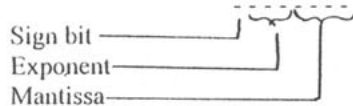1. Convert each of the following two's complement binary data(which are stored in 8-bit length registers) to its equivalent base ten form (10%)
   (a) 00010101   (b) 11001011

2. A floating-point notation components can be shown as below(10%)

   Sign bit —————┘ Exponent————— Mantissa————————

   Sign bit : 0 positive, 1 negative
   Exponent : Using excess-4 code

   (a) What is the equivalent base ten form for 00111010
   (b) How to represent base ten form 2.5

3. Explain the following terms: (20%)
   (a) Multiprocessor machine
   (b) Arithmetic shift
   (c) Graphical user interface
   (d) Booting process
   (e) Operating system kernel

4. Define each of the following: (20%)
   (a)Name server   (b) Router   (c) Virtual memory   (d) Clint/server model

5. Summarize the distinction between batch processing and interactive processing (10%)

6. Summarize the distinction between top-down and bottom-up design strategies (10%)

7. Design a procedure for inserting an entry in a circular queue(10%)

8. Show how the array below would be arranged in main memory when they are stored(10%)
   (a) in row major order
   (b) in column major order

5	3	7
4	2	8
1	9	6