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Objective - Web Tier Technologies - Test

Review of attempt 1

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Started on	Tuesday, 12 March 2013, 06:56 AM
Completed on	Tuesday, 12 March 2013, 07:28 AM
Time taken	32 mins 17 secs
Grade	**12** out of a maximum of 24 (**50**%)
Feedback	FAIL

Show **All** / Correct / In-correct

1.   ABC Company is designing a new Web-based application. They are considering using JSF. Which of the following are advantages of using JSF? Select two choices.

   ☐   a. Increases development time ✗

   ☑   b. It offers a clean separation between behavior and presentation. ✔

   ☑   c. It can map HTTP requests to component-specific event handling methods. ✔

   ☐   d. It compresses data transfer between web server & browser. ✗

   Options B and C are features of JSF.

   Option A is incorrect as usage of Standard Frameworks reduces development time as they provide most of the common features such as validations, data conversions.

   Option D is incorrect, as JSF does not provide a compression feature.

   Correct
   Marks for this submission: 1/1.

   Feedback to Author

2.   Which of the following are features of Expression Language?
   Select three choices.

   ☑   A. It reduces readability of JSP as it has very complex notation. ✗

   ☑   B. Dynamically write data, such as user input into forms, to JavaBeans components ✔

   ☐   C. Dynamically read application data stored in JavaBeans components, various data structures, and implicit objects ✓

   ☐   D. Invoke arbitrary static and public methods ✓

   ☑   E. No value expression references data, No method expression invokes a method ✗

   Option B, C and D are correct.
   Tag Libraries would help in modularize the logic and creates better maintability. As EL would help in improving the reusability and also in passing parameters to any custom tag libraries.

   Incorrect
   Marks for this submission: 0/1.

   Feedback to Author

3.   You are developing an MVC Framework with servlet as the controller and JSP as the view. You want this application to be integrated to monitoring tools like Tivoli, so that whenever an interfacing system is down (database, EJB

Services, JMS providers), you would like to invoke the monitoring tool through a proprietary API to alert application maintenence team. The user should be able to see the message.

Where would you put this logic?

- ○ a. Servlet ✓
- ○ b. JSP ✗
- ◉ c. Servlet Filter ✗
- ○ d. JSTL ✗

Since servlet is acting as the controller (centralized logic), it is appropriate to put this logic in it.

JSP & JSTL are for the View. Servlet Filters must be used for any pre & post-processing of requests. So, Option A is correct.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

4. You have been asked to write a Servlet by extending HttpServlet Servlet and provide implementation for service method to handle the request processing logic. During this process, you are finalizing a servlet.
Choose the options which describes about finalization?

- ○ A. Persist HttpSession Data ✗
- ○ B. Track response times for individual requests ✗
- ◉ C. Keep track of long-running threads and ensure proper shutdown. ✓
- ○ D. Indicate WebContainer to take back the current servlet instance to instance pool ✗

Option C is correct. It can be achieved by the following steps (Java EE Tutorial)

- Keep track of how many threads are currently running the service method.
- Provide a clean shutdown by having the destroy method notify long-running threads of the shutdown and wait for them to complete.
- Have the long-running methods poll periodically to check for shutdown and if necessary, stop working, clean up, and return.

Option D is incorrect as it is not possible as container manages instance pool.

Options A and B are incorrect as HttpSessionData and response times are per-request whereas destroy method is called only during servlet finalization. When a servlet container determines that a servlet should be removed from service (for example, when a container wants to reclaim memory resources or when it is being shut down), the container calls the destroy method of the Servlet interface. In this method, you release any resources the servlet is using and save any persistent state.

Correct
Marks for this submission: 1/1.

Feedback to Author

5. What are the benefits of JSF application in Java EE environment?
Select three choices?

- ☑ A. JSF provides drop components onto a page by adding component tags ✓
- ☑ B. JSF provides UI reusable and extensible components ✓
- ☐ C. JSF does not provide save and restore UI state beyond the life of server requests ✗
- ☑ D. JSF provides Bind UI components on a page to server-side data ✓

Option A, B and D are correct.

JSF provides well-defined programming model and tag libraries significantly ease the burden of building and maintaining web applications with server-side UIs. With minimal effort, you can

Drop components onto a page by adding component tags
Wire component-generated events to server-side application code

Bind UI components on a page to server-side data
Construct a UI with reusable and extensible components
Save and restore UI state beyond the life of server requests
Option C is incorrect. JSF provides save and restore UI state beyond the life of server requests.

For more information, please refer :
http://docs.oracle.com/javaee/5/tutorial/doc/bnaph.html

Correct
Marks for this submission: 1/1.

