D4 – WEBSITE DEVELOPMENT   DECEMBER 2013
SOLUTIONS & MARKING SCHEME

QUESTION A1
XML rules can be easily checked for compliance by a specific piece of software.
What is this software and how does it work? AC1.1 P18.   (5 Marks)

Answer
- By using a validator the software checks for syntax errors.
- Validation is a process of checking your documents against a formal Standard, such as those published by the Worldwide Web Consortium (W3C)for HTML and XML-derived Web document types, or by the WapForum for WML, etc. It serves a similar purpose to spellchecking and proofreading for grammar and syntax, but is much more precise and reliable than any of those processes because it is dealing with precisely-specified machine languages, not with nebulously-defined human natural language. (http://valet.htmlhelp.com/page/why.html)
- XML validation is the process of checking a document written in XML (eXtensible Mark-up Language) to confirm that it is both well-formed and also "valid" in that it follows a defined structure. A well-formed document follows the basic syntactic rules of XML, which are the same for all XML documents.[1] A valid document also respects the rules dictated by a particular DTD or XML schema, according to the application-specific choices for those particular (http://en.wikipedia.org/wiki/XML_validation)

1+4 marks

QUESTION A2
Give and describe **THREE** attributes that should be included in the image tag (IMG) AC2.3 P318. (5 Marks)

Answer
Any of the following are acceptable:
- Alt – displays an alternative string of text instead of an image if the user has a text-only browser, or has graphics turned off.
- Height – specifies the height of the image in pixels.
- SRC – specifies the URL of the graphic file you want to display.
- Title – a string of text that provides information about the image.
- Width – specifies the width of the image in pixels.

3*2 to a max of 5 marks

QUESTION A3
Many designers make the mistake of not testing the website at different connection speeds.
Give and describe **TWO** reasons why is it important to test the website at different connection speeds? AC3.5 P42.   (5 Marks)

Answer
Any of the following are acceptable:
- Too slow to load/refresh.
- Potential clients may just switch off.
- To check to see if the web site is too graphics heavy.

Etc.
3*2 to a max of 5 marks

QUESTION A4
Describe TWO reasons why you would prefer to use a text based navigation mode rather than a graphics based navigation mode. AC4.1 p368

Answer
Any of the following are acceptable:
- Easy to understand.
- Access to exact contents.

- Graphics maybe turned off.
- Allows for a small division of a larger body of text.
- The changing of the link colour allows the user to keep track of what has been accessed.
- Etc.

3*2 to a max of 5 marks

QUESTION A5

Describe TWO reasons why the maintenance, upkeep, and the need to redesign your website is so important. AC5.4 P99.   (5 Marks)

Answer
- Any of the following are acceptable:
- To ensure contents are up to date.
- Maintaining efficiency for downloading.
- To attract new audiences.
- Keeping abreast of new technological advances.
- Etc.

3*2 to a max of 5 marks

QUESTION A6

Describe TWO reasons why User Documentation is supplied in an on-line mode rather than a printed format. AC6.3 P229.   (5 Marks)

Answer
Any of the following are acceptable:
- Easy to produce.
- Can not be lost.
- Easy to search the text.
- Easy to update.
- Allows more than one user to access at any time.
- Etc.

3*2 to a max of 5 marks

QUESTION A7

Describe the term Portable Network Graphics (PNG. Why it is not the best choice when using photographic images. AC2.2 P314.   (5 Marks)

Answer
- PNG format is designed specifically for the web. It is a royalty-free file format that is intended to replace GIF. This lossless format compresses 8-bit images to smaller files than GIF, so it supports 8-bit indexed colour, 16-bit grey scale, and 24-bit true-colour images.
- It is not the best choice because even though PNG supports 24-bit colour, its lossless compression routine does not compress as efficiently as JPG.

3+2 marks

QUESTION A8

Define the term Relative Path. Why its usage is more preferable to Absolute Path when creating a directory structure for storing the web coding? AC4.4 P113.   (5 Marks)

Answer
- Relative path tells the browser where a file is located relative to the document the browser currently is viewing.
- Because relative paths are not based on the root directory, they are transferable from one computer to another.

