



THE UNIVERSITY OF  
**SYDNEY**

Used by **COMP5347 2016** students Only

STUDENT ID: .....

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SIGNATURE: .....

**SCHOOL OF INFORMATION TECHNOLOGIES**

**COMP5347**

**Web Application Development**

**SAMPLE EXIMINATION**

**This sample only shows format/structure of the REAL exam.**

**It does not reflect content coverage in the REAL exam.**

*This sample exam paper comprises 5 pages*

**INSTRUCTIONS TO CANDIDATES**

**ANSWER ALL QUESTIONS in this sample examination paper**

Answer all questions using blue or black pen only.

This paper comprises **THREE** questions some with multiple parts.

Questions are not worth equal marks. The mark to be awarded for each part is indicated. Marks total 50.

**The following material is provided:**

Nil

**Materials allowed**

Nil

**Use of Calculators:**

Electronic calculators are not permitted in this exam.

Question	Mark
Question 1	/20
Question 2	/15
Question 3	/15
<b>Total</b>	<b>/50</b>

**Question 1 Multiple Choices (20 marks)**

Please CIRCLE **ONE** correct answer for each question.

1. Suppose a user requests a web page that consists of some text and two images **residing** on the same server. Both client and server are running HTTP 1.1 protocol. The client will send \_\_\_\_\_ TCP connection request and \_\_\_\_\_ HTTP GET requests.



- a) 3, 3
- b) 1, 3
- c) 1, 1
- d) 1, 2

2. Which one of the following is TRUE about attribute scope in java web application

- a) We can define and put variables in different scope in a JSP page.
- b) An object `obj` of type `Person` put in application scope by a statement `getServletContext().setAttribute("person", obj);` can be accessed in any jsp page using `${requestScope.person}` because the application scope object is available to any request.
- c) An objects put in a session scope needs to have standard getter and setter methods for all of their private properties.
- d) JSP EL can access instance variables of a servlet because servlet has application scope.

3. Which one of the followings is TRUE about Java Servlet

- a) A JSP page will be converted into servlet by servlet container.
- b) Servlet is running inside browser
- c) Servlet object is created for every request and garbage collected after the response is returned.
- d) A servlet chain can be declared in deployment descriptor (web.xml)

4. HTTP is “**stateless**” means

- a) You can not put state information in HTTP request message
- b) You cannot put state information in HTTP response message
- c) By default, the HTTP server does not remember what happens in the past client request.
- d) By default, the HTTP client should not query server state.



Question 5-7 are based on the based on a small web application. The application context is “simplespring”. It is hosted on a locally installed Tomcat server running at port 8080. The application’s directory structure is given in Figure 1 You will find the relevent source code of this application in the supplementary reading material.

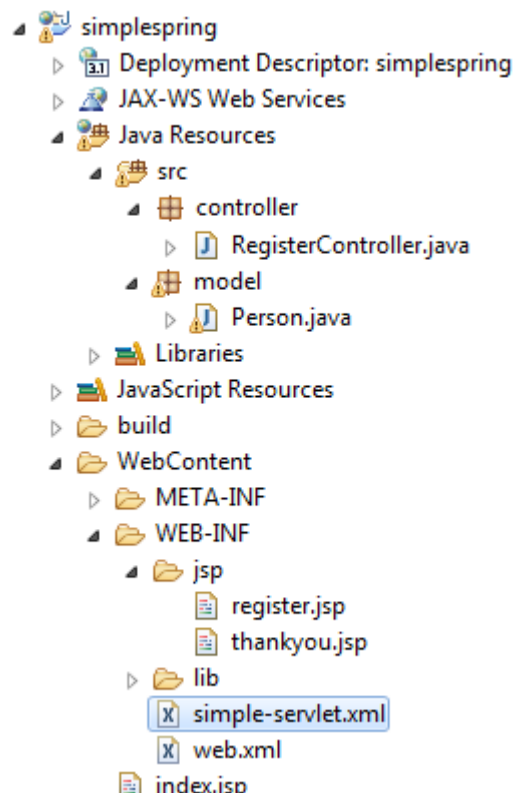



Figure 1 Sample application file structure

5. Which one of the following is **NOT** TRUE after you click “submit” button on the following screen?

Figure 2 Screen ONE

- a) A message data error will be printed on the console
- b) A second request will be send to `http://localhost:8080/simplespring/registerForm` to allow user to enter valid information
- c) There will be an object named `person` in request scope
- d) There validation mechanism will show the message You must be 16 or older to register in the returning page.

6. A model object of `Person` type will be created by the Spring framework
- a) before calling the method `register`
  - b) while executing the method `register`
  - c) before calling the method `index`
  - d) after the validation is successful.
7. The **`index`** method in `RegisterController` object will be called when answering a request
- a) sent by clicking `submit` button on screen ONE
  - b) sent by clicking **Registration example** link on the rendered `index.jsp` page
  - c) sent to `http://localhost:8080/simplespring/`
  - d) sent to `http://localhost:8080/simplespring/register`
8. Which one of the statement is TRUE about browser's critical rendering path
- a) All images files referenced in a web page are critical resources
  - b) The `DOMContentLoaded` event marks the point when all critical resources are downloaded.
  - c) The load even always fires after `DOMContentLoaded` event
  - d) A web page with three critical resources will need at least three roundtrip time to get all of them
9. Node.js server handles all requests in a single thread. This means
- 
- a) There is no thread safety issue in Node.js applications.
  - b) You cannot send Ajax request to Node.js applications.
  - c) You cannot have sessions in Node.js applications.
  - d) The Node.js server cannot handle requests in asynchronouse manner.
10. Which statement about `ServletContext` initialization parameters is **NOT** TRUE?
- a) They should be used for data that is specific to a servlet.
  - b) They are configured in `web.xml`
  - c) They only accept String typed values
  - d) They can be accessed inside a jsp page using `${initParam.paramName}`

**Question 2    Security (15marks)**

This question is related with assignment 2. In this assignment your online shopping system needs to deal with two types of registered users: regular users and administrators. Explain the mechanisms you use to authorize users to their designated resources such as URLs and database tables/items.

**Question 3    Web Services(15marks)**

Describe the common features as well as differences between RESTful and SOAP based web services..