Q1
(a) Amit is developing GUI application in Java in which he wants to get vehicles which are available with the person (like car, bike, scooter, bicycle etc. any one or all or few). He is confused that which swing control he will use for this purpose. Suggest him best suitable swing control for this purpose.

(b) Write the name of the method which is used to receive the data from JTextField in our program which is entered by user at run time.

(c) Rohit wants to know in his program that which radio button is selected by the user at run time. Tell him the name of the method which he will use to find out.

(d) Write the name of the property which is used to make any control disable.

(e) What is the difference between the / and % operator in Java. Describe it with suitable example.

(f) What are arithmetic operators in Java? Describe any one with suitable example.

(g) What is the difference between if – else-if statement and nested - if statement? Describe it with suitable example.

Q2
a) What is Network Topology? Write the difference between Circular and Star topologies.

b) Write the difference between LAN & WAN.

c) Define the following:
   i) Hub, ii) Switch

d) Delhi Public School is setting up the network between its different wings. There are four wings named as SENIOR SECONADARY BLOCK (S), JUNIOR BLOCK (J), ADMIN BLOCK (A) and HOSTEL(H).
   Distance between various wings are given below:

<table>
<thead>
<tr>
<th>Wing</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A to S</td>
<td>100 m</td>
</tr>
<tr>
<td>A to J</td>
<td>200 m</td>
</tr>
<tr>
<td>A to H</td>
<td>400 m</td>
</tr>
<tr>
<td>S to J</td>
<td>300 m</td>
</tr>
<tr>
<td>S to H</td>
<td>100 m</td>
</tr>
<tr>
<td>J to H</td>
<td>450 m</td>
</tr>
</tbody>
</table>
Number of Computers:
Wing A  →  10
Wing S  →  200
Wing J  →  100
Wing  →  50

i) Suggest a suitable Topology for networking the computer of all wings.
ii) Suggest the placement of Hub/Switch in the network.
iii) Mention an economic technology to provide internet accessibility to all wings

Q3
a) Write the difference between while loop and do......while loop.

b) Explain the followings:
   i) OSS
   ii) FLOSS
   iii) ODF
   iv) TTF

c) Name two encodings used for Indian Language computing.

d) Find the value of the variable n after the code in this question?
   i) int n=0, j=7;
      if(j>4)
      {
         n=2;
      }
      else
      {
         n=3;
      }
   ii) int n=0, j=7;
      if((3>4) || (5>4))
      {
         n=10;
      }
      else
      {
         n=15;
      }

Q4
a) Write a Java Code to Calculate the Factorial of an integer using a while loop.

b) Write a Java code to find out whether a year (4-digit no. stored in variable year) is a leap year.

c) Write a Java code to print the following pattern:

   *
   * *
   * * *
   * * * *

d) Find the output of the followings:
   i) int res = 25;
      System.out.println(res--);
      System.out.println(++res);
   ii) int j= 22, p = 3;
       p = p * ++j;
       System.out.println(j);
       System.out.println(p);