3+2 marks

QUESTION B9

When producing a website, creators are familiar with the need for User Testing, but not always the need for Quality Assurance.

a) Define the term Quality Assurance.   (4 Marks)

b) As a web site team leader give and describe FOUR tasks have to be completed to ensure that Quality Assurance is guaranteed. AC3.2 P98.   (16 Marks)

Answer

a) Quality assurance (QA) refers to the systematic activities implemented in a quality system so that quality requirements for a product or service will be fulfilled. It is the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention. Two principles included in QA are: "Fit for purpose", the product should be suitable for the intended purpose; and "Right first time", mistakes should be eliminated. (http://en.wikipedia.org/wiki/Quality_assurance)

4 marks

b) Any of the following are acceptable:
*   Cross-browser compatibility.
*   Accessibility to all potential users.
*   Connectivity at different bandwidths.
*   Test links, and all user interfaces, data forms, and multimedia technologies.
*   Usability testing such as access contents, navigate through the site, and understand the taxonomy.

4*4 marks

QUESTIONB10

Cascading Style Sheets (CSS) measurements are classified as either Absolute Units or Relative Units.

a) Define BOTH Absolute Units and Relative Units.   (4 Marks)

Relative Units has FOUR units of measurements.

b) Describe EACH of the units and give an example of when you would use the unit of measurement. AC4.2 P182.   (16 Marks)

Answer

a) Absolute Units deals with a fixed unit such as centimetres or inches, whilst Relative Units deal with approximations based on the destination medium, such as A4 or A5 paper.

2*2 marks

b) Em – em - the width of the uppercase M in the current form, usually the same at the font size; 1 em is the default fault size, 1.5 em is one and one half the size, etc.
*   Ex – ex - the height of the letter x in the lowercase format. 1 ex is the default fault size, 1.5 ex is one and one half the size, etc.
*   Pixel – px- the size of a pixel on the current monitor.
*   Percentage - % - works on the same principle as em.

4*(1+3) marks

QUESTION B11

There are various technological constraints that can affect the way a user views your website.

a) Give and describe THREE technological constraints that can affect the user.   (10 Marks)

b) Give and describe THREE ways a web designer can help to overcome the technological constraints. AC3.4 P107.   (10 Marks)

Answer

a) Any of the following are acceptable:
*   User's browser.
*   Connection speed.

- Operating system.
- Screen resolution.
- Etc.

3*3+1 marks

b) Browser – test using various browsers.
- Connection speed – test using various connection speeds.
- Operating system – test using various Operating systems.
- Screen – test using various display screens.
- Etc.

3*3+1 marks

QUESTION B12

Give and describe FOUR factors you need to consider when selecting a Web Host Service.   (20 Marks) AC5.2 P126

Answer
Any of the following are acceptable:
- Is the web host local or national?
- What are the details of the different host packages? Server space, limits to uploading/downloading.
- Are there bandwidth limits for the number of visitors your site receives a month?
- Does the web host offer technical support? When is support staff available?
- How many e-mail address do you get with the account?
- Does the web host provide software such as File Transfer Protocol (FTP) client to transfer files over the internet?
- Does the web host support the latest connection technologies?
- Does the web host offer enhance services such as simple query language (SQL), secure socket layer (SSL) and support for streaming audio and video?

4*5 marks

QUESTION B13

When migrating from legacy HTML to HTML5 there are various procedures that you must complete as the web programmer.
Give and describe FOUR of the procedures and explain why they must be completed. AC1.2 P33.
(20 Marks)

Answer
- Any of the following are acceptable:
- Evaluate existing code – perhaps use a validator?
- Evaluate existing presentation information – how much of the coding consists of obsolete coding such as bgcolor, face, etc.
- Create coding conventions – have in-house standards based on cascading style sheet (CSS) standards.
- Start using CSS – when updating etc use CSS standards.
- Test backward compatibility – test using older browsers to ensure that older machines and software etc can execute the new coding.
- Etc.

4*(1+4)