EDITH COWAN UNIVERSITY

PERTH WESTERN AUSTRALIA

**SAMPLE EXAM**

Unit Code and Title **CSI 2441 Applications Development**

**SAMPLE PAPER**

| | | |
|---|---|---|
| **Duration** | Reading time | 5 minutes |
| | Working time | 3 hours |
| | Total time | 3 hours 5 minutes |
| **Attempt** | Attempt **ALL** questions. | |
| **Marks** | Students should note that the exam score out of 100 will be scaled to a mark out of 60 and added to the coursework score in order to make up the final score. | |
| **Type of Exam** | **Closed Book** exam – textbooks, reference books or notes may not be consulted during the exam. | |
| **Equipment or attachments required during examination** | 15 page answer booklet | |
| **Special Instructions** | This examination paper consists of **FIVE (5)** pages and **TEN (10)** questions. Candidates are required to answer **ALL** questions in the answer booklet provided. | |

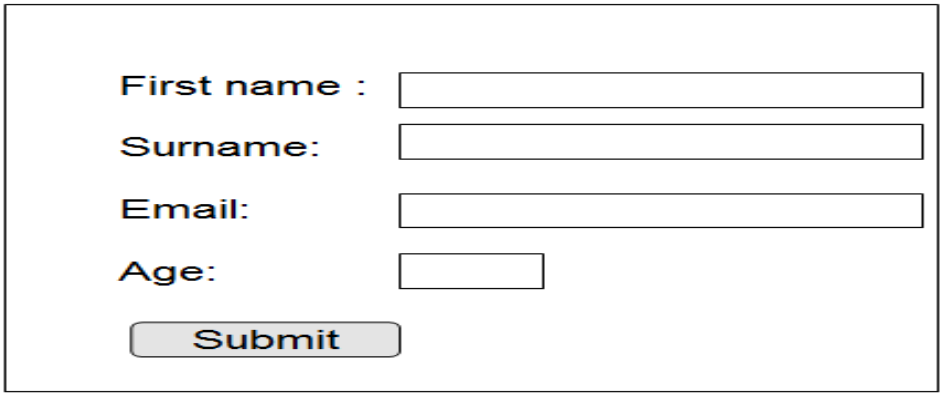
**Students are not permitted to write on the examination or any other paper during reading time.**

**Do not commence the examination until you are told to do so.**

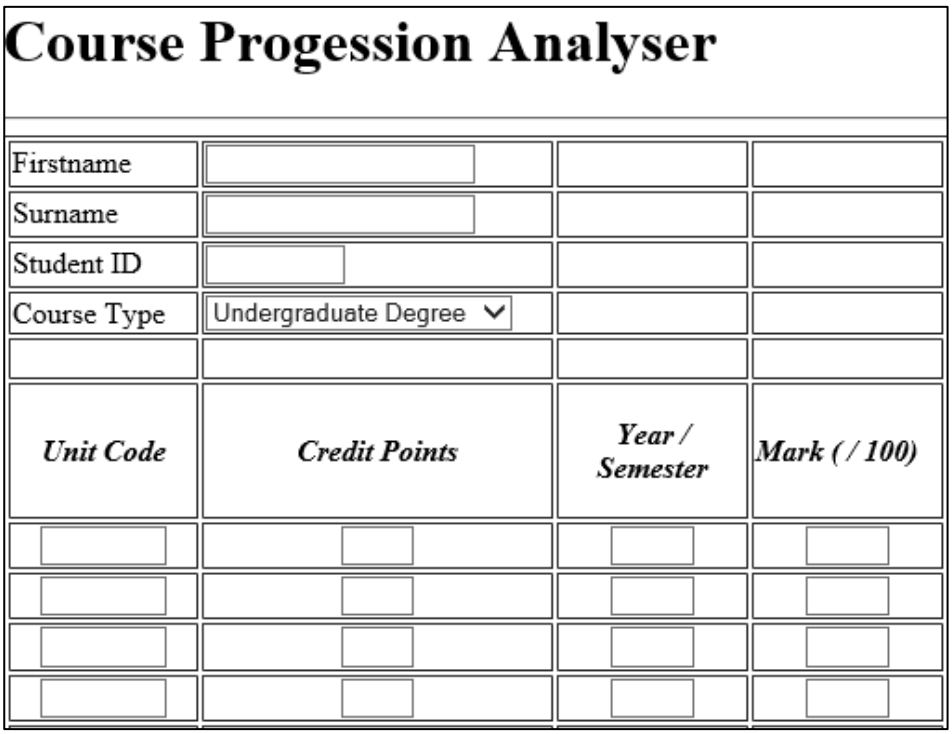
**Record your name and student number on ALL papers and hand them in at the completion of the exam.**

## SECTION 1-GENERAL PROGRAMMING CONCEPTS

1. Explain the purpose of modularisation of code. Using either ASP or PHP, write a function called CheckBlanks which when called, checks all of the form fields shown below to ensure that they are not blank.




2. In terms of Event Driven web applications, for the form shown above, outline at least two 'events' which could trigger the CheckBlanks function you created in your previous answer
3. For the following form, what data would you store in an array and why?



4. In terms of storing the above form data in a relational database, would you require one table or two? Explain your answer in detail, using diagrams to support your views.

