cable.

Ans.

ADVANTAGE: High bandwidth

DISADVANTAGE: vey costly

Q.6. What is a client server network?

Ans. In client server network, client machine sends request for services and sever computer process these requests.

Q.7. What do you mean by cracker?

Ans. Crackers are legal hackers . These persons are masters of computer programming languages and generally act for the recovery of hacked systems.

Q.8. What is snooping?

Ans. Unauthorised access to anyone's personal data is called as snooping.

Q.9. What is Trojan horse?

Ans. It is a spyware whose function is to steal the information from one's workstation and to provide its developer.

Q.10. What is the difference between virus and worm?

Ans. Virus is a program that attaches itself to some file and infect the file and destroy the original content. Worm is a self replicating program that makes multiple copies of itself and finally result in making the system out of memory.

Monthly Test (APRIL-2017)
FOR LOW ACHIEVERS

Q.1. There is a numbered address(four parts separated by periods) that identifies a website uniquely. What is it?

Ans. IP ADDRESS

Q.2. Name any of the two encodings used for INDIAN COMPUTING LANGUAGE.

Ans. UNICODE, ISCII

Q.3.Write examples of one proprietary software and one open source software .

Ans. Proprietary software: MS OFFICE

　　　Open source software: LINUX

Q.4. Ketan has set up a network of computers . Now , he wants to prevent unwanted networking connections according to some filtering/ blocking rules. Suggest him the solution.

Ans. Firewall

Q.5. Write name of the following:

a. It is a protocol / technology used to exchange files on internet

　ANS. ftp

b. It provides a set of rules to transfer files, videos, images etc over the World Wide Web

　ANS.   http

Q.6.What do you understand by network security? Name any two common threats to it

Ans Network security is needed to protect data during data transmission and to guarantee that these transmissions are authenticate

Two common threats to security are

1.　　　TROJAN HORSE
2.　　　WORMS

Q.7. What is a repeater?

Ans. Repeater is a network device that is used to reconstruct the signal strength of carrier signal.

Q.8. Which is the best topology for educational institute?

Ans. LAN using Star topology

Q.9. Which networking device is used for set up of STAR topology in a network?

Ans. Switch or HUB

Q.10. Give the full form of MODEM.

Ans. Modulator/ Demodulator

Q.1.   What is OSS?

It refers to Open Source Software, which are modifiable, redistributable but may or may not be available free of cost. Source code is available to the users.

Q.2   What is free software? How is it different from Open Source Software?

Free software means the software is freely accessible and can be freely used , changed and distributed by all who wish to do so, no payments need to be done for free software.
Open Source software is one whose source code is available with the software but which may not be available free of cost.

Q.3   What is a freeware? How is it different from free software?

Free software is the software available at no cost and no restrictions i.e. it can be copied, modified and redistributed also. Freeware on the other hand is free of cost, can be copied and redistributed but it cannot be modified as its source code is not available

Q.4   compare and contrast
        i) Open source Software (OSS) and FLOSS

OSS refers to software whose source code is available to customers hence it can be modified and redistributed without any restrictions it may be available Free of Cost or on a payment as decided by the developers of the software
FLOSS refers to a software which is both free of cost as well as open source software where LIBRE is a Spanish word which refers to FREEDOM

        ii) Proprietary Software and Free Software

Proprietary Software is one which is neither free nor open source software . Its use is regulated and further distribution and modification is either forbidden or requires prior permission by the supplier or vendor. Source code is normally not available for these software
Free software is the software available at no cost and no restrictions i.e. it can be copied , modified and redistributed also.

        iii)   Freeware and shareware
The term Freeware is generally used for software which is available free of cost and which allows coping and further distribution but no modifications as its source code is not available.
Shareware is a software , which is made available with the right to redistribute copies , but it is stipulated that if anybody intends to use the software after a certain period then a license fee should be paid. No modifications are allowed and no source code is available for these software.

