**Computer Fundamentals**

**Exercise Booklet**

**Questions**

**15 - 26**

**Exercise 15**

**Carry out the following arithmetic in binary**

**a) 1111 00002 + 1011 01102**

**b) 1100 11102 - 0100 00002**

**c) 1111 10002 - 1011 11002**

**d) 1000 10112 + 1100 00002**

**e) 1000 0000 0111 11112 + 0000 0000 0011 10002**

**Exercise 16**

**What binary number follows**

**a) 1 11112**

**b) 101112**

**Exercise 17**

**What binary number precedes**

**a) 11102**

**b) 1000 00002**

**Exercise 18**

**Use 2’s complement to subtract the following binary numbers**

**a) 1110 – 1010**

**b) 10001010 – 01101001**

**Exercise 19**

**Using the list of ASCII codes provided, write out in coded form and remember to include spaces between words.**

**a) West Lothian College**

**b) HND Computing**

**c) Your own first name**

**Exercise 20**

**Decode the following sets of ASCII codes**

**a) 01001000 01100101 01101100 01101100 01101111**

**b) 01000100 01001111 00100000 01101110 01001111 01110100 00100000 01110000 01100001 01110011**

**01110011 00100000 01100111 01101111 00100001**

**Exercise 21**

**Write an answer in a set of ASCII codes in answer to the following question**

**01001001**

**01110011**

**00100000**

**00110010**

**00111101**

**00110011**

**00100000**

**00111111**

**Exercise 22**

**Evaluate the following.**

**a) NOT 1010 1010**

**b) NOT 1111 1110**

**c) NOT 1100 0011**

**d) NOT 1111 0000 1111 0000**

**Exercise 23**

**Carry out the following binary operations.**

**a) 1011 1101 AND 0000 1011**

**b) 1010 1010 AND 0000 0001**

**c) 1010 1111 AND 0101 1111**

**d) 1011 1011 1011 1011 AND 0101 0101 0101 0101**

**e) 0000 0000 1010 1011 AND 1011 1001 1010 1011**

**Exercise 24**

**Carry out the following binary operations.**

**a) 1011 1101 OR 0000 1011**

**b) 0010 1010 OR 0000 0001**

**c) 1010 1111 OR 0101 1111**

**d) 1011 1011 1011 1011 OR 0101 0101 0101 0101**

**e) 0000 0000 1010 1011 OR 1011 1001 1010 1011**

**Exercise 25**

**Carry out the following binary operations.**

**a) 1011 1101 XOR 0000 1011**

**b) 1010 1010 XOR 0000 0001**

**c) 1010 1111 XOR 0101 1111**

**d) 1011 1011 1011 1011 XOR 0101 0101 0101 0101**

**e) 0000 0000 1010 1011 XOR 1011 1001 1010 1011**

**Exercise 26**

**Carry out the following hex operations**

**a) NOT FFFF**

**b) F000 AND 8011**

**c) FF00 OR 000B**

**d) 00A1 XOR F0B2**