

javaprep.com - Questions on JSP

A small note here - In the real exam, there will be less questions of type fill in the blanks, as compared to these set of questions. Also the real exam questions will probably be more difficult than these questions.

1. Which of the following is legal JSP syntax to print the value of i. Select the one correct answer

- A. `<%int i = 1;%>`
`<%= i; %>`
- B. `<%int i = 1;`
`i; %>`
- C. `<%int i = 1%>`
`<%= i %>`
- D. `<%int i = 1;%>`
`<%= i %>`
- E. `<%int i = 1%>`
`<%= i; %>`

2. A JSP page called test.jsp is passed a parameter name in the URL using `http://localhost/test.jsp?name="John"`. The test.jsp contains the following code.

```
<%! String myName=request.getParameter();%>
<% String test= "welcome" + myName; %>
<%= test%>
```

- A. The program prints "Welcome John"
- B. The program gives a syntax error because of the statement
`<%! String myName=request.getParameter();%>`
- C. The program gives a syntax error because of the statement
`<% String test= "welcome" + myName; %>`
- D. The program gives a syntax error because of the statement
`<%= test%>`

3. Which of the following correctly represents the following JSP statement. Select the one correct answer.

- ```
<%=x%>
```
- A. `<jsp:expression=x/>`
  - B. `<jsp:expression>x</jsp:expression>`
  - C. `<jsp:statement>x</jsp:statement>`
  - D. `<jsp:declaration>x</jsp:declaration>`

E. `<jsp:scriptlet>x</jsp:scriptlet>`

4. Which of the following correctly represents the following JSP statement. Select the one correct answer.

`<%x=1;%>`

- A. `<jsp:expression x=1;/>`
- B. `<jsp:expression>x=1;</jsp:expression>`
- C. `<jsp:statement>x=1;</jsp:statement>`
- D. `<jsp:declaration>x=1;</jsp:declaration>`
- E. `<jsp:scriptlet>x=1;</jsp:scriptlet>`

5. What gets printed when the following JSP code is invoked in a browser. Select the one correct answer.

```
<%= if(Math.random() < 0.5) %>
 hello
<%= } else { %>
 hi
<%= } %>
```

- A. The browser will print either hello or hi based upon the return value of random.
- B. The string hello will always get printed.
- C. The string hi will always get printed.
- D. The JSP file will not compile.

6. Which of the following are correct. Select the one correct answer.

- A. JSP scriptlets and declarations result in code that is inserted inside the `_jspService` method.
- B. The JSP statement `<%! int x; %>` is equivalent to the statement `<jsp:scriptlet>int x;</jsp:scriptlet%>`.
- C. The following are some of the predefined variables that maybe used in JSP expression - `httpSession`, `context`.
- D. To use the character `%>` inside a scriptlet, you may use `%\>` instead.

7. What gets printed when the following is compiled. Select the one correct answer.

```
<% int y = 0; %>
<% int z = 0; %>

<% for(int x=0;x<3;x++) { %>
<% z++;++y;%>
<% }%>

<% if(z<y) {%>
<%= z%>
<% } else {%>
<%= z - 1%>
<% }%>
```

- A. 0
  - B. 1
  - C. 2
  - D. 3
  - E. The program generates compilation error.
8. Which of the following JSP variables are not available within a JSP expression. Select the one correct answer.
- A. out
  - B. session
  - C. request
  - D. response
  - E. httpsession
  - F. page
9. A bean with a property color is loaded using the following statement

```
<jsp:usebean id="fruit" class="Fruit"/>
```

Which of the following statements may be used to print the value of color property of the bean. Select the one correct answer.

- A. <jsp:getColor bean="fruit"/>
- B. <jsp:getProperty id="fruit" property="color"/>
- C. <jsp:getProperty bean="fruit" property="color"/>
- D. <jsp:getProperty name="fruit" property="color"/>
- E. <jsp:getProperty class="Fruit" property="color"/>

10. A bean with a property color is loaded using the following statement

```
<jsp:usebean id="fruit" class="Fruit"/>
```

Which of the following statements may be used to set the of color property of the bean. Select the one correct answer.

- A. `<jsp:setColor id="fruit" property="color" value="white"/>`
- B. `<jsp:setColor name="fruit" property="color" value="white"/>`
- C. `<jsp:setValue name="fruit" property="color" value="white"/>`
- D. `<jsp:setProperty name="fruit" property="color" value="white">`
- E. `<jsp:setProperty name="fruit" property="color" value="white"/>`
- F. `<jsp:setProperty id="fruit" property="color" value="white">`

11. A bean with a property color is loaded using the following statement

```
<jsp:usebean id="fruit" class="Fruit"/>
```

What happens when the following statement is executed. Select the one correct answer.

```
<jsp:setProperty name="fruit" property="*" />
```

- A. This is incorrect syntax of `<jsp:setProperty/>` and will generate a compilation error. Either value or param must be defined.
- B. All the properties of the fruit bean are initialized to a value of null.
- C. All the properties of the fruit bean are assigned the values of input parameters of the JSP page that have the same name.
- D. All the properties of the fruit bean are initialized to a value of \*.

