Name   :
Course No   :   **CSCE101**

1. (3 points) Convert the `base-10` number 39 into:

   (a) Binary:

   (b) Hexadecimal:

   (c) Negate this number using two's complement:

2. (2 points) Represent the number $1\frac{1}{4}$ in 8-bit floating point format.

3. (1 point) Perform the following unsigned binary addition:

   ```
        10011101
   +    10111000
   ```

4. (4 points) Name two of the three machine language instruction types, and give an example of each:

5. (3 points) Name three of the five processor components:

6. (2 points) Perform one of following operations:

Perform a right circular shift of 3 bits on 0110001	Complement the first bit of an 8 bit pattern using a logical operation and a mask.

7. (1 point) A program in execution is called a

   (a) semaphore

   (b) time slice

   (c) process

   (d) program

   (e) job

8. (1 point) A condition that occurs when two or more processes are competing for resources in such a way that none of them can continue executing is called:

   (a) semaphore

   (b) A critical region

   (c) a halt

   (d) deadlock

   (e) a race condition

9. (3 points) Name three of of the four components of the kernel: