(1) What is the difference between WWW and Internet?

WWW is just a common point of connectivity for information sharing that is

facilitated by a global network of computers. The internet, on the other hand, is a connection between computers and countless other devices that form a huge network of systems.

(2) What is meant by send Redirection?

Already done in past paper 2018.

(3) Difference b/w static and dynamic website.

Already done in past paper 2015 Q3.

(4) Write down life cycle of Java Servlets.

Already done in past paper 2015.

(5) In CSS, how can we apply style to the components?

Style can be applied to components using the following syntax

- `<h1 style = "color : blue" ; > Heading </h1>`   (inline)

- `<style >`   (internal)

    `<h1   { color : blue ; }`

  `</style .`

- `<link rel = "stylesheet" href = "styles . css" >` (external).

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(6) What does HTML and JSP stands for?

HTML : Hyper Text Markup Language.

JSP : Java Server Pages.

(7) What is meant by client-side scripting language?

Client-side scripting languages create the scripts that run on the client side (i.e., your browser). These are sent from the server by server-side scripts.

For example; Javascript, JQuery, CSS etc.

(8) What is meant by AJAX?

Already done in past paper 2018 Q6.

(9) What are components of Http Response?

Already done in past paper 2018 Q9.

(10) Difference between N-tier and MVC.

MVC abstracts away the details of how the architecture of an app is implemented. N-tier just refers to the physical structure of an implementation.

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Long Q-Ans.

(1) (a) What are the advantages of cookies and session handling ?

• **Advantages of Cookies :-**

→ Here are some advantages of using cookies :

o Cookies are simple to use and implement.

o Cookies occupy less memory, do not require any server resources and are stored on the user's computer so no extra burden on server.

o We can configure cookies to expire when the browser session ends (session cookies) or they can exists for a specified length of time on the client's computer (persistent cookies).

o Cookies persist a much longer period of time than Session state.

• **Advantages of Sessions :-**

→ Here are some advantages of using sessions :

o Session helps maintain user state and

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data all over the application.

- It is easy to implement and we can store any kind of object.

- Session stores client data separately.

- Session is secure and transparent from the user.

(b) Write down the difference between get and post methods for sending a request to server.

- The GET Method :-

GET is used to request data from a specified resource.

→ The query string (name/value pairs) is sent in the URL of a GET request :

/test / demo_form.php? name = 1 value& nam2=value2

- GET requests can be cached.
- GET requests remain in the browser history.
- GET requests can be bookmarked.
- GET requests should never be used when dealing with sensitive data.
- GET requests have length restrictions.
- GET requests are only used to request data (not modify).

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• The POST Method :-

POST is used to send data to a server to create /update a resource.

→ The data sent to the server with POST is stored in the request body of the HTTP request :

POST / test /demo - form.php HTTP /1.1

Host : website.com

name1 = value 1 & name2 = value 2.

○ POST requests are never cached.
○ POST requests do not remain in the browser history.
○ POST requests cannot be bookmarked.
○ POST requests have no restrictions on data length.

(2) Write a servlet class which 'll dynamically create an ordered list with name and capital city of the countries stored in the database. Table contains two columns (Country Name, Country Capital City)
DB Name : Database.
Table Name : Country (name(varchar (50)), capital_city (varchar(50))).

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Date. 16ᵗʰ Oct, 2022.

```java
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;
WebServlet ("/countryservlet")
public class countryservlet extends HttpServlet {
    protected void service (HttpServletRequest request,
            HttpServletResponse response) throws
            ServletException, IOException {
            PrintWriter out = response.getWriter();
        try {
            Class.forName ("com.mysql.jdbc.Driver");
            Connection con = DriverManager.getConnection
                ("jdbc:mysql://localhost:3306/
                database", "root", " ");
            PreparedStatement ps = con.prepareStatement
                ("select" from country");
            ResultSet rs = ps.executeQuery();
            out.println (" <ol>");
            while (rs.next()) {
                out.println (" <li>" + "Country name
                is " + rs.getString("name") + " and
                capital name is " + rs.getString("capital
                _city") + " <li>");
            }
```

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```
        out.printIn ("<ol>");
    } catch (ClassNotFoundException e) {
        e.printStackTrace();
    } catch (SQLException e) {
        e.printStackTrace();
    }
}
}
}.
```

(3) Write a JSP page, which will dynamically create a dropdown list with all smartphones along with their company saved in database.

DB Name : Database.

Table name : Smartphone (model (varchar (15)), company (varchar (15))).

```
<%@ page import = "java.sql.DriverManager" %>
<%@ page import = "java.sql.ResultSet" %>
<%@ page import = "java.sql.Statement" %>
<%@ page import = "java.sql.Connection" %>
<%
    String driver = "com.mysql.jdbc.Driver";
    String connectionUrl = "jdbc:mysql://localhost:
        3306/";
```

```
String database = "Database";
String userid = "root";
String password = "";
try {
        Class. forName (driver);
    } catch (ClassNotFoundException e) {
            e. printStackTrace();
        }

    Connection connection = null;
    Statement statement = null;
    ResultSet resultSet = null;
%>

<html>
    <body>
        <select name = "model">
        <%.
        try {
            Class. forName ("com. mysql. jdbc. Driver");
            Connection con = DriverManager . getConnection
                    ("jdbc: mysql : // localhost : 3306 / db3");
            PreparedStatement ps = con. prepareStatment
                    ("select" from smartphone");
            ResultSet rs = ps. executeQuery();
            while (rs. next()) {
```

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```
%>

    phone · phn = new phone();
    out.print In ( " <option >" +rs.getString ("model")
        +rs.getString ( "company" + "</option >" );
}


    </Select>

<a href = " index.html "><button> back to main.
    page </button > </a>.
</body>
</html>.
```