Q1:

```java
import java.sql.*;
public class qb1 {
        public static void main(String args[])
        {
                String url = "jdbc:mysql://localhost:3306/";
                String dbName = "mydb104";
                String driver = "com.mysql.jdbc.Driver";
                String userName = "root";
                String password = "";
                Connection conn = null;
                try {
                        Class.forName(driver).newInstance();
                        conn =
DriverManager.getConnection(url+dbName,userName,password);
                        String query = "Select No_of_Employees FROM Department where
Name=CSE";
                        System.out.println("Connected to the database");
                        Statement stmt = conn.createStatement();
                        ResultSet rs = stmt.executeQuery(query);
                        System.out.println("No of emps in CSE:");
                        while (rs.next())
                        {
                                System.out.println(rs.getString(1));

                        } //end while
                        Statement stmt2 = conn.createStatement();
                        String queryb = "Select Name, Dept_ID FROM Department where
Year_Established=2010";
                        ResultSet rs2 = stmt2.executeQuery(queryb);
                        System.out.println("Departments established in 2010:");
                        while (rs2.next())
                        {
                                System.out.println(rs2.getString(1));
                                System.out.println(rs2.getString(2));
                        }
                        conn.close();
                        System.out.println("Disconnected from database");
                } //end try

                catch(ClassNotFoundException e) {
                e.printStackTrace();
                }

                catch(SQLException e) {
                e.printStackTrace();
                }

                catch (Exception e) {
                e.printStackTrace();
                }
        }//end catch
```

```
        }
}


Q2:


import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.sql.Connection;
public class QB2 {
        public static void main(String args[])
        {
                String url = "jdbc:mysql://localhost:3306/";
                String dbName = "mydb104";
                String driver = "com.mysql.jdbc.Driver";
                String userName = "root";
                String password = "";
                Connection conn = null;
                try {
                        Class.forName(driver).newInstance();
                        conn =
DriverManager.getConnection(url+dbName,userName,password);
                        String query = "Select * FROM stud where CGPA<9";
                        System.out.println("Connected to the database");
                        Statement stmt = conn.createStatement();
                        ResultSet rs = stmt.executeQuery(query);
                        System.out.println("Students with CGPA<9:");
                        while (rs.next())
                        {
                                System.out.println(rs.getString(1)+' '+rs.getFloat(2)+'
'+rs.getInt(3)+' '+rs.getString(4));

                        } //end while
                        String queryb = "UPDATE stud SET CGPA=9.4 WHERE
name='JOHN'";
                        Statement stmt2 = conn.createStatement();
                        int c = stmt2.executeUpdate(queryb);
                        System.out.println(c + " rows updated");
                        conn.close();
                        System.out.println("Disconnected from database");
                } //end try

                catch(ClassNotFoundException e) {
                e.printStackTrace();
                }

                catch(SQLException e) {
```

```
                    e.printStackTrace();
                }

                catch (Exception e) {
                    e.printStackTrace();
            }//end catch


        }
}

Q3:

import java.sql.*;
import java.io.*;
public class QB3 {
        public static void main(String args[])
        {
                String dbName = "bank";
                String url = "jdbc:mysql://localhost:3306/";
                String driver = "com.mysql.jdbc.Driver";
                String userName = "root";
                String password = "";
                Connection con = null;
                String f1,f2,f3;
                try
                {
                        Class.forName(driver).newInstance();
                        con =
DriverManager.getConnection(url+dbName,userName,password);
                        con.setAutoCommit(false);
                }
                catch(SQLException e) {
                        e.printStackTrace();
                        }
                catch(Exception e) {
                        e.printStackTrace();
                        }
                System.out.println("Table at the start of program:");
                try{
                        String query =  "Select * FROM accounts";
                        Statement stmt = con.createStatement();
                        ResultSet rs = stmt.executeQuery(query);
                        while (rs.next())
                        {
                                f1 = rs.getString(1);
                                f2 = rs.getString(2);
                                f3 = rs.getString(3);
                                //f4 = rs.getString(4);
                                //f5 = rs.getString(5);
                                System.out.println(f1+" "+f2+" "+f3);
```

```java
                }
        }
        catch(SQLException e){
                e.printStackTrace();
        }
        try
        {
                String query1 = "UPDATE accounts SET balance=balance+5000 WHERE acc_id=1";
                Statement stmt1 = con.createStatement();
                int c = stmt1.executeUpdate(query1);
                System.out.println(c+" rows updated");
                con.commit();
        }
        catch(SQLException e) {
                e.printStackTrace();
                }
        try {
                Savepoint sp = con.setSavepoint();
        try
        {
                String query2 = "UPDATE accounts SET balance=balance-500 WHERE id=3";
                Statement stmt2 = con.createStatement();
                int c2 = stmt2.executeUpdate(query2);
                System.out.println(c2+" rows updated");
        }
        catch(SQLException e) {
                System.out.println("Second Transaction failed");
                System.out.println("Rolling back");
                con.rollback(sp);
                con.releaseSavepoint(sp);
        }
        System.out.println("Table at the end of program:");
        String q = "Select * FROM accounts";
        try{
                Statement stmt = con.createStatement();
                ResultSet rs = stmt.executeQuery(q);
                while (rs.next())
                {
                        f1 = rs.getString(1);
                        f2 = rs.getString(2);
                        f3 = rs.getString(3);
                        //f4 = rs.getString(4);
                        //f5 = rs.getString(5);
                        System.out.println(f1+" "+f2+" "+f3);

                }
        }
        catch(SQLException e){
                e.printStackTrace();
        }
```

```java
                }
                catch(SQLException e) {

                }
                finally{
                        try {
                        con.close();
                        }
                        catch(SQLException e)
                        {}
                }

        }
}
```

