



**CS506- Web Design and Development  
Solved Subjective  
From Final term Papers**

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PSMD01

**Final term FALL(Feb 2012)  
CS506- Web Design and Development**

**Write 2 Characteristics of Expression Language. (2 Mark)**

**Answer:- (Page 459)**

Multiple expressions can be combined and intermixed with static text. For example  
`$ { "Hello" ${user.firstName} ${user.lastName} }`

Most importantly, if object/identifier is null, no NullPointerException would be thrown ☺. For example. If the expression written is:

`${person.name}`

**Why yield() method use? (2 Mark)**

**Answer:- (Page 237)**

- ❖ Allows any other threads of the same priority to execute (moves itself to the end of the priority queue)
- ❖ If all waiting threads have a lower priority, then the yielding thread resumes execution on the CPU

**What is the hidden comment in JSP? (2 Mark)**

**Answer:- [Click here for detail](#)**

A comment that documents the JSP page but is not sent to the client.

**Examples :-** `<%@ page language="java" %>`

**Which method of ResultSetMetaData object is used to return the suggested column label for print out? (2 Mark)**

**Answer:- (Page 175)**

The getColumnLabel() method returns the suggested column label for printouts

**What is the purpose of wait() , notify() and notifyAll() methods? (3 Mark)**

**Answer:- [click here for detail](#)**

The wait(),notify(), and notifyAll() methods are used to provide an efficient way forthreads to wait for a shared resource. When a thread executes an object's wait() method, itenters the waiting state. It only enters the ready state after another thread invokes theobject's notify() or notifyAll() methods..

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**What are the three stages of Servlet Lifecycle? (3 Mark)**

**Answer:- (Page 267)**

A servlet passes through the following stages in its life.

- 1 Initialize
- 2 Service
- 3 Destroy

**Advantages of using Custom Tags? (3 Mark)**

**Answer:- (Page 379)**

- ❖ Provides cleaner separation of processing logic and presentation, than JavaBeans.
- ❖ Have access to all JSP implicit objects like out, request etc.
- ❖ Can be customized by specifying attributes.

**How JSF does provide Navigation? (3 Mark)**

**Answer:- (Page 487)**

Page navigation determines the control flow of a Web application. JSF provides a default navigational handler and this behavior can be configured in configuration file.

**Difference between static and non static inner class? (3 Mark)**

**Answer: - [Click here for Detail](#)**

A non-static inner class may have object instances that are associated with instances of the class's outer class. A static inner class does not have any object instances.

**Which Five operators are used in Expression Language? (5 Mark)**

**Answer:- [Click here for detail](#)**

Expression language can use the following five arithmetic operators to act on integer and floating point values:

- + operator for addition
- - operator for subtraction
- \* operator for multiplication
- / operator for division
- % operator for remainder

**What is Expression in JSP? Give an example. (5 Mark)**

**Answer:- (Page 335)**

The format of writing a Java expression is: `<%= Java expression %>`

These expressions are evaluated, after converted to strings placed into HTML page at the place it occurred in JSP page Examples of writing Expressions are:

`<h2> Time: <%= new java.util.Date() %> </h2>`

will print current data & time after converting it to String

`<h2> Welcome: <%= request.getParameter("name")%> </h2>`

will print the name attribute

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**Difference between ServletContext and ServletConfig? (5 Mark)**

**Answer:-** [Click here for detail](#)

ServletConfig is a servlet configuration object used by a servlet container used to pass information to a servlet during initialization. All of its initialization parameters can ONLY be set in deployment descriptor.

The ServletContext object is contained within the ServletConfig object, which the Web server provides the servlet when the servlet is initialized.

You can specify param-value pairs for ServletContext object in <context-param> tags in web.xml file.

The ServletConfig parameters are specified for a particular servlet and are unknown to other servlets.

The ServletContext parameters are specified for an entire application outside of any particular servlet and are available to all the servlets within that application.

ServletConfig defines an object generated by a servlet engine.

ServletContext defines an object to be created by a servlet engine.

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**• Disadvantage of Page-centered approach (2 marks)**

**Answer:- (Page 411)**

The page-centric approach has lot of draw backs such as the code becomes a mixture of presentation, business and data access logic. The maintenance and up-gradation of the application becomes a nightmare.

**• Methods of session tracking (2 marks)**

**Answer:- (Page 297)**

- 1 Cookies
- 2 URL Rewriting
- 3 Hidden Fields

**• What does finalization means? (2 marks)**

**Answer:- (Page 47)**

When a finalize method is defined in a class, Java run time calls finalize() whenever it is about to recycle an object of that class.

**• What does error 404 display? (3 marks)**

**Answer:- (Page 244)**

Indicates that the requested resource is not available.

• **Why do we need Expression language?**

**Answer:- (Page 451)**

The Expression Language, not a programming or scripting language, provides a way to simplify expressions in JSP. It is a simple language that is geared towards looking up objects, their properties and performing simple operations on them. It is inspired from both the ECMAScript and the XPath expression language.