12. Is the following statement true or false. If the `isThreadSafe` attribute of the `page` directive is false, then the generated servlet implements the `SingleThreadModel` interface.

13. Which of the following represents a correct syntax for `usebean`. Select the two correct answers.

- A. `<jsp:usebean id="fruit scope ="page"/>`
- B. `<jsp:usebean id="fruit type ="String"/>`

- C. `<jsp:usebean id="fruit type ="String" beanName="Fruit"/>`
- D. `<jsp:usebean id="fruit class="Fruit" beanName="Fruit"/>`

14. Name the default value of the scope attribute of `<jsp:usebean>`.

- A. page
- B. application
- C. session
- D. request

15. Which of the following statements are true for `<jsp:usebean>`. Select the two correct answers.

- A. The id attribute must be defined for `<jsp:usebean>`.
- B. The scope attribute must be defined for `<jsp:usebean>`.
- C. The class attribute must be defined for `<jsp:usebean>`.
- D. The `<jsp:usebean>` must include either type or class attribute or both.

16. Which of these are legal attributes of page directive. Select the two correct answers.

- A. include
- B. scope
- C. errorPage
- D. session
- E. debug

17. Which of the following represents the XML equivalent of this statement `<%@ include file="a.jsp"%>` . Select the one correct statement

- A. `<jsp:include file="a.jsp"/>`
- B. `<jsp:include page="a.jsp"/>`
- C. `<jsp:directive.include file="a.jsp"/>`

D. There is no XML equivalent of include directive.

18. Assume that you need to write a JSP page that adds numbers from one to ten, and then print the output.

```
<% int sum = 0;
for(j = 0; j < 10; j++) { %>
// XXX --- Add j to sum
<% } %>
// YYY --- Display the sum
```

Which statement when placed at the location XXX can be used to compute the sum.  
Select the one correct statement

- A. <% sum = sum + j %>
- B. <% sum = sum + j; %>
- C. <%= sum = sum + j %>
- D. <%= sum = sum + j; %>

19. Now consider the same JSP example as last question. What must be added at the location YYY to print the sum of ten numbers. Select the one correct statement

- A. <% sum %>
- B. <% sum; %>
- C. <%= sum %>
- D. <%= sum; %>

20. JSP pages have access to implicit objects that are exposed automatically. One such object that is available is request. The request object is an instance of which class?

- A. HttpRequest
- B. ServletRequest
- C. Request
- D. HttpServletRequest

21. JSP pages have access to implicit objects that are exposed automatically. Name the implicit object that is of type HttpSession.

- A. session
- B. application
- C. httpSession
- D. httpsession

22. A Java bean with a property color is loaded using the following statement

```
<jsp:usebean id="fruit" class="Fruit"/>
```

What is the effect of the following statement.

```
<jsp:setproperty name="fruit" property="color"/>
```

Select the one correct answer.

- A. An error gets generated because the value attribute of setAttribute is not defined.
- B. The color attribute is assigned a value null.
- C. The color attribute is assigned a value "".
- D. If there is a non-null request parameter with name color, then its value gets assigned to color property of Java Bean fruit.

23. The page directive is used to convey information about the page to JSP container. Which of these are legal syntax of page directive. Select the two correct statement

- A. <% page info="test page" %>
- B. <%@ page info="test page" session="false"%>
- C. <%@ page session="true" %>
- D. <%@ page isErrorPage="errorPage.jsp" %>
- E. <%@ page isThreadSafe=true %>

24. Is the following JSP code legal? Select the one correct statement.

```
<%@page info="test page" session="false"%>
```

```
<%@page session="false"%>
```

- A. Yes. This is legal JSP syntax.
- B. No. This code will generate syntax errors.

25. A JSP page needs to generate an XML file. Which attribute of page directive may be used to specify that the JSP page is generating an XML file.

- A. contentType
- B. generateXML
- C. type
- D. outputXML

26. A JSP page uses the java.util.ArrayList class many times. Instead of referring the class by its complete package name each time, we want to just use ArrayList. Which attribute of page directive must be specified to achieve this. Select the one correct answer.

