

ICS202 QUIZ #2 (Term 062)

Duration: 20 minutes

ID#: _____

NAME: _____

Question #1:

Show that the function $f(n) = n^2 + 3n + 5$ is $O(n^2)$ by finding the suitable values of c and n_0 .

Question #2

Count the number of basic operations in the following code and then find the big-O complexity.

```
int Sum = 0;
int m = 0;
for(int k = 1; k <= n; k *= 2)
{
    m = k - 2;
    Sum = m + k;
}
for(int k = 10000; k >= 1; k--)
    System.out.println(k);
```

Question #3

For the doubly linked list, write a method object *insertNodeAt(Object obj, int pos)* which takes a position and an Object as inputs and inserts the object at position pos in the list. Consider the first node at position 0 and the method to be in the DoublyLinkedList class.

```
public void insertNodeAt(Object obj, int pos){
```

```
}
```