***Higher Computing Science Homework***

**\*\*\*\*\* THIS HOMEWORK EXERCISE IS DUE FOR FRIDAY 28TH OCTOBER \*\*\*\*\***

1. Tomek has created a website for the fans of the China Cats electropop group. The site has a home page at www.tomek91.com with links to three pages: a Tour Dates page, a Band Members page and a Fans page.

(a) Describe an addition that would make this a multi-level site. (1)

(b) On the Band Members page, when the pointer is moved over the name of each member a photograph and a mini-biography are shown. This interactive feature was created using a scripting language. Describe how this is executed. (1)

(c) Tomek was asked to make all the large headings appear in Tahoma font, blue and centred wherever they appear on each page. He chooses to do this with an external style sheet.

(i) Write a Cascading Style Sheet (CSS) rule to manage the large headings. (3)

(ii) State two benefits of using an external style sheet. (2)

(d) Searching for the “China Cats” or “electropop” on the World Wide Web with a search engine does not give a prominent result for this site. Describe two ways that Tomek can improve this without incurring any further costs. (2)

2. Describe a compression technique that reduces the file size for sound. (2)

3. Emma’s home computer has a data bus and an address bus. Describe how each bus is used when reading data from memory. (2)

4. (a) EasySoft is developing a new software package. State when the company would use beta testing. (1)

(b) EasySoft, when developing their new software package, also make use of usability testing. Describe a typical example of usability testing. (1)

5. VideoGarage is designed to makes use of lossless and lossy compression.

Describe why lossy compression is generally more successful than lossless compression in reducing the size of video files. (2)

6. State the decimal value of the largest whole number that can be stored using 12-bits. (1)

7. Name and describe one function of an operating system. (2)

**Total: 20 Marks**