Q4:

```java
import java.io.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;
import javax.servlet.annotation.WebServlet;
@WebServlet ("/policeno")
public class policeno
extends HttpServlet {

  public void doGet(HttpServletRequest req,  HttpServletResponse res)
  throws ServletException, IOException {

    // Get print writer.
    PrintWriter out = res.getWriter();
    res.setContentType("text/html");
    String area = req.getParameter("area");
    out.println(area);
        HashMap<String,String> hm = new HashMap<String,String>();
        hm.put("sanjaynagar", "9845924526");
        hm.put("rrnagar", "5635746737");
        String no = hm.get(area);

        out.println("<html><body>"
                +"<h1>Ph no of " + area + ":  " +no
                    +"</body></html>");
  }
// Servlet to handle "post" method
  public void doPost(HttpServletRequest req,  HttpServletResponse res)
  throws ServletException, IOException {
        doGet(req,res);
  }
}
```

```html
<HTML>
<BODY>
<FORM ACTION="policeno" METHOD="GET">
```

ENTER area: \<INPUT TYPE="TEXT" NAME="area"\>\<BR\>
\<INPUT TYPE="SUBMIT" VALUE="SUBMIT"\>\<HR\>\<HR\>
\</FORM\>
\</BODY\>
\</HTML\>

Q5:

```java
import java.io.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;
import javax.servlet.annotation.WebServlet;
@WebServlet ("/qb5")
public class qb5
extends HttpServlet {

  public void doGet(HttpServletRequest req,  HttpServletResponse res)
  throws ServletException, IOException {

   // Get print writer.
   PrintWriter out = res.getWriter();
   res.setContentType("text/html");
        String name=req.getParameter("NAME");
        String ans = initials(name);
        out.println("<html><body>"
                +"<h1>Initials: "+ans);
 }
  public String initials(String Name)
  {
        int n = Name.length();
        String s = "" + Name.charAt(0);

        for(int i = 1; i < n; i++)
        {
                if(Name.charAt(i) == ' ') {
                        s = s + Name.charAt(i+1);
                }
        }
        return s;

 }
// Servlet to handle "post" method
  public void doPost(HttpServletRequest req,  HttpServletResponse res)
  throws ServletException, IOException {
        doGet(req,res);
 }
}
```