- A. extends
- B. import
- C. include
- D. package
- E. classpath

27. Which of these are true. Select the two correct answers.

- A. The default value of isThreadSafe attribute of page directive is true.
- B. If isThreadSafe attribute of page directive is set to true, then JSP container dispatches request for the page sequentially.
- C. When isThreadSafe attribute of page directive is set to true, a thread is created for each request for the page.
- D. Setting isThreadSafe attribute to true for JSP pages, can lead to poor performance.



28. Which of the following are examples of JSP directive. Select the two correct answers.(?)(not checked yet)

- A. include
- B. exclude
- C. import
- D. taglibrary
- E. servlet
- F. page

29. Which of these is true about include directive. Select the one correct answer.

- A. The included file must have jspf extension.
- B. The XML syntax of include directive is `<jsp:include file="fileName"/>`.
- C. The content of file included using include directive, cannot refer to variables local to the original page.
- D. When using the include directive, the JSP container treats the file to be included as if it was part of the original file.

30. Name the implicit variable available to JSP pages that may be used to access all the other implicit objects.

- A. page
- B. pageContext
- C. context
- D. object
- E. jspPave

### Answers to questions on JSP

1. d. When using scriptlets (that is code included within `<% %>`), the included code must have legal Java syntax. So the first statement must end with a semi-colon. The second statement on the other hand is a JSP expression. So it must not end with a semi colon.
2. b. JSP declarations do not have access to automatically defined variables like request, response etc.

3. b. The XML syntax for JSP expression is `<jsp:expression>Java expression</jsp:expression>`
4. e. The XML syntax for JSP scriptlets is `<jsp:scriptlet>Java code</jsp:scriptlet>`
5. d. The if statement, else statement and closing parenthesis are JSP scriptlets and not JSP expressions. So these should be included within `<% } %>`
6. d. JSP declarations are inserted outside of `_jspService` method. Hence a is incorrect. The JSP statement `<%!int a;%>` is equivalent to `<jsp:declaration>int x;</jsp:declaration>`. Hence b is incorrect. The predefined variables that are available within the JSP expression are session and pageContext, and not HttpSession and context. Hence c is incorrect.
7. c. After the for loop z and y are both set to 3. The else statement gets evaluated, and 2 gets printed in the browser.
8. e. There is no such variable as HttpSession.
9. `jsp:getProperty` takes two attributes - name and property. The name attribute must match the id attribute of `jsp:usebean`.
10. e. The `jsp:setProperty` takes three attributes - name, property and value. Also the `jsp:setProperty` must end with `/>`.
11. c. Using \* for property is legal syntax. Bean properties are associated with identically named input parameters.
12. true. The page directive is defined as `<%@page isThreadSafe="false"%>`
13. b,c.
14. a. The default scope of the declared bean is page.
15. a,d. The scope and class attributes are not required. But either class or type must be defined.
16. c,d. The following are legal attributes of page directive - import, isThreadSafe, session, contentType, autoFlush, extends, info, errorPage, isErrorPage, language.
17. c. `<jsp:directive.include>` is the XML equivalent of include directive.
18. b. As this is a Java statement it needs to be included with `<%` and `%>`, and it needs to end in semi-colon.
19. c. As this is a Java expression it needs to be included with `<%=` and `%>`, and it should not end in semi-colon.
20. d. request is an instance of `HttpServletRequest`
21. a. Implicit object session is of type `HttpSession`.
22. d. This is a legal syntax to set a property of JavaBean. The value attribute of `setProperty` is optional.
23. b,c. The option a is incorrect because page directive must be included within `<%@`. d is incorrect because the value of `isErrorPage` attribute must be boolean. e is incorrect because, the value true is not within quotes.
24. b. Except the import attribute of page directive, all the other attributes of page directive cannot be specified more than once. In this example session attribute is specified twice.
25. a. contentType attribute is used to generate XML. The syntax will look like -  
`<%@page contentType="text/xml"/>`
26. B. The syntax will look like -  
`<%@page import="java.util.ArrayList"/>`

27. a,c. The default value of `isThreadSafe` attribute is true. So a is correct. If `isThreadSafe` is set to false, then JSP container processes request sequentially, and this leads to poor performance. Hence b and d are incorrect.
28. a,f. `include`, `taglib` and `page` are examples of JSP directives. The JSP directives have this syntax -  
`<% @directive attribute="value" %>`
29. d. It is not required that the included file has `jspx` extension. Hence a is incorrect. The XML syntax of `include` directive is `<jsp:directive.include>`
30. b. This `pageContext` object is an instance of type `javax.servlet.jsp.PageContext`, and provides methods like `getPage()`, `getRequest()`, etc. to access other input variables.