• **Jsp directive.**

**Answer:- (Page 344)**

JSP directives are used to convey special processing information about the page to JSP container. It affects the overall structure of the servlet that results from the JSP page. It enables programmer to:

- Specify page settings
- To Include content from other resources
- To specify custom-tag libraries

• **Difference of forward and send redirect.**

**Answer:- [Click here for detail](#)**

When you invoke a forward request, the request is sent to another resource on the server, without the client being informed that a different resource is going to process the request. This process occurs completely within the web container. When a sendRedirect method is invoked, it causes the web container to return to the browser indicating that a new URL should be requested. Because the browser issues a completely new request any object that are stored as request attributes before the redirect occurs will be lost. This extra round trip a redirect is slower than forward.

• **Jsp page directive? (5 marks)**

**Answer:- (Page 344)**

Give high level information about servlet that will result from JSP page. It can be used anywhere in the document. It can control.

- Which classes are imported
- What class the servlet extends
- What MIME type is generated
- How multithreading is handled
- If the participates in session
- Which page handles unexpected errors etc.

• **Request dispatchers include method? (5 marks)**

**Answer:- (Page 282)**

It allows a Servlet to include the results of another resource in its response. The two major differences from forward are:

- ❖ Data can be written to the response before an include
- ❖ The first Servlet which receive the request, is the one which finishes the response

It will be more cleared from the following figure. User sends a HTTPRequest to Servlet1. Servlet2 is called by Servlet1 by using include(request, response) method. The response generated by Servlet2 sends back to Servlet1. Servlet1 can also add its own response content and finally send it back to user.

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( 2 Marks )

**Q1. What is the format in which the source code of Java converted after compilation? ( 2 Marks )**

**Answer:- (Page 17)**

Java programs (Source code) are compiled into a form called Java bytecodes.

The Java compiler reads Java language source (.java) files, translates the source into Java bytecodes, and places the bytecodes into class (.class) files.

**Q2. How many types of comments are used in JSP? ( 2 Marks )**

**Answer:- (Page 334)**

JSP may contain the following elements.

- ❖ Directive Elements
- ❖ Scripting Elements
- ❖ Action Elements

**Q3. How to track a user session in Servlet? ( 2 Marks )**

**Answer:- (Page 297)**

Three typical solutions come across to accomplish session tracking. These are:

- 1 Cookies
- 2 URL Rewriting
- 3 Hidden Fields

**Q4 Write briefly two characteristics of Expression Language? ( 2 Marks )**

**Answer:- rep**

**Q4. Why yield () method used? ( 2 Marks )**

**Answer:- rep**

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**Q1. Which method is used to read an object through serialization?**

**Answer:- (Page 220)**

readObject()

**Q2. Explain your words that how Java bean is intended for use in some type of building tool?**

**Answer:-** [Click here for detail](#)

A java bean is intended for use in some type of building tool, but a bean or set of beans may not have anything to do with the GUI of the resulting application. Most often the intent is that the bean is configurable using some GUI. The typical examples of non-graphical beans are Database access JavaBeans which result in nothing in GUI but may communicate with other Beans which are part of the application GUI.

**Q3. What is expression language Nuggets?**

**Answer:-** (Page 452)

Syntax of EL

Expressions & identifiers

Arithmetic, logical & relational operators

Automatic type conversion

Access to beans, arrays, lists & maps

Access to set of implicit objects

**Q4. What are the benefits of using Packages? Explain.**

**Answer:-** (Page 328)

Packages are nothing more than the way we organize files into different directories according to their functionality, usability as well as category they should belong to.

**Q5. What is the purposes of wait (), notify, notify all() methods?**

**Answer:-** rep

**Q1 Types of layers? Briefly explain each. (5 Marks )**

**Answer:-** (Page 436)

**Presentation Layer**

It provides a user interface to the client/user to interact with the application. This is the only part of the application visible to client.

Its job list includes collecting user's input, validating user's input (on client side using JavaScript like technologies OR on server side), presenting the results of the request made by the user and controlling the screen flow (which page/view will be visible to the user).

**Business Layer**

Also called application layer, it is only concerned with the application specific functionality. It is used to implement business rules and to perform business tasks.

For example, in a banking system, this layer will provide the functionality of banking functions such as opening an account, transferring of balance from one account to another,

Calculation of taxes etc.

**Data Layer**

It is concerned with the management of the data & data sources of the system. Data sources can be database, XML, web services, flat file etc. Encapsulates data retrieval & storage logic For example, the address book application needs to retrieve all person records from a database to display them to the user.

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**Q2: What is expression in JSP? Give an example (5 Marks )**

**Answer:-** [rep](#)

**Q3: Why tracking is necessary ?(5 Marks )**

**Answer:-** [\(Page 295\)](#)

Many applications require a series of requests from the same client to be associated with one another. For example, any online shopping application saves the state of a user's shopping cart across multiple requests. Web-based applications are responsible for maintaining such state, because HTTP protocol is stateless. To support applications that need to maintain state, Java Servlet technology provides an API for managing sessions and allows several mechanisms for implementing sessions.

