ITB – Resit Revision

The structure of the resit test

The ITB resit is a 3 hour test during the resit exam period. The paper contains 6 questions, from which you must choose 4 (in 3 hours). Time is generally NOT an issue for students in this exam.

By attempting the revision questions in this pack, you should cover (and be directed towards) the correct material.

DO NOT confuse the ITB module (Information Technology for Business) with the BIS module (Business Information Systems) – although they cover some similar areas, ITB covers material to greater depth (along with different material).

Revision subjects

Rather than simply list subjects or reproduce exam questions, these notes consist of exercises on different subject areas. By working your way through these (and noting the many hints), you should be prepared for the test paper.

Subject area covered here are

- XHTML and how the World Wide Web works
- XHTML and how browsers work
- Cascading Style Sheets and Semantic HTML
- Databases, Relational Algebra and SQL
- Open Source and Free Software
- Internet Protocols and the importance of Standards

HTML tags

You have covered a basic set of HTML tags. For each element here, explain the purpose of the tag, with a small example to demonstrate its use.

<html>

2 Marks

<head>

2 Marks

<title>

2 Marks

<body>

2 Marks

<h1>

2 Marks

<p>

2 Marks

<a …>

2 Marks

<emph>

2 Marks

<strong>

2 Marks

<h2>

2 Marks

XHTML and HTML

What are the differences between XHTML and HTML?

8 Marks

Write XHTML code to generate the following *heading* and *paragraph* in a web page
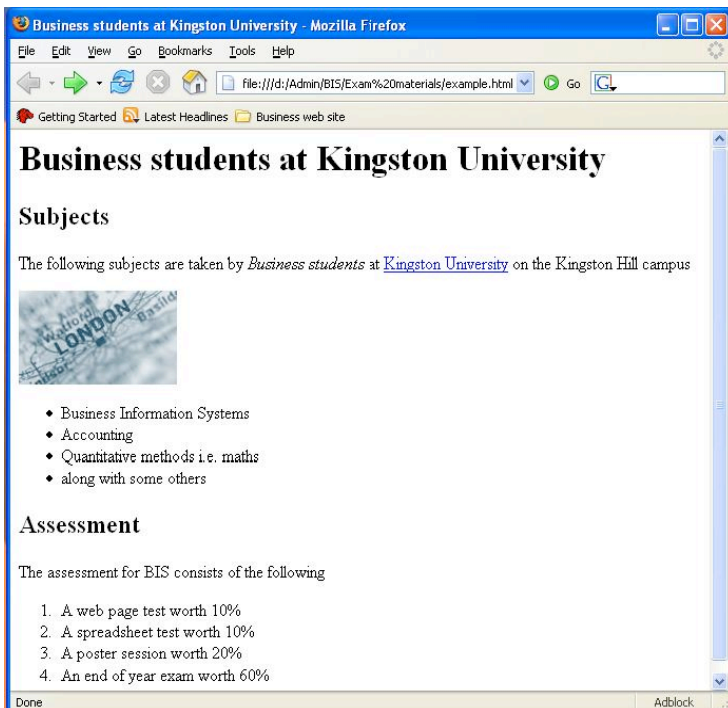
About HTML

HTML, which stands for Hypertext Markup Language, is used to indicate structure and content in a document.

To create a HTML document, *start* and *end* tags are added at appropriate points. This is called **authoring** a document.
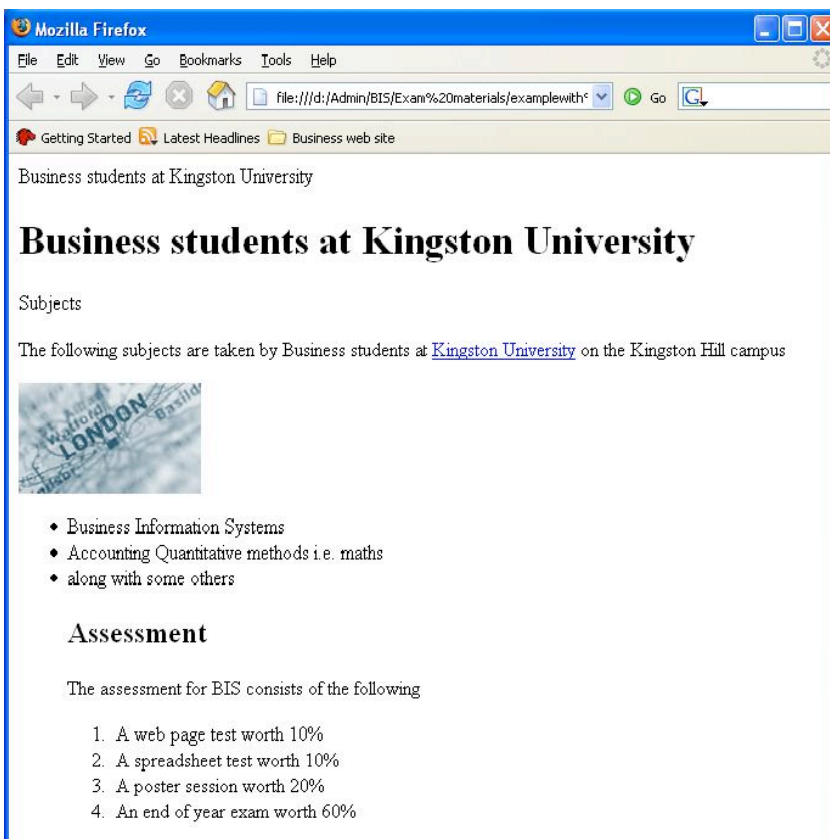
7 marks

Fixing a page with errors

The following screen shot is an intended page design showing some paragraphs, styles, an image and two lists.