## Questions on Deployment Descriptor

- Which of the following files is the correct name and location of deployment descriptor of a web application. Assume that the web application is rooted at `\doc-root`. Select the one correct answer
  - `\doc-root\dd.xml`
  - `\doc-root\web.xml`
  - `\doc-root\WEB-INF\web.xml`**
  - `\doc-root\WEB-INF\dd.xml`
  - `\doc-root\WEB-INF\dd.xml`
  - `\doc-root\WEB-INF\web.xml`
  - `\doc-root\WEB-INF\lib\dd.xml`
  - `\doc-root\WEB-INF\classes\dd.xml`
- Which element of the `servlet` element in the deployment descriptor is used to specify the parameters for the `ServletConfig` object. Select the one correct answer.
  - `servlet-config`
  - `init-param`**
  - `load-on-startup`
  - `filter`
- Which of these is true about deployment descriptors. Select the one correct answer.
  - The order of elements in deployment descriptor is not important. The elements can follow any order.**
  - The elements of deployment descriptor are case insensitive.

- C. The servlet-mapping element, if defined, must be included within the servlet element.
  - D. The web-app element must include the servlet element.
4. The exception-type element specifies an exception type and is used to handle exceptions generated from a servlet. Which element of the deployment descriptor includes the exception-type as a sub-element. Select the one correct answer.
- A. error-page
  - B. servlet
  - C. exception
  - D. error-handling
5. Which of these is a correct fragment within the web-app element of deployment descriptor. Select the one correct answer.
- A. <exception> <exception-type> mypackage.MyException</exception-type>  
<location> /error.jsp</location> </exception>
  - B. <error-page> <exception-type> mypackage.MyException</exception-type>  
<location> /error.jsp</location> </error-page>
  - C. <error-page> <exception> mypackage.MyException </exception-type>  
<location> /error.jsp </location> </error-page>
  - D. <error-page> <exception-type> mypackage.MyException</exception-type>  
</error-page>
  - E. <error-page> <servlet-name> myservlet</servlet-name> <exception-type>  
mypackage.MyException</exception-type> </error-page>
  - F. <exception> <servlet-name> myservlet</servlet-name> <exception-type>  
mypackage.MyException</exception-type> </exception>
6. Which element of the deployment descriptor of a web application includes the welcome-file-list element as a subelement. Select the one correct answer.(?)(not checked yet)
- A. web-app
  - B. welcome-file
  - C. servlet
  - D. file-list
7. Which of these is a correct fragment within the web-app element of deployment descriptor. Select the two correct answer.

- A. `<error-page> <error-code>404</error-code> <location>/error.jsp</location>  
</error-page>`
- B. `<error-page> <exception-type>mypackage.MyException</exception-type>  
<error-code>404</error-code> <location>/error.jsp</location> </error-page>`
- C. `<error-page> <exception-type>mypackage.MyException</exception-type>  
<error-code>404</error-code> </error-page>`
- D. `<error-page> <exception-type>mypackage.MyException</exception-type>  
<location>/error.jsp</location> </error-page>`
8. Which of these is a correct example of specifying a listener element resented by MyClass class. Assume myServlet element is defined correctly. Select the one correct answer.
- A. `<listener>MyClass</listener>`
- B. `<listener> <listener-class>MyClass</listener-class></listener>`
- C. `<listener> <listener-name>aListener</listener-name> <listener-  
class>MyClass</listener-class> </listener>`
- D. `<listener> <servlet-name>myServlet</servlet-name> <listener-  
class>MyClass</listener-class> </listener>`
9. The root of the deployment descriptor is named as
- A. web
- B. web-app
- C. name
- D. display-name
10. With in a context-param element of deployment descriptor, which of the following element is required?
- A. param-name
- B. name
- C. init-param
- D. servlet-name
11. Which of these is not a valid top level element in web-app
- A. icon
- B. listener
- C. eror-page
- D. security-constraint
- E. param-name

12. Which of the following are mandatory elements within the filter element. Select two correct answers.
- A. filter-name**
  - B. name
  - C. value
  - D. filter-class**
  - E. init-param
13. Which of these is not a valid value for dispatcher element of filter-mapping. Select the one correct answer.
- A. FORWARD
  - B. RESPONSE**
  - C. INCLUDE
  - D. ERROR
14. Which of these is not correct about the filter-mapping element of web-app. Select the one correct answer.
- A. filter-name element must be present in the filter-mapping element.
  - B. Either url-pattern or servlet-name must be present in the filter-mapping element.
  - C. dispatcher element can be declared zero to three times in the filter-mapping element.**
  - D. filter-name element in the filter-mapping should be same as the corresponding filter-name element in the filter element of deployment descriptor.