Q.1   Expand the terms:-

(a) OSI   Open Source Initiative

(b) FLOSS   Free/Libre and Open Source Software

(c) FSF   Free software foundation

(d) GNU   GNU'S Not Unix

(e) GPL   General Public License

(f) W3C   World Wide Web Consortium

(g) OSS   Open Source Software

Q.2   Explain the use of following software

(i)   **Linux**   It is an open source operating system

(ii) **Mozilla Firefox**   It is a web browser

(iii) **Python**   It is an interpreted , interactive , programming language used for scripting

(iv) **Apach**e   It is a web server or HTTP server available for multiple platforms such as BSD, Linux and Unix etc

(v) **MySQL**   It is a multithreaded , multiuser SQL relational database server.

Q3.   What is the openoffice.org?
        It is an office applications suite compatible with Microsoft Office.

Q4. Write short notes on the following

(i)   GNU

This is a project initiated by Richard M. Stallman with an objective to create a system compatible with UNIX but not identical to it. It offers a wide range of software including applications apart from operating system.

(ii)   LINUX

It is a popular computer operating system . It is the most famous example of free software and open source development, as it is not only freely available but its source code is also available which can be modified and redistributed.

(iii) Mozilla

It is a software which is free , cross platform and internet suite program that includes a web browser , an E-Mail client , a HTML editor and and IRC client as its components

(iv) Apache

it is a open source web server available to work with different plateforms such as Linux and Unix. . it is developed and maintained by open community of developers.

(v) PostgreSQL

It is a free Object – relational database server , released under the flexible BSD style lisence. It offers an alternative to other open source database systems as well as proprietary systems such as Oracle etc.

(vi) Python

It is an interpreted , interactive programming language managed by non profit Python Software Foundation. It can be used for scripting of program codes that can be used on Internet.

(vii) PHP

it is a recursive acronym for PHP Hypertext Processor , which is a widely used open source programming language used primarily for server side programming and developing dynamic web contents.

(viii) Open Office /Openoffice.org

it is an office application suite intended to be compatible and directly compete with ms-office.

(ix) OSI

Open source initiative , it is an organization dedicated to the cause of promoting open source softwares. It specifies the criteria for open source software and properly defines the terms and specification of open source software.

(x) TOMCAT

it is a program that serves as a serve let container and considered to be an application server. It implements servelets and java server pages.

Q5.   Name some websites dedicated to open source software

www.sourceforge.net .   www.openRDF.org   www.opensource.org
www.linux.com   www.gnu.org

QUESTION BANK FOR BRIGHT STUDENTS

Q1. Explain Free Software?

Ans: It means software is freely accessible, free to use, changed, improved, copied, and distributed without any payments.

Q2. Explain four kinds of freedom?

Ans: Freedom to run the program for any purpose

1. Freedom to redistribute copies.
2. Freedom to study how the program works
3. Freedom to improve the program and
4. release your improvements to the public.

Q3. Explain Open Source Software?

Definition: The categories of software / programs whose Licenses do not impose many conditions.
Features:

1. Freedom to run and use the software
2. Modify the program
3. Redistribute copies of either original or modified program (without paying royalties to previous developers).
4. It can be freely used for modifications, but it does not have to be free of charge. Its source code is available.

Q4. Explain Criteria for the distribution of open source software.

Ans: 1.Free distribution

2. Source code

3. Derived works

4. Integrity of the Author's Source code

5. No discrimination against fields of endeavor.

6. Distribution of License

7. License must not be specific to a product

8. License must not restrict other software

Q5. Explain FLOSS?

Ans: free libre and open software

1. Free software- no payments
2. Open source software- for technical progress

Q6. Explain OSS

Ans: OSS- Source code is available

(Open source modified and redistributed software) free of cost or with nominal charge.

Q7. Explain FSF (Free Software Foundation)

Non-profit organization created for the purpose of supporting free software movement.

Q8. Explain GNU (GNUs Not Unix)

To create a system compatible to UNIX but not identical with it.

Now it offers a wide range of software, including applications apart from operating system.