5. Explain the role of 'Code Behind' in ASP.Net web applications, and in what part of the Model View Controller (MVC) it is situated

(20 marks)

## SECTION 2-INTEFACES, FORMS AND BUSINESS LOGIC

6. Business Logic essentially represents the 'rules' that determine how an organization's operating processes are transferred into a coded form. For a developer, successfully capturing Business Logic is often about asking clients the right questions about their systems. Imagine a client wanted you to encode some Business Logic around processing student results for the Course Progression Analyser shown on the previous page. What five (5) questions would you ask the client about the form and its relationship to their business rules and why.

(10 marks)

7. As you have experienced throughout this semester, there are multiple approaches to application coding, including the hand-coded approach you used in your first assignment versus the more visual, drag and drop approach you used in your second assignment. With both these in mind, which environment (hand-coded or visual drag and drop) would you choose in order to develop an application that required users be able to;
-sign up for a new account
-log in
-add and edit their own profile, including images of themselves
-be able to change their own password
-recover a lost password
-be locked out of the system for 12 hours after five (5) log in attempts in five minutes
Explain in detail the rationale for your answer along with a list of any possible drawbacks to your selected approach.

(10 marks)

8. The following form is very basic and has not been optimised with modern components and ease of use. Draw a diagram of how you think the form should look inclusive of enhanced form controls, design elements and indictors to users of required input. Write notes on your diagram to explain your logic or number each item on the form and then write an explanation for that item.

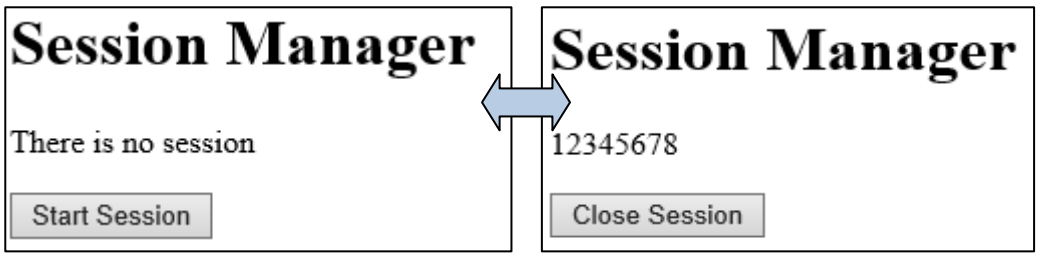
# Product Ordering System

| | | | |
|---|---|---|---|
| Client Firstname | | | |
| Client Surname | | | |
| Client ID | | | |
| Order Date | | | |
| Expected Delivery Date | | | |
| Delivery Type | Pick up | | |
| | | | |
| ***Product Code*** | ***Product Cost*** | ***No. Ordered*** | ***Free Shipping*** |
| | | | ☐ |
| | | | ☐ |
| | | | ☐ |
| | | | ☐ |
| | | | ☐ |

(10 marks)

**SECTION 3-CODE**

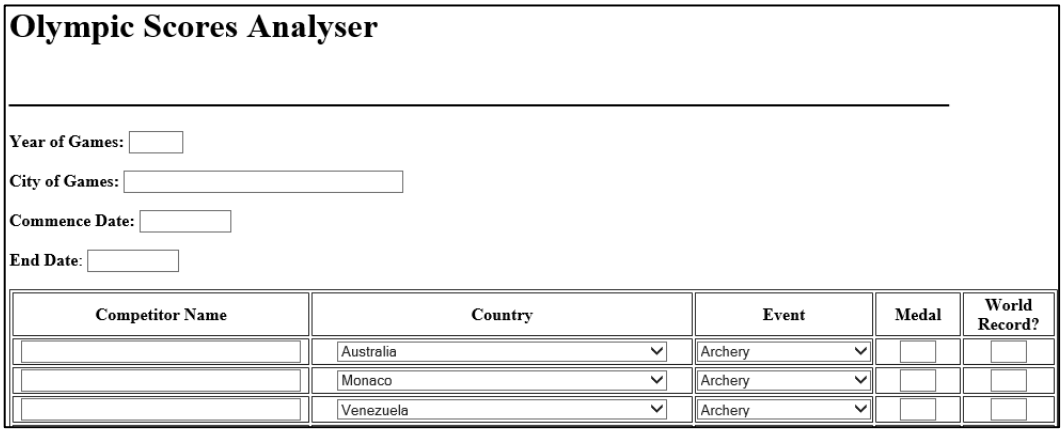
9. The following is a simple ASP.Net application which has two controls in it;
-lblSessionState which has a default value of 'There is no session'
-btnSessionState which has a default value of 'Start Session'




Your task is to write the Code Behind VB.Net or C#.Net code inside the Page_LoadComplete event that checks to see if a session called MySession exists. If MySession does exist, then you are to assign its value to the lblSessionState control as its text value and change the btnSessionState text value to 'Close Session'. If MySession does not exist, you need to create it and assign it the value of '12345678'. Finally, if the Close Session button is clicked the page should post back to itself, detect the postback and clear the session using Session.Abandon

(20 marks)

10. For the following form, write both the php and asp code required to validate input according to these rules;
-Year of Games, City of Games, Commencement Date and End Date cannot be blank
-Competitor name, Medal and World Record cannot be blank.
-Year of Games is a numeral in the range 1896 – 2100
Even though there are three rows shown for the competitor listings, assume that up to 50 rows of input are available.




(30 marks)

**End of examination paper**