### **Answers to questions on Deployment Descriptor**

1. C. The deployment descriptor must be called web.xml and be placed in the directory named WEB-INF
2. B. init-param is used to specify parameters that are accessed using ServletConfig object.
3. A. In the deployment descriptor the elements in the web-app element can come in any order. B is incorrect because elements are case-sensitive. The servlet-mapping element should be included within the <web-app> element. So C is incorrect. All the elements within the web-app element are optional. So D is incorrect.
4. a. error-page element in the element web-app element is used to specify the exception name.
5. b. The error-page element includes exception-type and location as sub-element. Both these elements must be defined.

6. A. welcome-file-list is included within the web-app element.
7. A,D. error-page element must include either exception-type or error-code element but not both. It must also include the location element.
8. B. The element listener-class must be included within the listener element.
9. B. <web-app> element is the root of the deployment descriptor. It has one attribute named version.
10. A. param-name and param-value are required within the context-param element.
11. E. param-name is a child of context-param element.
12. A and D. filter-name and filter-class are required elements of the filter element.
13. B. The four possible values of the dispatcher element are - FORWARD, INCLUDE, REQUEST and ERROR. RESPONSE is not a value for the dispatcher element.
14. C. dispatcher element can be declared upto four times.

## Questions on tag library

1. When implementing a tag, if the tag just includes the body verbatim, or if it does not include the body, then the tag handler class must extend the BodyTagSupport class. Is this statement true or false.
2. Fill in the blanks. A tag handler class must implement the `javax.servlet.jsp.tagext.Tag` interface. This is accomplished by extending the class TagSupport or another class named in one of the options below. Select the one correct answer.
  - A. IterationTag
  - B. TagClass
  - C. BodyTag
  - D. BodyTagSupport
3. Is this statement true or false. The deployment descriptor of a web application must have the name web.xml . In the same way the tag library descriptor file must be called taglib.xml .

4. A JSP file that uses a tag library must declare the tag library first. The tag library is defined using the taglib directive - `<%= taglib uri="..." prefix="..."%>`

Which of the following specifies the correct purpose of prefix attribute. Select the one correct answer.

- A. The prefix defines the name of the tag that may be used for a tag library.
  - B. The prefix attribute defines the location of the tag library descriptor file.
  - C. The prefix attribute should refer to the short name attribute of the tag library file that is defined by the uri attribute of taglib directive.
  - D. The prefix attribute is used in front of a tagname of a tag defined within the tag library.
5. A JSP file uses a tag as `<myTaglib:myTag>`. The myTag element here should be defined in the tag library descriptor file in the tag element using which element. Select the one correct answer.
- A. tagname
  - B. name
  - C. tag
  - D. prefix
6. Which of the elements defined within the taglib element of taglib descriptor file are required. Select the two correct answers.
- A. tlib-version
  - B. short-name
  - C. uri
  - D. display-name
7. Which of the elements defined within the taglib element of taglib descriptor file are required. Select the two correct answers.
- A. name
  - B. description



- C. validator
- D. tag-class
- E. display-name

8. Name the element within the tag element that defines the name of the class that implements the functionality of tag. Select the one correct answer.

- A. class-name
- B. tag
- C. class
- D. tag-class
- E. tei-class

9. Which of these are legal return types of the `doStartTag` method defined in a class that extends `TagSupport` class. Select the two correct answers.

- A. `EVAL_PAGE`
- B. `EVAL_BODY`
- C. `EVAL_PAGE_INCLUDE`
- D. `EVAL_BODY_INCLUDE`
- E. `SKIP_PAGE`
- F. `SKIP_BODY`
- G. `SKIP_PAGE_INCLUDE`
- H. `SKIP_BODY_INCLUDE`

10. Which of these are legal return types of the `doAfterBody` method defined in a class that extends `TagSupport` class. Select the two correct answers.

- A. `EVAL_PAGE`
- B. `EVAL_BODY`
- C. `EVAL_PAGE_AGAIN`
- D. `EVAL_BODY_AGAIN`
- E. `SKIP_PAGE`
- F. `SKIP_BODY`
- G. `SKIP_PAGE_AGAIN`
- H. `SKIP_BODY_AGAIN`

11. Which of these are legal return types of the `doEndTag` method defined in a class that extends `TagSupport` class. Select the two correct answers.