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**Name any two logical layers of we application?**

**Answer:-** [\(Page 321\)](#)

- ❖ Presentation Layer
- ❖ Business Layer
- ❖ Data Layer

**Write briefly 2 characteristic of EL?**

**Answer:-** [Click here for detail](#)

- Dynamically write data, such as user input into forms, to JavaBeans components
- Invoke arbitrary static and public methods
- Dynamically perform arithmetic operations

**Why do we use session tracking in HTTP servlets?**

**Answer:-** [Click here for detail](#)

In HttpServlet we can use Session Tracking to track the user state. Session is required if you are developing shopping cart application or in any e-commerce application.

**How JSP pages are informed about the error?**

**Answer:-** [\(Page 393\)](#)

JSP pages are informed about the error page by setting errorPage attribute of page directive

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### **Write Advantages of JASP over Servlet?**

**Answer:- (Page 330)**

- ❖ JSPs provide more convenient way to create HTML
- ❖ JSPs can use standard front end tools (e.g., UltraDev)
- ❖ JSPs divide and conquer the problem of presentation and business logic.

### **What is Significance of error Pages?**

**Answer:- (not confirm)**

Error Pages enables you to customize error messages. You can even hide them from the user's view entirely, if you want.

#### **Defining and Using Error Pages**

- isErrorPage attribute of a page directive is used to declare a JSP as an error page.
- JSP pages are informed about the error page by setting errorPage attribute of page directive

### **Write features that JSP provide?**

**Answer:- (Page 330)**

#### **Versus ASP or ColdFusion**

- ❖ JSPs offer better language for dynamic part i.e. java
- ❖ JSPs are portable to multiple servers and operating systems

#### **Versus PHP**

- ❖ JSPs offer better language for dynamic part
- ❖ JSPs offer better tool support

#### **Versus pure servlets**

- ❖ JSPs provide more convenient way to create HTML
- ❖ JSPs can use standard front end tools (e.g., UltraDev)
- ❖ JSPs divide and conquer the problem of presentation and business logic.

### **How can we encode URL which is sent to Client?**

**Answer:- (Page 317)**

HttpServletResponse provides two methods to perform encoding

- ❖ String encodeURL(String URL)
- ❖ String encodeRedirectURL(String URL)

If Cookies are disabled, both methods encode (rewrite) the specific URL to include the session ID and returns the new URL. However, if cookies are enabled, the URL is returned unchanged.

### **What are the types of layers?**

**Answer:- rep**

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**1. What is the advantage of jsp over PHP? (2marks)**

**Answer:- rep**

**2. For what purpose c:remove tag is used. (2marks)**

**Answer:- (Page 472)**

c:remove action is used to delete a scoped variable, and takes two attributes.

**3. What are implicit objects?? list any two. (2marks)**

**Answer:- (Page 339)**

To simplify code in JSP expressions and scriptlets, you are supplied with eight automatically defined variables, sometimes called implicit objects.

**4. Garbage collection. (2marks)**

**Answer:- (Page 47)**

Java performs garbage collection and eliminates the need to free objects explicitly. When an object has no references to it anywhere except in other objects that are also unreferenced, its space can be reclaimed.

**5. In which situation expression language can be used. (2marks)**

**Answer:- rep**

**1. Differentiate between Sequential Execution and multithreading. (3marks)**

**Answer:- (Page 226)**

Every program has atleast one thread. Programs without multithreading executes sequentially. That is, after executing one instruction the next instruction in sequence is executed. If a function is called then until the completion of the function the next instruction is not executed. Similarly if there is a loop then instructions after loop only gets executed when the loop gets completed.

**2. Expression language nuggets. (3marks)**

**Answer:- rep**

**3. Name three stages of servlet life cycle. (3marks)**

**Answer:- rep**

**1. What are packages? And how they are organized? (5marks)**

**Answer:- (Page 328)**

Many times when we get a chance to work on a small project, one thing we intend to do is to put all java files into one single directory (folder). It is quick, easy and harmless. However if our small project gets bigger, and the number of files is increasing, putting all these files into the same directory would be a nightmare for us. In java we can avoid this sort of problem by using Packages.

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In simple terms, a set of Java classes organized for convenience in the same directory to avoid the name collisions. Packages are nothing more than the way we organize files into different directories according to their functionality, usability as well as category they should belong to.

**2. What is the difference between custom tags and javabeans? (5marks)**

**Answer:-** [Click here for detail](#)

In the context of a JSP page, both accomplish similar goals but the differences are:

<b>Custom Tags</b>	<b>JavaBeans</b>
Can manipulate JSP content.	Can't manipulate JSP content.
Custom tags can simplify the complex operations much better than the bean can. But require a bit more work to set up.	Easier to set up.
Used only in JSPs in a relatively self-contained manner.	Can be used in both Servlets and JSPs. You can define a bean in one Servlet and use them in another Servlet or a JSP page.

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**Write the lifecycle of servlet?**

**Answer:-** rep

**What is servlet context mean?**

**Answer:-** (Page 281)

ServletContext belongs to one web application. Therefore it can be used for sharing resources among servlets in the same web application.