\<HTML\>
\<BODY\>
\<FORM ACTION="qb5" METHOD="GET"\>
ENTER NAME: \<INPUT TYPE="TEXT" NAME="NAME"\>\<BR\>
\<INPUT TYPE="SUBMIT" VALUE="SUBMIT"\>\<HR\>\<HR\>
\</FORM\>
\</BODY\>
\</HTML\>

Q6:

```java
import java.io.*;
import java.sql.*;
import javax.servlet.*;
import javax.servlet.annotation.
import javax.servlet.http.*;
import com.mysql.jdbc.Connection;
import com.mysql.jdbc.
import com.mysql.jdbc.Statement;
@WebServlet("/Empdeets")
public class Empdeets extends HttpServlet
{
protected void doPost(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
{
doGet(request, response);
}
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
    {
        response.setContentType("text/
        PrintWriter out = response.getWriter();
        int id = Integer.parseInt(request.
        String name = request.getParameter("name");
        String add = request.getParameter("add");
        String dob = request.getParameter("dob");
        String url = "jdbc:mysql://localhost:3306/"
String dbName = "mydb104";
String driver = "com.mysql.jdbc.Driver";
String userName = "root";
String password = "";
Connection conn = null;
        try
        {

        Class.forName("com.mysql.jdbc.
        Class.forName(driver).
        conn = (Connection) DriverManager.getConnection(
        PreparedStatement pstmt = (PreparedStatement) conn.prepareStatement("insert into
Employee values(?,?,?,?)");
            pstmt.setInt(2,id);
            pstmt.setString(1, name);
            pstmt.setString(3, add);
            pstmt.setString(4, dob);
            pstmt.execute();
            out.print("Successfully inserted the values");
            Statement st = (Statement) conn.createStatement();
            ResultSet rs = st.executeQuery("select * from Employee");
            out.print("<table> <tr> <th>Name</th> <th>Id</th> <th>Address</th>
<th>DOB</th> </tr>");
            while(rs.next())
            {
```

```
        name = rs.getString("employee_name");
          id =rs.getInt("empid");
          add =rs.getString("address");
          dob =rs.getString("date_of_birth")
        out.println("<tr> <th> "+ name +" </th> <th> "+id +" </th><th> "+add+" </th> <th>
"+dob+" </th></tr> ");
        }
        out.println("</table>");
        }

        catch(Exception e)
        {
        e.printStackTrace();}
        }

}
```

HTML:
```
<body>
<form action = "Empdeets" method = post >
Enter Employee Id : <input type ="text" name = "id" > <br>
Enter Employee Name :  <input type ="text" name = "name" > <br>
Enter Address : <input type ="text" name = "add" > <br>
Enter DOB (yyyy-mm-dd):  <input type ="text" name = "dob" > <br>

<button type = "Submit"> Submit </button>
<button type = "Reset"> Cancel </button>
</form>
</body>
```

Q7:

```
<HTML>
<BODY>
<FORM ACTION="sub" METHOD="GET">
<INPUT TYPE="SUBMIT" VALUE="RUN"><HR><HR>
</FORM>
</BODY>
</HTML>
```

servlet:

```
import java.io.*;
import java.sql.*;
import javax.servlet.*;
import javax.servlet.annotation.
import javax.servlet.http.*;
import com.mysql.jdbc.Connection;
import com.mysql.jdbc.
import com.mysql.jdbc.Statement;
```

```java
@WebServlet("/sub")
public class sub extends HttpServlet
{
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException
{
    PrintWriter out = response.getWriter();
    response.setContentType("
    String url = "jdbc:mysql://localhost:3306/"
String dbName = "mydb104";
String driver = "com.mysql.jdbc.Driver";
String userName = "root";
String password = "";
Connection conn = null;
    try
        {
    Class.forName("com.mysql.jdbc.
    conn = (Connection) DriverManager.getConnection(
Statement st = (Statement) conn.createStatement();
ResultSet rs=st.executeQuery("select * from Subjects");
    while(rs.next())
    {
    int fid=rs.getInt("Fac_ID");
    String sub=rs.getString("Sub_Name");
    int sid = rs.getInt("Sub_ID");
    out.println("FacID "+fid+" SubName "+sub+" SubID "+sid);
    out.println("<br>");
    }
PreparedStatement pst=(PreparedStatement) conn.prepareStatement("update Subjects
set Sub_Name='DataStruc',Sub_ID=4 Where Fac_ID=2");
int n = pst.executeUpdate();
out.println("Number of Rows Updated "+n );
out.println("<br>");
        }
    catch(Exception e)
    {
     e.printStackTrace();
    }
}
}
```