- A. `EVAL_PAGE`
- B. `EVAL_BODY`
- C. `EVAL_PAGE_INCLUDE`
- D. `EVAL_BODY_INCLUDE`
- E. `SKIP_PAGE`
- F. `SKIP_BODY`
- G. `SKIP_PAGE_INCLUDE`
- H. `SKIP_BODY_INCLUDE`

### Answers to questions on tag library

1. false. Such a class should extend the `TagSupport` class.
2. D. `BodyTagSupport` extends `TagSupport` and implements interfaces `Tag` and `IterationTag`.
3. false. The tag library descriptor file can have any name. It need not have the name `taglib.xml`.
4. d. If the `taglib` directive defines a prefix of `test`, and a tag is called `myTag`, then the tag is used as `<test:myTag>`.
5. b. The `name` element inside the `tag` element defines the tag name to which the prefix of the `taglib` is attached. For example `<name> myTag </name>`
6. a,b. `tlib-version` and `short-name` are required elements within the `taglib` element of the tag library descriptor file.
7. a,d. `name` and `tag-class` are required elements within the `tag` element of tag library descriptor file.
8. d. `tag-class` element defines the fully qualified class name of the tag in the TLD file.
9. d,f. `EVAL_BODY_INCLUDE`, and `SKIP_BODY` are legal return types of `doStartTag`.
10. d,f. `EVAL_BODY_AGAIN`, and `SKIP_BODY` are legal return types of `doAfterBody`.
11. a,e. `EVAL_PAGE` and `SKIP_PAGE` are legal return types of `doEndTag`

1. The method `getWriter` returns an object of type `PrintWriter`. This class has `println` methods to generate output. Which of these classes define the `getWriter` method? Select the one correct answer.
  - A. `HttpServletRequest`
  - B. `HttpServletResponse`
  - C. `ServletConfig`
  - D. `ServletContext`
  
2. Name the method defined in the `HttpServletResponse` class that may be used to set the content type. Select the one correct answer.
  - A. `setType`
  - B. `setContent`
  - C. `setContentType`
  - D. `setResponseContentType`
  
3. Which of the following statement is correct. Select the one correct answer.
  - A. The response from the [dedicated server](#) to a HEAD request consists of status line, content type and the document.
  - B. The response from the server to a GET request does not contain a document.
  - C. The `setStatus` method defined in the `HttpServletRequest` class takes an int as an argument and sets the status of Http response
  - D. The `HttpServletResponse` defines constants like `SC_NOT_FOUND` that may be used as a parameter to `setStatus` method.
  
4. The `sendError` method defined in the `HttpServlet` class is equivalent to invoking the `setStatus` method with the following parameter. Select the one correct answer.
  - A. `SC_OK`
  - B. `SC_MOVED_TEMPORARILY`
  - C. `SC_NOT_FOUND`
  - D. `SC_INTERNAL_SERVER_ERROR`
  - E. `ESC_BAD_REQUEST`

5. The `sendRedirect` method defined in the `HttpServlet` class is equivalent to invoking the `setStatus` method with the following parameter and a `Location` header in the URL. Select the one correct answer.
- A. `SC_OK`
  - B. `SC_MOVED_TEMPORARILY`
  - C. `SC_NOT_FOUND`
  - D. `SC_INTERNAL_SERVER_ERROR`
  - E. `ESC_BAD_REQUEST`
6. Which of the following statements are correct about the status of the `Http` response. Select the one correct answer.
- A. A status of 200 to 299 signifies that the request was successful.
  - B. A status of 300 to 399 are informational messages.
  - C. A status of 400 to 499 indicates an error in the server.
  - D. A status of 500 to 599 indicates an error in the client.
7. To send binary output in a response, the following method of `HttpServletResponse` may be used to get the appropriate `Writer/Stream` object. Select the one correct answer.
- A. `getStream`
  - B. `getOutputStream`
  - C. `getBinaryStream`
  - D. `getWriter`
8. To send text output in a response, the following method of `HttpServletResponse` may be used to get the appropriate `Writer/Stream` object. Select the one correct answer.
- A. `getStream`
  - B. `getOutputStream`
  - C. `getBinaryStream`
  - D. `getWriter`

9. Is the following statement true or false. URL rewriting may be used when a browser is disabled. In URL encoding the session id is included as part of the URL.
10. Name the class that includes the getSession method that is used to get the HttpSession object.
- A. HttpServletRequest
  - B. HttpServletResponse
  - C. SessionContext
  - D. SessionConfig
11. Which of the following are correct statements? Select the two correct answers.
- A. The getRequestDispatcher method of ServletContext class takes the full path of the servlet, whereas the getRequestDispatcher method of HttpServletRequest class takes the path of the servlet relative to the ServletContext.
  - B. The include method defined in the RequestDispatcher class can be used to access one servlet from another. But it can be invoked only if no output has been sent to the server.
  - C. The getRequestDispatcher(String URL) is defined in both ServletContext and HttpServletRequest method
  - D. The getNamedDispatcher(String) defined in HttpServletRequest class takes the name of the servlet and returns an object of RequestDispatcher class.
12. A user types the URL <http://www.javaprepare.com/scwd/index.html> . Which HTTP request gets generated. Select the one correct answer.
- A. GET method
  - B. POST method
  - C. HEAD method
  - D. PUT method

13. Which HTTP method gets invoked when a user clicks on a link? Select the one correct answer.

- A. GET method
- B. POST method
- C. HEAD method
- D. PUT method

14. When using HTML forms which of the following is true for POST method? Select the one correct answer.

- A. POST allows users to bookmark URLs with parameters.
- B. The POST method should not be used when large amount of data needs to be transferred.
- C. POST allows secure data transmission over the http method.
- D. POST method sends data in the body of the request.