Q9. Explain Proprietary software (neither open nor freely available)

Its use is regulated and further distribution and modification is either forbidden or requires special permission by the supplier. Source code is not available.

Q10. Explain Freeware

Free of cost

Copying and further distribution but not modification.

Source code is not available

E.g. Microsoft Internet Explorer

Q11. Explain Shareware

Right to redistribute copies

After a certain period of time license fee should be paid.

Source code is not available.

Modifications are not possible.

Main aim is to increase user's will to pay for the software. Limits functionality after a trial period of 1-3 months.

Q 12. Name some Open Source Softwares

1. LINUX

Linux: - free and open source operating system software.

It can be downloaded from www.linux.org

Linux is a part of popular web server program LAMP (Linux, apache, MySql, PHP).

Q13. Explain Freeware?

Ans: 1. No source code available

2. Free internet browsing software
3. It can be downloaded from www.mozilla.org

Q14. Explain Apache Server?

Ans: The most common web server (or HTTP server) software on the Internet.

Q15. Explain Apache?

Ans: Apache is designed as a set of modules, enabling administrators to choose which features they wish to use and making it easy to add features to meet specific needs including handling protocols other than the web-standard HTTP.

Apache HTTP server is an open source web server.

It is component of LAMP.

Q16. Explain Proprietary Standards and Open Standards.

Ans: Proprietary standards are those for which users have to buy license to use them. For e.g. MS Office format .doc, .ppt, .xls etc

Open Standards are internationally accepted technical standards that guarantee that data can be exchanged across platforms and for any applications. Open is feely open to all.

Advantages of Open Standards:

Making the data accessible to all.

It ensures data is application and platform independence.

Diversity and Interoperability in the Industry i.e. it enables business and people to go for any technology of their choice as per their needs and budget.

E.g.: ASCII Characters, HTML file, Joint Photographic Expert Group, Portable Network Graphic etc.

Q17. Explain Ogg Vorbis?

Ans: It is a new audio compression which is open format developed by Xiph.org. It is roughly comparable to mp3, mpeg-4 formats and is completely free, open and unpatented.

Q18. Explain Indian Language Computing:

Ans: Indian Language computing refers to ability to interact in diverse Indian language on electronic system.

Q19. Explain representing characters in Memory?

Ans: ASCII: American Standard Code for Information Interchange is widely used alphanumeric

code in most microcomputers and minicomputers and in many mainframes. It is 7 bit code hence it can represent standard 2^7 =128 characters.

ISCII: Indian Standard Code for Information Interchange (ISCII) is an eight bit code capable of coding 256 characters. It retains all ASCII characters and also offers coding for Indian Scripts. Thus it is also called as Indian Script code for Information Interchange.

Transliteration: When we type Indian Language words phonetically in English script and tool will automatically convert them into corresponding language words called as transliteration. E.g. UNICODE for typing hindi letters

Unicode:-

Unicode provides a unique number for every character, no matter what the platforms, no matter what the program, no matter what the language. Unicode can represent more than 94000 characters.

Unicode standard has incorporated Indian Scripts under the group named Asian scripts. Indian scripts included as Devnagari, Bengali, Gurumukhi, Gujarati, Oriya, Tamil, Telgu, kannada, and Malayalam.

Q20. Explain Fonts:

Ans: A Font refers to a set of displayable text characters called glyphs, having specific style and size. There are two categories of font: True Type Font and Open Type Font.

True Type Font: It is developed by Apple and licensed to Microsoft. It is 8 bit font which is compatible with Microsoft Windows and MAC OS.

Open Type Font: It is the extension of the True Type Font Format which is 16 bits font and support 65536 characters (Unicode characters).

Q21. Indian Language Text Entry:

Ans: Many Tools / software have been developed to facilitate the typing of Indian Language text. There are two types text entries:

Phonetic Text Entry: Words typed as per their pronunciation in English script and later on converted to Corresponding (Hindi/Gujarati) language work is known as phonetic text entry.

Key map based text entry: When you type text from a keyboard having key mapping of Indian language characters, is known as key map based text entry