Q8:
```html
<HTML>
<BODY>
<FORM ACTION="createcookies" METHOD="GET">
<INPUT TYPE="SUBMIT" VALUE="createcookies"><HR>
</FORM>
<FORM ACTION="readcookies" METHOD="GET">
<INPUT TYPE="SUBMIT" VALUE="readcookies"><hr>
</FORM>
</BODY>
</HTML>
```

createcookies :

```java
import java.io.*;
import java.sql.*;
import javax.servlet.*;
import javax.servlet.annotation.
import javax.servlet.http.*;
import com.mysql.jdbc.Connection;
import com.mysql.jdbc.
import com.mysql.jdbc.Statement;
@WebServlet("/createcookies")

public class createcookies extends HttpServlet
{
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException
    {
        response.setContentType("text/
        PrintWriter pw=response.getWriter();


        for(int i=1;i<4;i++)
        {
            Cookie mycookie=new Cookie("cookie"+i,"value"+i);
            mycookie.setMaxAge(100);
            response.addCookie(mycookie);

            mycookie=new Cookie("persistentcookie"+i,"
            mycookie.setMaxAge(300);
            response.addCookie(mycookie);
        }
        pw.println("cookie created");
    }

}
```

Q9:

```html
<form action = "welcome.jsp" method = post>
Enter user name: <input type="text" name="user"><br>
Enter password: <input type="text" name="pass"><br>

<button type = "submit"> Register </button>
</form>
```

welcome.jsp:
```jsp
<%
String name =request.getParameter("user");
String password=request.getParameter(
out.println("In welcome.jsp");
if(name.equals("Sahil") && password.equals("1234"))
{
```

```
    HttpSession s = request.getSession();
    session.setAttribute("user",
    request.getRequestDispatcher("
}
else
out.println("Not Valid! "); //else prints error here itself
%>


forwardsess.jsp:
<%
HttpSession s=request.getSession(false);
if(session!=null)
{
    String name=(String)session.
    out.println("In forwardsess.jsp");
    out.println("Hello "+ name +" Welcome");
}
else
{
    out.println("Please login first");
    request.getRequestDispatcher("
}
%>
```

Q12

```
<body>
<form action = 'gradetest.jsp' method = post >
Enter Your first subject marks <input type="text" name="marks1">
Enter Your second subject marks <input type="text" name="marks2">
Enter Your Third subject marks <input type="text" name="marks3">
Enter your fourth subject marks <input type="text" name="marks4">
Enter your fifth subject marks <input type="text" name="marks5">
<button type="submit" >Submit </button>
</form>
</body>


<body>
<%
int m1 = Integer.parseInt(request.getParameter("marks1"));
int m2 = Integer.parseInt(request.getParameter("marks2"));
int m3 = Integer.parseInt(request.getParameter("marks3"));
int m4 = Integer.parseInt(request.getParameter("marks4"));
int m5 = Integer.parseInt(request.getParameter("marks5"));
float avg = (m1+m2+m3+m4+m5)/5;
if (avg>90)
    out.print("S");
else if(avg>80)
    out.print("A");
else if(avg>70)
    out.print("B");
else if(avg>60)
        out.print("C");
else if (avg>50)
        out.print("D");
else
```

```
            out.print("FAIL");
%>
</body>
```

Q10

```
<form action = "calcprice.jsp" method = post>
Enter name: <input type="text" name="name"><br>
Enter age: <input type="text" name="age"><br>

<button type = "submit"> Submit </button>
</form>
```