15. Which of the following is not a valid HTTP/1.1 method. Select the one correct answer.

- A. CONNECT method
- B. COMPARE method
- C. OPTIONS method
- D. TRACE method

16. Name the http method used to send resources to the server. Select the one correct answer.

- A. FTP method
- B. PUT method
- C. WRITE method
- D. COPY method

17. Name the http method that sends the same response as the request. Select the one correct answer.

- A. DEBUG method
- B. TRACE method
- C. OPTIONS method
- D. HEAD method

18. Which three digit error codes represent an error in request from client? Select the one correct answer.

- A. Codes starting from 200
- B. Codes starting from 300
- C. Codes starting from 400
- D. Codes starting from 500

19. Name the location of compiled class files within a war file? Select the one correct answer.

- A. /META-INF/classes
- B. /classes
- C. /WEB-INF/classes
- D. /root/classes

### Answers to questions on Servlets

1. B. The class HttpServletResponse defines the getWriter method.
2. B. setContentType sets the content type of the response being sent to the client.
3. D. The response from the server to a HEAD request does not contain the document, whereas the response to GET request does contain a document. So A and B are incorrect. C is incorrect because setStatus is defined in HttpServletResponse.
4. C. sendError(String URL) is equivalent to sending SC\_NOT\_FOUND (404) response code.
5. B. sendRedirect(String URL) is equivalent to sending SC\_MOVED\_TEMPORARILY (302) response code and a location header in the URL.
6. A. The following table specifies the specific the status code of Http response.

| Status Code | Purpose                 |
|-------------|-------------------------|
| 100-199     | Informational           |
| 200-299     | Request was successful  |
| 300-399     | Request file has moved. |
| 400-499     | Client error            |
| 500-599     | Server error.           |

7. B. The `getOutputStream` method is used to get an output stream to send binary data. The `getWriter` method is used to get a `PrintWriter` object that can be used to send text data.
8. D
9. true. The statement about URL encoding is correct.
10. A. The class `HttpServletRequest` defines the `getSession` method.
11. A, C.
12. A. GET method gets invoked when a URL is typed.
13. A. GET method gets invoked when user clicks on a link.
14. D. Since POST does not have attributes in the URL, it cannot be used to bookmark the URL. Since arguments are present in the body of the request, using POST method does not guarantee security.
15. B. COMPARE is not a valid HTTP method.
16. B. PUT method is used to send resources from client to server.
17. B. TRACE method is used for debugging. It sends the same response as request.
18. C. A status code of 4XX represents a client error.
19. C. Classes are stored in `/WEB-INF/classes`.

## Questions on JSTL and EL

1. What gets printed when the following expression is evaluated? Select the one correct answer.

`${ (1==2) ? 4 : 5 }`

- A. 1
- B. 2
- C. 4
- D. 5

2. What gets printed when the following expression is evaluated? Select the one correct answer.

`${4 div 5}`

- A. 0
- B. 0.8
- C. 1
- D. -1



3. What gets printed when the following expression is evaluated? Select the one correct answer.

`${12 % 4}`

- A. 0
  - B. 3
  - C. 8
  - D. 16
4. What is the effect of executing the following JSP statement, assuming a class with name Employee exists in classes package.

```
<%@ page import = "classes.Employee" %> <jsp:useBean id="employee"
class="classes.Employee" scope="session"/> <jsp:setProperty
name="employee" property="*" />
```

- A. The code does not compile as there is no property attribute of setProperty tag.
  - B. The code does not compile as property attribute cannot take \* as a value.
  - C. The code sets value of all properties of employee bean to "".
  - D. The code sets the values of all properties of employee bean to matching parameters in request object.
5. What is the effect of evaluation of following expression? Select the one correct answer.

`${ (5*5) ne 25 }`

- A. true
  - B. false
  - C. 25
  - D. The expression does not compile as ne is not a valid operator.
6. What is the effect of evaluation of following expression? Select the one correct answer.

`${ 'cat' gt 'cap' }`

- A. true
- B. false
- C. catcap
- D. The expression does not compile as gt operator cannot be applied on strings.

