**Assignment #1 Answer Sheet Name: Michael Buffone** September 13, 2019

**ENTER ALL YOUR FINAL ANSWERS ON THIS ANSWER SHEET AND ATTACH YOUR SUPPORTING WORK USING EXTRA SHEETS**

**Number Sets: (enter your number set here.)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Decimal** | 32 | 70 | 247 | 216 | 66 |
| **Binary** | 01010000b | 11100001b | 01010100b | 11110001b | 11101110b |
| **HEX** | 4A59A194h | 115D1777h | B51FDABEh | 5749998Fh | D7E588D4h |

**Question 1a - HEX Representation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 20h | 46h | F7h | D8h | 42h |

**Question 1b - Binary Representation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 00100000b | 01000110b | 11110111b | 11011000b | 01000010b |

**Question 2a - 2's Complement**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 11100000b | 10111010b | 00001001b | 00101000b | 10111110b |

**Question 2b - 16's Complement**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| E0h | BAh | 09h | 28h | BEh |

**Question 3a - Unsigned value of the binary numbers**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 80 | 225 | 84 | 241 | 238 |

**Question 3b - Signed value of the binary numbers**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 80 | -31 | 84 | -15 | -18 |

**Question 3c - HEX value of the binary numbers**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 50h | E1h | 54h | F1h | EEh |

**Question 4a - Signed addition the first binary number with the other 4 numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| **1** 00110001b | **0** 10100100 | **1** 01000001 | **1** 00111110 |

**Question 4b - Subtraction of the first binary number with the other 4 numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| **0** 01101111b | **0** 11111100b | **0** 01011111b | **0** 01100010 |

**Question 4c - AND the first binary number with the other 4 numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| 01000000 | 01010000 | 01010000 | 01000000 |

**Question 4d – OR the first binary number with the other 4 numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| 11110001 | 01010100 | 11110001 | 11111110 |

**Question 4e - XOR the first binary number with the other 4 numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| 10110001 | 00000100 | 10100001 | 10111110 |

**Question 5 - binary value of each HEX number**

|  |  |
| --- | --- |
| **Q** | 0100 1010 0101 1001 1010 0001 1001 0100b |
| **R** | 0001 0001 0101 1101 0001 0111 0111 0111b |
| **S** | 1011 0101 0001 1111 1101 1010 1011 1110b |
| **T** | 0101 0111 0100 1001 1001 1001 1000 1111b |
| **U** | 1101 0111 1110 0101 1000 1000 1101 0100b |

**Question 6a - Signed addition of the first HEX number with the other 4 numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| **0** 5BB6B90Bh | **0** FF797C52h | **0** A1A33B23h | **1** 223F2A68 |

**Question 6b - Signed subtraction of the first HEX number with the other 4 numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| **1** 38FC8A1Dh | **0** 9539C6D6h |  |  |

**Question 6c - AND the first HEX number with the other 4 numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| 00590114 | 00198094 | 42498184 | 42418094 |

**Question 6d - OR the first HEX number with the other 4 numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| 5B5DB7F7 | FF5FFBBE | 5F59B99F | DFFDA9D4 |

**Question 6e - XOR the first HEX number with the other 4 numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| 5B04B6E3 | FF467B2A | 1D10381B | 9DBC2940 |

**ALL OF YOUR FINAL ANSWERS MUST BE ON THIS FORM.**

**ATTACH YOUR SUPPORTING WORK – NO SUPPORT WILL RESULT IN A 50% PENALTY.**

**Support may be hand written and then scanned to a PDF document or typed.**