JSP file:

```
<%
        String name =request.getParameter("name");
        int age=Integer.parseInt(request.getParameter("age"));
        out.println("Hello "+name);
        out.println("Your age is "+age+"\n");
        if (age>62)
                out.println("The price of the ticket is Rs.50");
        else if (age<10)
                out.println("The price of the ticket is Rs.30");
        else
                out.println("The price of the ticket is Rs.80");
%>
```

Q11

qb11form1.html:
```
<html>
        <body>
                <form action="qb11jsp1.jsp" method="get">
                        Enter Book_No : <input type="text" name="Book_No"><br>
                        Enter Title : <input type="text" name="Title"><br>
                        Enter Author's name : <input type="text" name="Author"><br>
                        Enter Publication : <input type="text" name="Publication"><br>
                        Enter Price : <input type="text" name="Price"><br>
                        <button type = "submit"> Submit </button>
                </form>
        </body>
</html>
```

qb11jsp1.jsp:

```
<%@ page import="java.sql.*" %>
<%@ page import="java.util.*" %>
<html>


<%
        int Book_No = Integer.parseInt(request.getParameter("Book_No"));
        String Title = request.getParameter("Title");
        String Author = request.getParameter("Author");
        String Publication = request.getParameter("Publication");
        int Price = Integer.parseInt(request.getParameter("Price"));
        String url = "jdbc:mysql://localhost:3306/";
        String dbName = "mydb104";
        String driver = "com.mysql.jdbc.Driver";
```

```java
        String userName = "root";
        String password = "";
        Connection conn = null;
        try
        {
                Class.forName("com.mysql.jdbc.Driver");
        Class.forName(driver).newInstance();
        conn = (Connection) DriverManager.getConnection(url+dbName,userName,password);
        PreparedStatement pstmt = (PreparedStatement) conn.prepareStatement("insert into Books
values(?,?,?,?,?)");
        pstmt.setInt(1,Book_No);
        pstmt.setString(2,Title);
        pstmt.setString(3,Author);
        pstmt.setString(4,Publication);
        pstmt.setInt(5,Price);
        pstmt.execute();
        out.println("Details Successfully added");
        }
        catch(Exception e)
        {
                e.printStackTrace();
        }
%>
        <a href="qb11form2.html">Click Here For Retrieving</a>
</html>
```

qb11form2.html:

```html
<form action="qb11jsp2.jsp" method="get">
        Enter Title : <input type="text" name="Title"><br>
        <button type = "submit"> Submit </button>
</form>
```

qb11jsp2.jsp:

```jsp
<%@ page import="java.sql.*" %>
<%@ page import="java.util.*" %>
<%
        String Title = request.getParameter("Title");
        String url = "jdbc:mysql://localhost:3306/";
        String dbName = "mydb104";
        String driver = "com.mysql.jdbc.Driver";
        String userName = "root";
        String password = "";
        Connection conn = null;
        try
        {
                Class.forName("com.mysql.jdbc.Driver");
        Class.forName(driver).newInstance();
        conn = (Connection) DriverManager.getConnection(url+dbName,userName,password);
        Statement st = (Statement) conn.createStatement();
        String query = "SELECT * FROM Books WHERE Title ='"+Title+"'";
        ResultSet rs = st.executeQuery(query);
        out.print("<table> <tr> <th>Book_No</th> <th>Title</th> <th>Author</th>
<th>Publication</th><th>Price</th> </tr>");
        while(rs.next())
    {
      int Book_No = rs.getInt("Book_No");
     String t  =rs.getString("Title");
     String author =rs.getString("Author");
     String publication = rs.getString("Publication");
     int price = rs.getInt("Price");
```

```jsp
        out.print("<tr> <th>"+Book_No+"</th> <th>"+t+"</th> <th>"+author+"</th>
<th>"+publication+"</th><th>"+price+"</th> </tr>");
    }
    out.println("</table>");


    }
    catch(Exception e)
    {
            e.printStackTrace();
    }
%>
```