

**CSC005 – Intro to Computer Science** Name: \_\_\_\_\_  
**Midterm** **Hofstra University – Fall 2006**

Please answer **all six** questions. This exam is worth **30 points**.

1. Discuss the effects of **The Long Tail phenomenon** put forth by Chris Anderson of Wired magazine in 2004. Consider the economic, cultural, and political impact. (5pts)

HINT: Use [http://en.wikipedia.org/wiki/The\\_Long\\_Tail](http://en.wikipedia.org/wiki/The_Long_Tail) as a starting point.

2. Convert the following numbers from the base shown to base 10 (2pts):
  - a) 101 (base 2)
  - b) 567 (base 8)
  - c) E8C (base 16)
  - d) 567 (base 16)

Convert the following decimal numbers to binary (2pts):

- a) 38
- b) 88
- c) 999
- d) 1

Explain how base 2 and base 8 are related (1pt).

3. Given the following **Huffman encoding table**, decipher the bit strings below (2pts):

<b>Huffman Code</b>	<b>Character</b>
00	A
11	E
010	T
0110	C
0111	L
1000	S
1011	R
10010	O

- a) 1000011010010101111
- b) 100001011000111

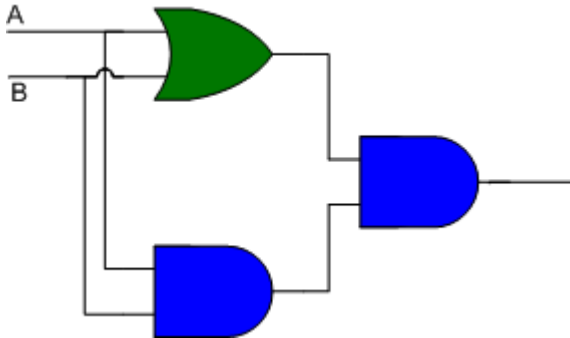
What is an **RGB value** (1pt)?

What **color** does an RGB value of (255, 0, 0) represent (1pt)?

What is the difference between **vector graphics** and **raster graphics** (1pt)?

4. Draw a circuit diagram corresponding to the following Boolean expression (2pts):  
 $(AB) + (BC)$

Show the behavior of the following circuit with a truth table (3pts):



5. Name and describe the **five units** of the **von Neumann Architecture** (5pts)
6. Create an **HTML document** for a web page that has each of the following features (5pts):
- a major heading
  - a sub heading
  - an ordered list
  - an unordered list
  - a link to another web page

**NOTE: This is due at our next Monday class October 23, 2006 - No late submissions!**