Feedback to Author

6.   Which of the following features are provided by JSF? Select two choices.

☐ a. SSL support ✗

☑ b. UI components ✔

☑ c. Server-side validation ✔

☐ d. Client side validation ✗

Options B and C are correct.

JavaServer Faces technology provides a set of UI component classes and associated behavioral interfaces that specify all the UI component functionality, such as holding component state, maintaining a reference to objects, and driving event handling and rendering for a set of standard components. It also provides a mechanism for validating the local data of editable components (such as text fields). But this validation is only server-side. It does not provide any features for client-side validation (JavaScript) like Struts.
So, option D is incorrect.

SSL (Secure Sockets Layer) is the standard security technology for establishing an encrypted link between a web server and a browser. JSF does not provide any such security features. So, option A is incorrect.

Correct
Marks for this submission: 1/1.

Feedback to Author

7.   You are designing a web application where the employee can login and submit his weekly labour claims. This application shows labour details for current month and provides features to retrieve earlier claims and submit new claims. Employees use this system once in a week.

Which of the following technologies would you choose? Select two choices.

☐ a. JSP ✔

☑ b. MDB ✗

☑ c. JCA ✗

☐ d. EL ✔

Options A and D are correct.

There is no requirement for asynchronous messaging so option B is incorrect.

There is no requirement for JCA, so option C is also incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

8.   ABC Company has decided to build a web application where every employee can update his professional information (Work experience, projects etc). Colleagues can search for a person using email address or first and last name. It is a medium-size company and usage is fairly low.

Which of the following technologies would be useful? Select two choices.

☐ a. JMS ✗

Option A is incorrect as there are no requirements for asynchronous actions.

Option D is incorrect as there are no requirements for scalability or transactions.

Options B and C are correct.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

9.   ABC Company has an old web application built using Servlets/JSP and in-house MVC framework. You are asked for expert advice on improving the quality of code as ABC Company has to spend lot of money time and again even for small changes in the application. Looking at the code, you have observed that lot of java code has been used in JSP and has been duplicated in multiple instances.

Which of the following technologies would you recommend to use?

☐ A. AJAX ✗
☑ B. Tag Libraries ✔
☐ C. Expression Language ✔
☑ D. Rewrite whole application using JSF. ✗

Option B and C are correct. Tag Libraries would help in modularize the logic and creates better maintainability. As EL would help in improving the re usability and also in passing parameters to any custom tag libraries.

Option A is incorrect as AJAX code executes on browser side.

Option D is incorrect as the problem is only with JSP's. There is no need to rewrite the whole web code.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

10.   You have been asked to design scalable vector graphs to display the system performance results.
What is the most suitable technology you would choose?

○ A. JSP ✔
○ B. Servlet ✗
◉ C. JPA ✗
○ D. EJB ✗

Options A is correct.
Java Server Pages (JSP) technology allows you to easily create web content that has both static and dynamic components. JSP technology makes available all the dynamic capabilities of Java Servlet technology but provides a more natural approach to creating static content.
JSP pages are more appropriate for generating text-based markup such as Scalable Vector Graphs (SVG), Wireless Markup Language (WML), HTML and XML.

Option B, C and D are incorrect.

For more information, please refer
http://docs.oracle.com/javaee/5/tutorial/doc/bnagx.html
Incorrect
Marks for this submission: 0/1.

Feedback to Author

11.   Your Web application is deployed on Websphere & Weblogic Servers. A load balancer is configured to alternate requests between these two instances.

Which of the following is true about HttpSession?

a. Data stored in HttpSession can be picked by any of the servers as it is stored in central
database. ✗

b. Since session ID is stored in cookies any Java EE Server can deserialize the sessionId
to get the data ✗

c. It will be replicated automatically ✗

d. Data stored in HttpSession of WebSphere will not be available for WebLogic server and
vice-versa. ✔

Option D is correct.

Generally server
instances of single
product when
clustered replicates
session information
across JVM
(common database
or any other

mechanism), but session replication is not implicit between different products.

Correct
Marks for this submission: 1/1.

Feedback to Author

12. Mega Inc company wants to re-engineer the current JSP code due to it's maintainability issues. You have been asked
to use JSTL and list the features available from the library.
Which of the following statements are true about JSTL?

☐ A. JSTL provides support for standard flow control ✔

☑ B. JSTL provides support for XML processing but not for SQL queries ✗

☐ C. JSTL provides support for internationalization but not for XML processing ✗

☑ D. JSTL provides support for XML processing and also for executing SQL queries. ✔

Option A and D are correct.