In fact, the page mark up contains errors and displays like this:

Correct the following HTML so that the page displays as intended:

```
<html>
<head>
<tite>Business students at Kingston University</title>
</head>
<body>
<h1>Business students at Kingston University</h1>
Subjects
<p>The following subjects are taken by Business students</emph> at <a
href="http://www.kingston.ac.uk">
Kingston University</a> on the Kingston Hill campus</p>
<img src="mappicture.jpg
<ul>
<li>Business Information Systems</li>
<li>Accounting
Quantitative methods i.e. maths</li>
<li>along with some others
</li>
<h2>Assessment</h2>
<p>The assessment for BIS consists of the following</p>
<ol>
<li>A web page test worth 10%</li>
<li>A spreadsheet test worth 10%
<li>A poster session worth 20%</li>
<li>An end of year exam worth 60%</li>
</ol>
</body>
```

(write your answer here)

8 Marks

Separating content from design

Semantic HTML and cascading style sheets allow designers to separate content from the design of a document.

Why is this a good idea?

3 Marks

Use examples to explain the concept of semantic HTML

6 Marks

Use examples to show how semantic HTML and CSS can be used to repurpose content (for example on a web page displayed on a computer compared to viewing on a PDA style device).

6 Marks

CSS uses the box model, block and inline elements for layout.

Use a diagram to explain the CSS box model

5 Marks

Use a HTML example to explain what an inline element is.

5 Marks

Use a HTML example to explain what a block level element is.

5 Marks

Answering a 'What is … ' style question.

When approaching an explanation of a technology, protocol or standard, it is useful to have (at least) the following points:

- If the technology is an acronym, then explain what it means, i.e. FTP stands for File Transfer Protocol

- Try to explain some of the background history, i.e. whether it was created by an individual, a company or some other organisation and when

- Summarise what the technology actually does, i.e. its purpose and use

- Explain an actual example

What is the GPL version 3?
(write your answer here)

15 Marks

Writing queries

The following tables model information about *Books* and *Authors*

<div style="border:1px solid">

</div>
<div style="border:1px solid">

</div>

Write Relational Algebra and SQL statements to show the following information

Queries involving projection

Show the *ISBN* and *Title* for all books

2 Marks

Show the *Title* and *Price* of all books

2 Marks

Show the *Author name* and *Phone number* of all authors

2 Marks

Queries involving selection

Show all the book information for books that cost more than £20

2 Marks

Show all the author information for the author 'Grisham'

2 Marks

Show all the book information on books about 'Visual Basic'

2 Marks

Queries involving selection and projection

Show the *title* and *cost* of books that cost more than £20

2 Marks

Show the *phone number* for the author 'Grisham'

2 Marks

Show the ISBN numbers for books on 'Visual Basic'

2 Marks

Queries involving Cartesian product

Show all the information about authors and the books they write

2 Marks

Show the *Book title*, *Author* and *phone number* for all authors

2 Marks

Show the *Author* and *ISBN number* for books on 'Visual Basic'

2 Marks

Explain the following terms using an example:

- Atomic Value
- Primary Key
- Foreign Key
- CWA
- Outer Join

10 marks

Thinking about table structures

The following table exists in a schema that models information about employees and locations

DESIGN 1

EMPNO	ENAME	JOB	DEPTNO	LOCATION
405	MARCH	ADMIN	2	LONDON
535	BYRNE	SALES	1	EDINBURGH
557	BELL	SALES	3	LEEDS
602	BIRD	MANAGER	2	LONDON
690	AHMAD	SALES	3	LEEDS
734	COX	MANAGER	3	LEEDS

The employee table is split into two:

DESIGN 2

EMP

EMPNO	ENAME	JOB	DEPTNO
405	MARCH	ADMIN	2
535	BYRNE	SALES	1
557	BELL	SALES	3
602	BIRD	MANAGER	2

DEPT

DEPTNO	LOCATION
1	LONDON
2	EDINBURGH
3	LEEDS

Answer these questions to indicate why DESIGN 2 is better than DESIGN 1

What is a *delete* anomaly? Use an example from DESIGN 1 to explain why the same problem wouldn't exist in DESIGN 2.

3 Marks

What is an *update* anomaly? Use an example from DESIGN 1 to explain why the same problem wouldn't exist in DESIGN 2.

3 Marks

Answering a 'What is … ' style question.

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- Summarise what the technology actually does, i.e. its purpose and use

- Explain an actual example

How does a domain name (such as www.oracle.com) get turned into an IP number?
(write your answer here)

10 Marks

In the next question you will have to explain IP numbers, DNS and the way that a browser and web server work together. Remember the rules about explaining acronyms.

A home shopper starts a browser session with the URL www.amazon.com. Explain the series of events that occur for the Amazon home page to appear in the browser window.
(write your answer here)

10 Marks

A student requests a page from a web server that doesn't exist (i.e. they type www.miicrosoft.com into a browser). Explain what happens.

(write your answer here)

5 Marks

A student requests a page from a web server – however the page requested does not exist (for example http://www.oracle.com/mine.html). Explain what happens.

(write your answer here)

5 Marks

What features does a commercial ISP offer? Explain the facilities and feature sets with examples.

(write your answer here)

15 Marks

What features does a modern browser include?

(write your answer here)

Hint: Differentiate between the obvious interface features (buttons, navigation, URL bar) and internal architecture (DOM, parser etc).

10 Marks