7. How many numbers are printed, when the following JSTL code fragment is executed? Select the one correct answer.

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<c:forEach var="item" begin="0" end="10" step="2">
 ${item}
</c:forEach>
```

- A. 1
  - B. 5
  - C. 6
  - D. 11
8. What gets printed when the following JSTL code fragment is executed? Select the one correct answer.

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<c:set var="item" value="2"/>
<c:if test="${var==1}" var="result" scope="session">
<c:out value="${result}"/>
</c:if>
```

- A. The JSTL code does not compile as attribute for if tag are not correct.
  - B. true
  - C. false
  - D. Nothing gets printed.
9. What gets printed when the following JSTL code fragment is executed? Select the one correct answer.

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<c:set var="item" value="2"/>
<c:forEach var="item" begin="0" end="0" step="2">
<c:out value="${item}" default="abc"/>
</c:forEach>
```

- A. The JSTL code does not compile as an attribute for forEach tag is not correct.
- B. 0
- C. 2
- D. ABC
- E. Nothing gets printed as c.out statement does not get executed.

10. How many numbers gets printed when the following JSTL code fragment is executed?  
Select the one correct answer.

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<c:set var="item" value="2"/>
<c:choose>
 <c:when test="${item>0}">
 <c:out value="1"/>
 </c:when>
 <c:when test="${item==2}">
 <c:out value="2"/>
 </c:when>
 <c:when test="${item<2}">
 <c:out value="3"/>
 </c:when>
 <c:otherwise>
 <c:out value="4"/>
 </c:otherwise>
</c:choose>
```

- A. No number gets printed.
  - B. One number gets printed.
  - C. Two numbers gets printed.
  - D. Three numbers gets printed.
  - E. Four numbers gets printed.
11. Which numbers gets printed when the following JSTL code fragment is executed? Select the two correct answers.

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<c:set var="j" value="4,3,2,1"/>
<c:forEach items="${j}" var="item" begin="1" end="2">
 <c:out value="${item}" default="abc"/>
</c:forEach>
```

- A. 1
  - B. 2
  - C. 3
  - D. 4
  - E. abc
  - F. The program does not compile.
12. Which numbers gets printed when the following JSTL code fragment is executed? Select the two correct answers.

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
```

```

<c:set var="j" value="4,3,2,1"/>
<c:forEach items="${j}" var="item" begin="1" end="2"
varStatus="status">
<c:out value="${status.count}" default="abc"/>
</c:forEach>

```

- A. 1
  - B. 2
  - C. 3
  - D. 4
  - E. abc
  - F. The program does not compile.
13. Which number gets printed when the following JSTL code fragment is executed? Select the one correct answers.

```

<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<c:set var="j" value="4,3,2,1"/>
<c:forEach items="${j}" var="item" varStatus="status">
<c:if test="${status.first}">
<c:out value="${status.index}" default="abc"/>
</c:if>
</c:forEach>

```

- A. 1
  - B. 2
  - C. 3
  - D. 4
  - E. abc
  - F. The program does not compile.
14. Which of these represent the correct path for the core JSTL library in JSTL version 1.1? Select the one correct answer.
- A. <http://java.sun.com/jsp/jstl/core>
  - B. <http://java.sun.com/jsp/core>
  - C. <http://java.sun.com/core>
  - D. <http://java.sun.com/jsp/jstl1.1/core>

### Answers to questions on EL and JSTL

1. D. As 1 is not equal to 2, 5 gets printed.
2. B. div operator is used for dividing in EL.

3. A. % operator gives the remainder after performing division.
4. D. This is a valid syntax for `setProperty`. All properties of the bean are set from the corresponding parameter names in the request object.
5. B. The code prints false. `ne` is a valid operator. Since both left hand side and right hand side are equal to 25, false gets printed.
6. A. EL considers `<cat>` to be greater than `<cap>`, as the letter `t` comes after the letter `p`.
7. C. The following numbers get printed - 0, 2, 4, 6, 8, 10.
8. D. `if` evaluates to false, hence the `c.out` statement does not get executed.
9. B. The `forEach` tag gets executed once, and prints zero.
10. B. Only one number gets printed - the number 1.
11. B, C. In this case the `forEach` tag iterates through two elements of the array named `j`.
12. B, C. `varStatus` is set to a class of type `LoopTagStatus`. This class has a property named `count` which is being printed. `count` is the loop index, beginning with 1. So for two iterations 1 and 2 get printed. In this case the `forEach` tag iterates through two elements of the array named `j`.
13. A. `status.first` is true for the first iteration. The index is set to 0 in the first iteration.
14. A. The path of core tag library in JSTL 1.1 is <http://java.sun.com/jsp/jstl/core>.