**What is meant by hidden comment?**

**Answer:-** rep

**What is validator? write types of built in validator? 5 marks**

**Answer:-** (Page 486)

Validators make input validation simple and save developers hours of programming. JSF provides a set of validator classes for validating input values entered into input components. Alternatively, you can write your own validator if none of the standard validators suits your needs. Some built-in validators are:

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❖ **DoubleRangeValidator**

Any numeric type, between specified maximum and minimum values

❖ **LongRangeValidator**

Any numeric type convertible to long, between specified maximum and minimum values

❖ **LengthValidator**

Ensures that the length of a component's local value falls into a certain range (between minimum & maximum). The value must be of String type.

**FINAL TERM EXAMINATION**  
**Spring 2011(July)**  
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**What is socket {2 m}**

**Answer:-** [\(Page 211\)](#)

A socket is one endpoint of a two-way communication link between two programs running generally on a network.

**What jsp scriptlet {2 m}**

**Answer:-** [Click here for detail](#)

A **JSP scriptlet** is used to contain any code fragment that is valid for the scripting language used in a page.

The syntax for a scriptlet is as follows:

```
<% scripting-language-statements %>
```

**What types of web services available {3 m}**

**Answer:-** [\(Page 489\)](#)

❖ **Data providers**

For example, a service providing stock quotes

❖ **Business-to-business process integration**

For example, purchase orders

❖ **Enterprise application integration**

Different applications work together simply by adding a webservice wrapper

**Hidden comments in jsp{3 m}**

**Answer:-** `rep`

### **w3c definition {3 m}**

**Answer:- (Page 488)**

W3C recently has come up with a decent definition of web services. According to W3C, “A Web service is a software application identified by a URI, whose interfaces and binding are capable of being defined, described and discovered by XML artifacts and supports direct interactions with other software applications using XML based messages via internet-based protocols”.

### **What is the advantages of jsp over servlet {3 m}**

**Answer:- rep**

### **What is value binding and method binding{5 m}**

**Answer:- (Page 487)**

#### **JSF – Value Binding**

Value binding expressions can be used inside of JSF components to:

- Automatically instantiate a JavaBean and place it in the request or session scope.
- Override the JavaBean's default values through its accessor methods.
- Quickly retrieve Map, List, and array contents from a JavaBean.
- Synchronize form contents with value objects across a number of requests.

The syntax of binding expressions is based on the JavaServer Pages (JSP) 2.0 Expression Language. In JSP, expressions are delimited with "\${}", but in JSF they are delimited with "#{}”.

#### **JSF – Method Binding**

Unlike a value binding, a method binding does not represent an accessor method. Instead, a method binding represents an activation method.

For example, binding an event handler to a method

<h:commandButton .....  
.....

```
actionListener="#{customer.loginActionListener}"  
..... />
```

### **JSP life cycle {5 m}**

**Answer:- rep**

### **What are the two ways of read initialization parameter of a servlet {5 m}**

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**What is meant of keyword transient? (2 Marks)**

**Answer:- (Page 487)**

transient keyword is used to mark a field that should not be serialized

**What are basic features of http? (2 Marks)**

**Answer:- (Page 487) [Click here for detail](#)**

- ❖ Serving static and index files, and autoindexing; open file descriptor cache;
- ❖ Accelerated reverse proxying with caching; simple load balancing and fault tolerance;
- ❖ Accelerated support with caching of FastCGI, uwsgi, SCGI, and memcached servers; simple load balancing and fault tolerance;
- ❖ SSL and TLS SNI support.

**JSP page error. (2 Marks)**

**Answer:- rep**

**Request Dispatching methods. (2 Marks)**

**Answer:- (Page 484)**

Request dispatching provides us the facility to forward the request processing to another servlet, or to include the output of another resource (servlet, JSP or HTML etc) in the response.

**For what purpose e:remove tag is used. (2 Marks)**

**Answer:- rep**

**What is significance of error page (3 Marks)**

**Answer:- rep**

**What information can be appended to URL. (3 Marks)**

**Answer:- (Page 308)**

URL rewriting provides another way for session tracking. With URL rewriting, the parameter that we want to pass back and forth between the server and client is appended to the URL. This appended information can be retrieve by parsing the URL. This information can be in the form of:

- Extra path information,
- Added parameters, or
- Some custom, server-specific URL change

**Sequential Execution and Multi Threading. (3 Marks)**

**Answer:- rep**

**Checked and Unchecked Exceptions.. (3 Marks)**

**Answer:- (Page 72)**

**Unchecked Exceptions**

- Subclasses of RuntimeException and Error.
- Does not require explicit handling

**Checked Exceptions**

- Must be caught or declared in a throws clause
- Compile will issue an error if not handled appropriately
- Subclasses of Exception other than subclasses of RuntimeException.

**JSF Navigation. (3 Marks)**

**Answer:- rep**

**What are action elements of JSP? How these are written. (5 Marks)**

**Answer:- (Page 367)**

**JSP Action Elements**

JSP action elements allow us to work with JavaBeans, to include pages at request time and to forward requests to other resources etc.

