CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ

Semester 2 Examinations 2010/2011

Module Title: **eBusiness Infrastructure**

Module Code: COMP7008

School: Science and Informatics

Programme Title: **BSc in IT Support**

BSc in IT Management

Programme Code: **KITSU_7_Y3**

KITMN_8_Y2

KITSE_7_Y3

KCOMP_7_Y3

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Internal Examiner(s):   **Ms. Clíona McGuane**

Instructions: Question 1 is compulsory and is worth 60%.

Choose between Q2 or Q3 each worth 40%.

Duration: 2 hours

Sitting: Summer 2011

Requirements for this examination:

Note to Candidates: Please check the Programme Title and the Module Title to ensure that you have received the correct examination paper. If in doubt please contact an Invigilator.

KEEP ANSWERS BRIEF – ESSAYS ARE NOT REQUIRED.

Q1.   (60 marks)

a)   [30 marks]

The HTML code in Figure 1 produces the form in Figure 2. Read the source code, view the form and then answer the questions on the following page:

```html
<html>
<head>
<script src="functions.js"></script>
<style>
body{
    font-family: "Arial";
}
#mistake { color:red;}
label{
    color:white;
    background-color:black;
    font-weight: bold;
}
</style>
</head>
<body>
<h1>Register an Account</h1>
<form method="get" action="register.php" onsubmit="return validate();">
<label id="emailLabel">Email:</label>
<input class="text" type="text" id="emailID" name="email" />
<br/><br/>
<label id="newslettersLabel">Please choose the newsletters you would like to receive</label>
  <br />
  <input type="checkbox" value="jobs"        name="newsletters[]"/>Computing Jobs
  <br />
  <input type="checkbox" value="cit"         name="newsletters[]"/>CIT News
  <br />
  <input type="checkbox" value="computing"   name="newsletters[]"/>Computing @ CIT
  <br />
  <input type="checkbox" value="cloud"       name="newsletters[]"/>Cloud Computing @ CIT
<br/>
<br/>

<input type="submit" />
<input type="reset" />
</form>
</body>
</html>
```

Figure 1 HTML Source Code

Figure 2 Form rendered in Mozilla Firefox

(i)   Many HTML books say that use of the `name` attribute has been superseded by the `id` attribute yet this code uses both. Provide *two* reasons to use the `name` attribute and *two* reasons to use `id` attribute.

(ii)   Describe the purpose of the following Javascript function relating to the previous form and explain how it affects the form's appearance and behaviour.

```
1   function validate()
2   {
3       if (document.getElementById("emailID").value == "")
4       {
5           document.getElementById("emailLabel").innerHTML = "<span id='mistake'>Email:</span>";
6           document.getElementById("errorMessage").innerHTML =
7                                       "<span id='mistake'>Please provide data</span>";
8           return false;
9       }
10      else{
11      document.getElementById("emailLabel").innerHTML = "Email:";
12      }
13
14      return true;
15  }
```

(iii)   The HTML includes the code: `name="newsletters[]"`. What would be the consequence if the [ ] were omitted?

(iv)   The form uses the get method. What other value could this attribute have? Compare and contrast the two methods, describing why a manager responsible for an ecommerce application might decide to use each.

b) [15 marks]

A visitor to a website enters a search term for a product in a product search textbox and presses the Search button. Provide a technical description of what happens when the user

clicks the Product Search button. Your answer should reflect your understanding of the role of each element of a database-driven website, on the client and server side, as well as the types of programming languages involved.

c) [15 marks]

With respect to online credit card shopping, describe the authorisation process.

You used PayPal when you created your shop. Describe PaylPal's Sandbox service.

Q2   (40 marks)

a) [14 marks]

You are a newly appointed IT manager of a SME (small to medium enterprise) selling goods online. Your boss has read in the business section of a national newspaper that cloud computing is the next big thing and that it can significantly reduce the running costs of a business. Write a brief note on cloud computing including its potential benefits to the business and its potential pitfalls.

b) [20 marks]

What is XML? XML is often used with commercial APIs – how?

c)   [6 marks]

osCommerce implements the shopping basket using PHP on the server side. What advantage does this offer over a client-side implementation of the basket?

Q3   (40 marks)

a) [5 marks]

A business decides to start selling into China. As an administration of a shop implemented in osCommerce, how do you localise the website?

b) [15 marks]

Compare and contrast Ajax and JQuery. Your answer should reflect an understanding of the role of each in an ecommerce application.

c) [20 marks]

The following PHP is designed to generate and execute a SQL query. Describe each line of code using the following HTTP request:

http://localhost/lessons/exams2011/register.php?email=fred.bloggs@gmail.com&newsletters[]=computing&newsletters[]=cloud and provide the resultant SQL query generated.

```php
<?php
mysql_connect("localhost", "root", "") or die("Problem connecting to the server");
$database  = mysql_select_db("newsletters") or die("Problem accessing database");
$email = $_GET["email"];
$newsletters = $_GET["newsletters"];
$queryStart = "INSERT INTO customers(email";
$queryValues = "VALUES ('".$email."'";
for ( $k=0; $k < count($newsletters); $k=$k+1)
{
    $queryStart = $queryStart.", ".$newsletters[$k];
    $queryValues =$queryValues.", '1'";
}
$queryStart = $queryStart.") ";
$queryValues =$queryValues.")";
$query = $queryStart.$queryValues;
$queryResult = mysql_query($query) or die("Error - did not work");
?>
```