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| **National University of Computer and Emerging Sciences, Lahore Campus** | | | | |
| C:\Users\saif\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\final design.jpg | **Course:** | **Web Programming** | **Course Code:** | **CS-406** |
| **Program:** | **BS(Computer Science)** | **Semester:** | **Spring 2017** |
| **Duration:** | **60 Minutes** | **Total Marks:** | **40** |
| **Paper Date:** | **06-April-17** | **Weight** | **15%** |
| **Section:** | **ALL** | **Page(s):** | **2** |
| **Exam:** | **Mid 2** | **Roll No:** |  |
| **Instruction/Notes:** | **Note: Please use the answer sheet to answer the questions.** | | | |

Question1- What is MVC design pattern? What are its benefits?

Marks 10

Model

Data and business logic.

View

Front end interface

Controller

Servlet which control

Benefits:

* Data abstraction
* Components are separate.
* View can be separated and worked on separately.
* Model can be changed without affecting View or Controller.

Question 2- What is Service Oriented Architecture (SOA)? Please give an example of an implementation of SOA.

Marks 10

Service Oriented Architecture uses web services to communicate between various applications to provide services.

Examples:

Weather forecasts

Flight Booking systems

Question 3- Describe in detail a JSP life cycle. Explain how does the container use a jsp to give a client an output from a jsp.

Marks 10

Question 4- Which statements about HttpSession object is true?

Marks 2

A-A session object whose timeout is set to -1 will never expire (correct)

B-A session will expire as soon as the user closes all browser windows

C-A session will become invalid after a timeout period defined by the servlet container. (correct)

D-A session may be explicitly invalidated by calling HttpSession.invalidateSession()

Question 5- What is wrong in this class?

Marks 2

import javax.servlet.http.\*;

public class MySessionLIstener implements HttpSessionListener {

pubilc void sessionCreated(){

System.out.println("Session created");

}

pubilc void sessionDestroyed(){

System.out.println("Session destroyed");

}

}

A- The method signature on line 3 is incorrect. (Correct)

B- The method signature on line 3 is incorrect. (Correct)

C-The import statement will not import HttpSessionListener

D- sessionCreated and sessionDestroyed are not the only methods defined by the interface HttpSessionListener interface.

Question 6- Which directive specify an HTTP response that will of type "image/svg"?

Marks 2

A- <%@ page type = "image/svg" %>

B- <%@ page mimeType = "image/svg" %>

C- <%@ page language = "image/svg" %>

D- <%@ page contentTpye = "image/svg" %> (correct)

Question 7-Which about EL access operators is true:

Marks 2

A- Anywhere the .(dot) operator is used , the [] could be used instead. (Correct)

B- Anywhere the [] operator is used , the .(dot) could be used instead.

C-If the .(dot) operator is used to access a bean property, but the property does not exist, then a runtime expectation is thrown.

D-There are some situations where the .(dot) operator must be used and other situations where the [] operator must be used.

Question 8- Given:

Marks 2

public class MyBean {

private java.util.Map prams;

private java.util.List objects;

private String name;

public java.util.Map getParams() {return params;}

public String getName() {return name;}

private java.util.List getObjects() { return objects;}

Which will cause errors (assume that attribute mybean can be found and is of type MyBean)

}

A- ${mybean.name}

B- ${mybean["name"]}

C-${mybean.objects.a} (Correct)

D-${mybean.["params"].a}

E-${mybean.["objects"].a} (Correct)