JSTL provides support for standard flow control, XML processing and SQL through tag libraries.
Java Server Pages Standard Tag Library (JSTL) encapsulates as simple tags the core functionality common to many
Web applications. JSTL has support for common, structural tasks such as iteration and conditionals, tags for
manipulating XML documents, internationalization tags, and SQL tags. It also provides a framework for integrating
existing custom tags with JSTL tags.

Option B is incorrect. JSTL provides support for XML processing and also to execute SQL queries.
Option C is incorrect. JSTL provides support for internationalization and also for XML processing.

For more information, please refer :
http://www.oracle.com/technetwork/java/index-jsp-135995.html

Incorrect
Marks for this submission: 0/1.

Feedback to Author

13. Which of the following is NOT true about JSF?

○ a. Application configuration file must be faces-config.xml ✔

○ b. It provides Validation model ✗

○ c. It provides component rendering model ✗

○ d. JSF application includes one or more backing beans, each of which is a JavaServer
Faces managed bean that is associated with the UI components used in a particular page
✗

Option A is correct.

Configuration file is usually configured as faces-config.xml but there is no rule that it must be that name.

Options B, C and D are true statements about JSF.

Correct
Marks for this submission: 1/1.

Feedback to Author

14. Which of the following is a valid sequence of JSF lifecycle?

a. Restore View -> Process Validations -> Apply Requests -> Update Model Values ->
Invoke Application -> Render Response ✗

b. Restore View -> Process Validations -> Apply Requests -> Invoke Application -> Update
Model Values -> Render Response ✗

c. Restore View -> Apply Requests -> Process Validations -> Update Model Values ->
Invoke Application -> Render Response ✓

d. Restore View -> Apply Requests -> Process Validations -> Invoke Application -> Update
Model Values -> Render Response ✗

Option C is correct.

Correct sequence is Restore View -> Apply Requests -> Process Validations -> Update Model Values -> Invoke
Application -> Render Response.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

15.   You are designing a travel booking application for employees of your organization. Through this application,
employees can book online for various road, rail and air transport. Once the customer confirms the booking, your
application will make calls to these transport companies through web services.

Which of the following would be useful for you to implement this?

a. Stateless Session Beans ✗

b. Servlets/JSP ✓

c. Stateful Session Beans ✗

d. Enterprise Service Bus. ✗

Option B is correct.

Once the user makes selections, web service invocations can be done from the web layer. There is no need to use
session beans as there are no requirements for transactions/scalability.

Options A and C are incorrect. For a small application you would not require Enterprise Service Bus.

Option D is incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

16.   You are building a real-time web based system with high usage and high volumes of transactions. Which of the
following technologies would you choose? Select three choices.

a. MDB ✗

b. Swing GUI controls ✗

c. JSP ✓

d. EJB3 Entities ✓

e. Stateless Session Beans ✓

f. Java Cryptography Extension (JCE) ✗

Options C, D and E are correct.

Application can be built using JSP for UI, stateless session beans for business services and EJB3 entities for
persistence.

Option A is incorrect because it is a real-time system, and MDBs are asynchronous.

Option B is incorrect because the requirement is for a web based application.

Option F is incorrect because nothing is mentioned about security requirements.

The Java Cryptography Extension (JCE) provides a framework and implementations for encryption, key generation

and key agreement, and Message Authentication Code (MAC) algorithms.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

17. You are building a website in which many pages have common features such as radio buttons, dropdowns and tabular data. Which of the following will you choose to prevent duplicate GUI code? Select two choices.

   ☐   a. Use a business delegate to decouple the GUI from the business service. ✗

   ☐   b. Use a service locator to locate business services. ✗

   ☐   c. Access the data using JDBC. ✗

   ☑   d. Use templates to create composite view ✔

   ☑   e. Custom Tag Libraries. ✔

Options D and E are correct.

Both custom tag libraries and templates can be used to facilitate reusability of code.

Options A, B and C are incorrect because they do not deal with the GUI.

Correct
Marks for this submission: 1/1.

Feedback to Author

18. You are developing a standard architecture guide lines to design the web tier components/modules, which will be used by subsequent projects in the enterprise.
Which of the following you would consider the most important guide line from the given choices?

   ◉   A. A first-order principle of software architecture is to increase cohesion and reduce coupling ✔

   ○   B. A first-order principle of software architecture is to decrease cohesion and increase coupling ✗

   ○   C. A first-order principle of software architecture is not to increase coupling and decrease cohesion ✗

   ○   D. A first-order principle of software architecture is not to increase cohesion and decrease coupling ✗

Option A is correct. The components/modules designed should have loose coupling between the components. Any change or extensions to the code should be easy to handle and provide good maintainability. Higher cohesion within the module/component or class should be maintained part of any tier design.

Option B, C and D are incorrect.

Correct
Marks for this submission: 1/1.