**Format**

Expressed using XML syntax

**-Opening tag <jsp:actionElement attribute="value" ..... >**

**-Body body**

**-Closing tag </jsp:actionElement>**

Empty tags (without body) can also be used like **<jsp:actionElement attribute="value" ..... >**

**Some JSP Action Elements**

To work with JavaBeans

-<jsp:useBean />

-<jsp:setProperty />

-<jsp:getProperty />

To include resources at request time

-<jsp:include />

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To forward request to another JSP or Servlet

-<jsp:forward />

To work with applets

-<jsp:plugin />

**What data is sent to server when user send request to server. (5 Marks)**

**Difference between page centric approach and page with bean approach. (5 Marks)**

**Answer:- (Page 411)**

### **Page-Centric Approach**

A web application that is collection of JSPs. Generally this approach is followed to get started with developing web applications.

The page-centric approach has lot of draw backs such as the code becomes a mixture of presentation, business and data access logic. The maintenance and up-gradation of the application becomes a nightmare. Scaling of such kind of application is also difficult and lots of code is also get duplicated.

### **Page-with-Bean Approach (MVC Model1)**

This approach is different from page-centric approach in a way that all the business logic goes into JavaBeans. Therefore, the web application is a collection of JSPs and JavaBeans. But still this approach is insufficient to separate different kind of logics.

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**3) include method of dispatcher (5 Marks)**

**Answer:- (Page 282)**

It allows a Servlet to include the results of another resource in its response. The two major differences from forward are:

- ❖ Data can be written to the response before an include
- ❖ The first Servlet which receive the request, is the one which finishes the response

It will be more cleared from the following figure. User sends a HTTPRequest to Servlet1. Servlet2 is called by Servlet1 by using include (request, response) method. The response generated by Servlet2 sends back to Servlet1. Servlet1 can also add its own response content and finally send it back to user.

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**2)main() with static and without static (3 Marks)**

**Answer:- (Page 29)**

If main is not static then the JRE have to create an object of the class in which main method is present and call the main method on that object (In OOP based languages method are called using the name of object if they are not static). It is made static so that the JRE can call it without creating an object.

Also to ensure that there is only one copy of the main method per class

**2)2 steps of painting strategy (2 Marks)**

**Answer:- (Page 187)**

Subclass JPanel

Override the paintComponent(Graphics g) method

**4)when run() method is invoked (2 Marks)**

**Answer:-**

When the start() method is invoked, the JVM creates a new thread and automatically calls the run() method and that is why a new thread gets started and not by calling run() directly.

**5)diff b/w encodeURL and encodeRedierstURI (2 Marks)**

**Answer:- (Page 317)**

encodeURL() is used for URLs that are embedded in the webpage, that the servlet generates. For example,

```
String URL = "/servlet/sessiontracker";
```

```
String eURL = response.encodeURL(URL);
```

```
out.println("<A HREF=\"\" + eURL + \"\"> ..... </A>");
```

Whereas encodeRedirectURL() is used for URLs that refers yours site is in sendRedirect() call. For example,

```
String URL = "/servlet/sessiontracker";
```

```
String eURL = response.encodeRedirectURL(URL);
```

```
Response.sendRedirect(eURL);
```

**FINAL TERM EXAMINATION**  
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**Why is j2EE said to b multi tired application? 5 marks**

**Answer:- [Click here for detail](#)**

The J2EE platform uses a multitiered distributed application model. Application logic is divided into components according to function, and the various application components that make up a J2EE application are installed on different machines depending on the tier in the multitiered J2EE environment to which the application component belongs. The J2EE application parts are:

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- Client-tier components run on the client machine.
- Web-tier components run on the J2EE server.
- Business-tier components run on the J2EE server.
- Enterprise information system (EIS)-tier software runs on the EIS server.

**What is the expression in JSP give an example? 5 marks**

**Answer:- rep**

**Why we need jsp as we already have servlet 5 marks**

**Answer:- [Click here for detail](#)**

While JSP may be great for serving up dynamic Web content and separating content from presentation, some may still wonder why servlets should be cast aside for JSP. The utility of servlets is not in question. They are excellent for server-side processing, and, with their significant installed base, are here to stay. In fact, architecturally speaking, you can view JSP as a high-level abstraction of servlets that is implemented as an extension of the Servlet 2.1 API. Still, you shouldn't use servlets indiscriminately; they may not be appropriate for everyone. For instance, while page designers can easily write a JSP page using conventional HTML or XML tools, servlets are more suited for back-end developers because they are often written using an IDE -- a process that generally requires a higher level of programming expertise.

**How does JSF provide navigation 3 marks**

**Answer:- rep**

**What are the expression language nuggets 3 marks**

**Answer:- rep**

**What is the purpose of the wait () notify () notify all methods. 3 marks**

**Answer:- rep**

**What are the disadvantages of url rewriting 3 marks**

**Answer:- (Page 308)**

The following Disadvantages of URL rewriting, are considerable: -

- ❖ What if the user bookmarks the page and the problem get worse if server is not assigning a unique session id.
- ❖ Unlike cookies, state information stored in the URL is not persistent
- ❖ This mechanism limits the client interaction with the server to HTTP GET request.

