Q1) What is Servlet? Explain how a Servlet is processed.

→ Servlet
- Servlets are basically the Java programs that run on Server. These are the programs that are requested by the XHTML documents & are displayed on the browser window as a response to the request.
- The servlet class is initiated when the web server begins the execution.
- The execution of servlet is managed by servlet container such as Tomcat.
- The servlet container is used in Java for dynamically generating the web pages on the server side.

Q.2) What are the various elements of JSP Pages
→ Various elements of JSP pages are:
1) Template Text.
2) Action Elements.
3) Directories
4) Scriplets

Q.3) Write a Servlet which will accept user name & password in a form, which will compare both in the database to display success or failure.

servlet.java

```java
import java.io.*;
import javax.servlet.http.*;
import javax.servlet.*;
import java.sql.*;
```

```java
public class servlet extends HttpServlet
{
    private static final long serialversion UID = 1L;

    protected void doPost (HttpServlet Request request,
        HttpServlet Response response)
    throws servlet Exception, IO Exception
    {
        response.set ContentType ("text/html");
        PrintWriter out = response.get writer ();
        String user = request.get Parameter ("user");
        String pass = request.get Parameter ("pass");
        try
        {
            class.for Name ("com.mysql.jdbc.Driver")
            connection con = Driver Manager.get Connection
            ("jdbc: mysql://localhost: 3306) log, "root", "root");

            Prepared Statement smt = con.prepare Statement
            ("select user, pass from log where user= ? and pass = ?");
            smt.setstring (1, User);
            smt.Setstring (2, Pass);
            Result set rs = pst.executeQuery ();
            if (rs.next ())
            {
                out.println ("Correct Login Credentials");
            }
            else
            {
                out.println ("Incorrect Login");
            }
        }
    }
}
```

```
catch (Class Not Found Exception)
    {
      e.printstackTrace ();
    }
  }
}
```

log.html

```html
<html>
<head> Login Form </head>
<body>
< form method = "post" action = "servlet">
Username: <input type = "text" name = "user">
<br> Password: <input type = "text" name = "password"> <br>
<input type = "submit" name = "sb">
</form>
</body>
</html>
```

Q.4] Why Session management is required in JSP?

→ Session Management is required in JSP due to:
- The http protocol is a stateless protocol that means it can't persist the data.
- HTTP treats each request as a new request. So, everytime you will send a request then each time you will be considered a new user.
- It is not reliable when we are doing any type of transactions where persistent information is required.

Q.5) Why session management is required in Servlet?

→ Session management is required in servlet due to following reasons
- Session means a particular interval of time.
- Session tracking is a way to maintain state of an user.
- Http protocol is stateless so we need to maintain state using session tracking technique
- Each time user sends request it is considered as new request. So we need to maintain state of a user.

Conclusion : Thus we have designed a login form for students using MySQL, JSP, Servlet.