

Computer Organization and Architecture

Assignment 2

1. Represent the following integers in 2s complement representation with minimum number of bits required, perform the operation mentioned and state whether overflow occurs or not in each case. Also, if overflow has occurred, state why it has occurred.
 - i) Add -8 with -7
 - ii) Subtract +15 from -16

2M

2. Consider two decimal numbers $A = +81.375$ $B = +15.5$

Perform the following operations:

- a) Convert the decimal numbers to floating point binary.
- b) Normalize the number obtained above in (a)
- c) Represent the normalized numbers in IEEE32 bit floating point representation
- d) Perform (A / B) , on the numbers represented in (c) using the rules for division of IEEE 32 bit floating point representation
- e) Store the result in the IEEE 32 bit floating point representation.

3M