**What is impact a java bean object can produce when it is stored in an application 3 marks**

**Answer:-**

JavaBean object that is stored in Servlet Request object remain accessible for the duration of current request. In other words until you continue to forward request to another servlet/JSP the bean value would be available.

**What are java beans 2 marks**

**Answer:- (Page 356)**

A java class that can be easily reused and composed together in an application. Any java class that follows certain design conventions can be a JavaBean.

**Define web service according to W3C 2 marks**

**Answer:- rep**

**Why yield method is used 2 marks**

**Answer:- rep**

**Can we overload main method 2 marks**

**Answer:- [Click here for detail](#)**

Sure you can. But, the only method that will get invoked when you try to run the class is the method with public static void main as the qualifier

**FINAL TERM EXAMINATION**  
**Spring 2011(July)**  
**CS506- Web Design and Development**

**What are packages? and how they are organized? (5 Marks)**

**Answer:- rep**

**What are output comments in JSP? (5 Marks)**

**Answer:- [Click here for detail](#)**

A comment that is sent to the client in the viewable page source. The JSP engine handles an output comment as uninterpreted HTML text, returning the comment in the HTML output sent to the client. You can see the comment by viewing the page source from your Web browser.

***JSP Syntax***

```
<!-- comment [ <%= expression %> ] -->
```

***Example 1***

```
<!-- This is a comment sent to client on  
<%= (new java.util.Date()).toLocaleString() %>  
-->
```

***Displays in the page source:***

```
<!-- This is a comment sent to client on January 24, 2004 -->
```

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**Write Five operators used in Expression Language (5 Marks)**

**Answer:- rep**

**When tread's run() method is invoked? (3 Marks)**

**Answer:- rep**

**Which listener interfaces are used to handle mouse events? (3 Marks)**

**Answer:- (Page 130)**

**MouseMotionListener interface**

- ❖ Used for processing mouse motion events
- ❖ Mouse motion event is generated when mouse is moved or dragged

MouseMotionListener interfaces is defined in JDK as follows

```
public interface MouseMotionListener {  
public void mouseDragged (MouseEvent me);  
public void mouseMoved (MouseEvent me);  
}
```

**Why client side validation is used? (3 Marks)**

**Answer:- (Page 480)**

There are two good reasons to use client-side validation:

- ❖ It's a fast form of validation: if something's wrong, the alarm is triggered upon submission of the form.
- ❖ You can safely display only one error at a time and focus on the wrong field, to help ensure that the user correctly fills in all the details you need.

**Write three types of custom tags (3 Marks)**

**Answer:- rep**

**How many types of comments are used in JSPs? (3 Marks)**

**Answer:- rep**

**Differentiate sleeping and yielding in threads (3 Marks)**

**Answer:- rep**

**Why Expression language is used? (2 Marks)**

**Answer:- rep**

**Why session tracking is used in httpServlets? (2 Marks)**

**Answer:- rep**

**EJBs and JSP/servlet run on which server? (2 Marks)**

**Answer:- (Page 439)**

EJBs and JSP/Servlets works in two different servers. As you already know, JSP and Servlets runs in a web server where as EJBs requires an application server. But, generally application server contains the web server as well.

**What are streams? (2 Marks)**

**Answer:- (Page 85)**

I/O libraries often use the abstraction of a stream, which represents any data source or sink as an object capable of producing or receiving pieces of data.

**Differentiate layers and tiers (2 Marks)**

**Answer:- (Page 435)**

- . Layers – represents the logical view of application
- . Tiers – represents physical view of application

**What is differences between getRequestDispatcher(String path) method using javax.servlet.httpServletRequest or using servletContext? (2 Marks)**

**Answer:- [Click here for detail](#)**

The getRequestDispatcher(String path) method of javax.servlet.ServletRequest interface accepts parameter the path to the resource to be included or forwarded to, which can be relative to the request of the calling servlet. If the path begins with a “/” it is interpreted as relative to the current context root.

The getRequestDispatcher(String path) method of javax.servlet.ServletContext interface cannot accepts relative paths. All path must start with a “/” and are interpreted as relative to current context root.

## **FINAL TERM EXAMINATION**

### **Spring 2011(July)**

### **CS506- Web Design and Development**

**Which containers use a border layout as their default layout?**

**Answer:- [Click here for detail](#)**

The Window, Frame and Dialog classes use a border layout as their default layout.

**3) What is webpage and web server? 5 marks**

**Answer:- [Click here for detail](#)**

Webpage: Webpage is a resource which can be accessible over internet and displayed in a web browser.

Web server: It is used to host the website/web application. Example: Apache Tomcat, MS IIS.