Feedback to Author

19. ABC Company has a desktop based Labour claim application. They are planning to build a new web-based application using Servlets/JSP. In which of the following scenarios, can JSP be used?

   ○   a. Invoking business services ✗

   ○   b. Invoke JSTL ✔

   ○   c. Writing business logic ✗

   ◉   d. Invoking web services for display of read-only data on the website ✗

Option B is correct.

The JavaServer Pages Standard Tag Library (JSTL) encapsulates, as simple tags, core functionality common to many JSP applications.

Options A, C and D must not be present in JSP. JSP must be used only for presentation purposes.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

20.   Your friend has suggested you to use Model-View-Controller pattern for your Web application. Which of the following
       are valid options for implementing controller logic?

       ○ a. JSSE ✗

       ◉ b. Servlets ✓

       ○ c. Custom Tag Libraries ✗

       ○ d. JSTL ✗

       Options C and D are options that can be used for View.

       Option A is incorrect because JSSE is related to security.

       Option B is the correct option for implementing controller logic.

       Correct
       Marks for this submission: 1/1.

       Feedback to Author

21.   In a web application you are about to architect, you have to choose a technology for web-tier. One major concern is to
       prepare corresponding Java objects for form-data submitted on HTML pages. Which technology will you pick?

       ○ a. JSP ✗

       ○ b. JSP and Servlets together will be best ✗

       ◉ c. Java Server Faces ✓

       ○ d. Create your own framework for this ✗

       ○ e. Apply Request Values ✗

       Choice C is correct.

       Choice C is correct because JSF allows direct mapping between HTML elements and Java objects.

       Choice A and B are incorrect because Servlets and JSP do not provide HTML to object mapping.

       Choice D is incorrect. JSF provides this out of the box.

       Further Reference: The Java EE 5 Tutorial – Third Edition by Eric Jendrock (Publisher – Pearson Education)

       Correct
       Marks for this submission: 1/1.

       Feedback to Author

22.   What is the standard presentation tier framework to build user interface in Java EE Platform?

       ○ A. JSTL ✗

       ◉ B. JSF ✓

       ○ C. WAF ✗

       ○ D. Struts ✗

       Options B is correct.

       Java Server Faces technology is a standard server-side user interface component framework for Java
       technology-based web applications.

       The main components of Java Server Faces technology are as follows:

An API for representing UI components and managing their state; handling events, server-side validation, and data conversion; defining page navigation; supporting internationalization and accessibility; and providing extensibility for all these features.

Two Java Server Pages (JSP) custom tag libraries for expressing UI components within a JSP page and for wiring components to server-side objects.
Option A, C, and D are incorrect.

For more information, please refer
http://docs.oracle.com/javaee/5/tutorial/doc/bnaph.html

Correct
Marks for this submission: 1/1.

Feedback to Author

23. You are designing an internet banking application using Java EE technologies. You would like to keep an audit of critical customer actions on the site such as money transfers, so that customer cannot deny the same in future. This audit data will be stored in a mainframe database and can be viewed only by authorized personnel.

Which of the following technologies would you choose?

- ⦿ a. Web Services ✗
- ○ b. Implement through MDB ✗
- ○ c. Enterprise Service Bus ✗
- ○ d. Implement through Stateless Session Beans ✓

There is no requirement for web services or an infrastructure such as ESB, so options A and C are incorrect.

Enterprise Service Bus is a set of infrastructure capabilities implemented by middleware technology that enable an SOA. The ESB supports service, message, and event-based interactions in a heterogeneous environment, with appropriate service levels and manageability.

Option D is correct. Whenever a critical action is made by customer, call has to be made to store the record in the database. Since it is very critical to audit actions, it is correct to implement synchronously.

In case auditing fails - you can stop the action which is not possible to achieve through MDB. So, option B is incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

24. You are designing an internet banking application for a very small bank. It would have typical features of banking application such as creating accounts, retreiving account information, making account transfers etc. You need to build and deploy this application as soon as possible and application must be scalable.

Which of the following would you choose? Select two choices.

- ☐ a. Stateless Session Beans with DAO ✗
- ☑ b. Use JSF for web layer. ✓
- ☑ c. Build business services as stateless session beans and use Java EE entities for business objects. ✓
- ☐ d. Use Servlets/JSP and DAO for persistence. ✗

DAO approach involves coding and testing effort which can be avoided by using Java EE Entities. So, options A and D are incorrect.

You can build this application quickly by using Java EE technologies - JSF for web layer, using EJB for business services (scalability) and Java EE entities for persistence. So, options B and C are correct.

Correct
Marks for this submission: 1/1.

Feedback to Author

Finish review

Finish review