**7) how can one swap the two variables without three variables**

**Answer:- [Click here for detail](#)**

/\*Program to swap 2 values without using the temporary variable and Arithmetic operators\*/

```
class Swap
{
public static void main(String args[])
{
```

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```
int a=1;
int b=2;
System.out.println("Before swap: a="+a+"b="+b);
a=a^b;
b=a^b;
a=a^b;
System.out.println(" After swap: a="+a+"b="+b);
}
}
```

**FINAL TERM EXAMINATION**  
**Spring 2010**  
**CS506- Web Design and Development**

**Question No: 31 ( Marks: 2 )**

**How to track a user session in Servlets?**

**Answer:- rep**

**Question No: 32 ( Marks: 2 )**

**Why do we use doTag() method in tag handler class?**

**Answer:- (Page 435)**

the dotag() method is used to implement/override to code functionality of tag. And this is invoked when the end element of the tag encountered.

**Question No: 33 ( Marks: 2 )**

**Differentiate between Layers and Tiers.**

**Answer:- rep**

**Question No: 34 ( Marks: 2 )**

**Why is direct call of paint() method not recommended?**

**Answer:- (Page 191)**

Painting is managed by system, so calling paintComponent() directly is not recommended at all. Similarly calling paint ( ) method is also not recommended. Why? Because such code may be invoked at times when it is not appropriate to paint -- for instance, before the component is visible or has access to a valid Graphics object.

**Question No: 35 ( Marks: 3 )**

**What is the preferred size of a component?**

**Answer:- [Click here for detail](#)**

The preferred size of a component is the minimum component size that will allow the component to display normally.

**Question No: 36 ( Marks: 3 )**

**Name three stages of servlet life cycle.**

**Answer:- rep**

**Question No: 37 ( Marks: 3 )**

**What is the difference between variable declared inside a declaration part and variable declared in scriptlet part?**

**Answer:-** [Click here for detail](#)

Variable declared inside declaration part is treated as a global variable, which means after translation of jsp file into servlet

- that variable will be declared outside the service method as an instance variable
- the scope is available to the complete jsp

Variable declared inside a scriptlet will be declared inside a service method as a local variable and the scope is with in the service method.

**Question No: 38 ( Marks: 3 )**

**How does JSF provide Navigation?**

**Answer:-** rep

**Question No: 39 ( Marks: 5 )**

**What is expression in JSP? Give an example.**

**Answer:-** rep

**Question No: 40 ( Marks: 5 )**

**What is validator? Discuss built-in-validators.**

**Answer:-** rep

## **FINAL TERM EXAMINATION**

### **Spring 2010**

### **CS506- Web Design and Development**

**How and why we use jsp include directive?**

**Answer:-** rep

**why we need tiers as we already have layers?**

**Answer:-** (Page 437)

Layers help in building a tiered architecture. Tiers are physically separated from each other. Layers are spread across tiers to build up an application. Two or more layers can reside on one tier.

**Whart are the advantages of jsp over php?**

**Answer:-** (Page 330)

- ❖ JSPs offer better language for dynamic part
- ❖ JSPs offer better tool support

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**Why we use expression language?**

**Answer:- rep**

**Define web service by w3c?**

**Answer:- rep**

## **FINAL TERM EXAMINATION**

### **Spring 2008**

### **CS506- Web Design and Development**

**1- List any two Scope of the Java Bean?**

**Answer:- [Click here for detail](#)**

JavaBeans have scope, just like all variables. You declare this in the jsp:useBean element when you use the bean for the first time. There are multiple scopes possible for a bean.

They are:

1. Page
2. Request
3. Session

**3- How JSF navigation Works?**

**Answer:- rep**

**4- List implicit objects?**

**Answer:- rep**

**5- What type of data is sent to wserver when user submits the button? marks 5**

**Answer:- (Page 270 )**

When a user submits a browser request to a web server, it sends two categories of data:

❖ **Form Data**

Data that the user explicitly type into an HTML form. For example: registration information provided for creating a new email account.

❖ **HTTP Request Header Data**

Data, which is automatically, appended to the HTTP Request from the client for example, cookies, browser type, and browser IP address.

Based on our understanding of HTML, we now know how to create user forms. We also know how to gather user data via all the form controls: text, password, select, checkbox, radio buttons, etc.

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## **What is JSP? Why need JSP? How JSP FRAME WORK WORKS? 10 marks**

**Answer:- (Page 330)**

### **JavaServer Pages (JSP)**

JSP is also a specification. JSP technology enables Web developers and designers to rapidly develop and easily maintain, information-rich, dynamic Web pages that leverage existing business systems. As part of the Java technology family, JSP technology enables rapid development of Web-based applications that are platform independent.

#### **The Need for JSP**

With servlets, it is easy to

- Read form data
- Read HTTP request headers
- Set HTTP status codes and response headers
- Use cookies and session tracking
- Share data among servlets
- Remember data between requests
- Get fun, high-paying jobs

But, it sure is a pain to

- Use those println() statements to generate HTML
- Maintain that HTML

#### **The JSP Framework**

- Use regular HTML for most of the pages
- Mark servlet code with special tags
- Entire JSP page gets translated into a servlet (once), and servlet is what actually gets invoked (for each request)
- The Java Server Pages technology combine with Java code and HTML tags in the same document to produce a JSP file

## **FINAL TERM EXAMINATION Spring 2010 CS506- Web Design and Development**

**What are the advantages of JSP over PHP?**

**Answer:- rep**

**What are the implicit Objects? List any two.**

**Answer:- rep**

**Write briefly two characteristics of Expression Language?**

**Answer:- rep**

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**Name any four container classes?**

**Answer:-** [Click here for detail](#)

Window, Frame, Dialog, FileDialog, Panel, Applet, or ScrollPane.

**What is the difference between variable declared inside a declaration part and variable in scriptlet part?**

**Answer:-** rep

**Which type of WEB services available?**

**Answer:-** (Page 489 )

❖ Data providers

For example, a service providing stock quotes

❖ Business-to-business process integration

For example, purchase orders

❖ Enterprise application integration

Different applications work together simply by adding a webservice wrapper

**What is meant by statement “classes implement interfaces”?**

**Answer:-** [Click here for detail](#)

We say that objects provide interfaces. If an object provides an interface, then the interface specifies the behavior of the object. In other words, interfaces specify the behavior of the objects that provide them.

**What is expression in JSP? Give example.**

**Answer:-** rep

**Which technology is used in java to support the following layers?**

**Presentation layer**

**Business Layer**

**Data Layer**

**Answer:-** (Page 249 )

There are several Java technologies available for web application development which includes Java Servlets, JavaServer Pages, JavaServer Faces etc.

**What is difference between the getRequest Dispatcher(String path) method of javax.servlet.ServletRequest interface and javax.servlet.ServletContext interface.**

**Answer:-** rep

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**FINAL TERM EXAMINATION**  
**Spring 2009**  
**CS506- Web Design and Development**

**Question No: 33 ( Marks: 2 )**

**What impact a JavaBeans object can produce when it is stored in Servlet Request object?**

**Answer:- rep**

**Question No: 34 ( Marks: 2 )**

**What invokes a thread's run () method?**

**Answer:- [Click here for detail](#)**

After a thread is started, via its start() method or that of the Thread class, the JVM invokes the thread's run() method when the thread is initially executed.

**Question No: 35 ( Marks: 3 )**

**What is the significance of error page?**

**Answer:- rep**

**Question No: 36 ( Marks: 3 )**

**Which type of information can be appended to URL?**

**Answer:- rep**

**Question No: 37 ( Marks: 3 )**

**Differentiate between Sequential Execution and multithreading.**

**Answer:- rep**

**Question No: 38 ( Marks: 5 )**

**Which technology is used in JAVA to support following layers?**

**Answer:- rep**

**Question No: 39 ( Marks: 5 )**

**How cookies are sent to a client?**

**Answer:- (Page 299)**

**Sending Cookies to Browser**

Following are some basic steps to send a cookie to a browser (client).

**1.Create a Cookie Object**

A cookie object can be created by calling the Cookie constructor, which takes two strings: the cookie name and the cookie value.

Cookie c = new Cookie ("name", "value");

## 2. Setting Cookie Attributes

Before adding the cookie to outgoing headers (response), various characteristics of the cookie can be set. For example, whether a cookie persists on the disk or not. If yes then how long.

A cookies by default, lasts only for the current user session (i.e. until the user quits the session) and will not be stored on the disk.

Using `setMaxAge(int lifetime)` method indicates how much time (in seconds) should elapse before the cookie expires.

```
c.setMaxAge(60); // expired after one hour
```

## 3. Place the Cookie into HTTP response

After making changes to cookie attributes, the most important and unforgettable step is to add this currently created cookie into response. If you forget this step, no cookie will be sent to the browser.

```
response.addCookie(c);
```

**Question No: 40 ( Marks: 10 )**

**What are the characteristics of web services?**

**Answer:- (Page 489)**

Web services are XML-based throughout. Pretty much everything in the domain of Web services is defined in XML. For example, the format of the data being exchanged between service user and service provider is defined in XML or the description of web service is defined in XML.

Web services can be dynamically located and invoked. And typically they will be accessed and invoked over both internet and intranet.

### **Interoperable**

Connect across heterogeneous networks using ubiquitous web-based standards

### **Economical**

Recycle components, no installation and tight integration of software

### **Automatic**

No human intervention required even for highly complex transactions

### **Accessible**

Legacy assets & internal apps are exposed and accessible on the web

### **Available**

Services on any device, anywhere, anytime

### **Scalable**

No limits on scope of applications and amount of heterogeneous applications

**Question No: 41 ( Marks: 10 )**

**What is the usage of sleep (int time) method?**

**Answer:- (Page 235)**

- Causes the currently executing thread to wait for the time (milliseconds) specified
- Waiting is efficient equivalent to non-busy. The waiting thread will not occupy the processor
- Threads come out of the sleep when the specified time interval expires or when interrupted by some other thread
- Thread coming out of sleep may go to the running or ready state depending upon the availability of the processor. The different states of threads will be discussed later
- High priority threads should execute sleep method after some time to give low priority threads a chance to run otherwise starvation may occur
- sleep() method can be used for delay purpose i.e. anyone can call Thread.sleep() method
- Note that sleep() method can throw InterruptedException. So, you need try-catch block

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