Data Structure Quiz 2

Total Marks 10

Name: _____ Roll No. _____

1) How is time complexity measured? (1 mark)

a) By counting the number of statements in an algorithm
b) By counting the number of primitive operations performed by the algorithm on a given input size
c) By counting the size of data input to the algorithm
d) None of the above

2) If for an algorithm time complexity is given by O(1) then complexity of it is: (1 mark)

a) constant
b) polynomial
c) exponential
d) none of the above

3) Algorithm A and B have a worst-case running time of *O*(*n*) and *O*(*logn*), respectively. Therefore, algorithm B always runs faster than algorithm A. (1 mark)

a) True
b) False

4) Big Omega Notation defines the: (1 mark)

a) Upper Bound
b) Lower Bound
c) Exact Bound
d) None of the above

5) What will be the time complexity of the following code? (3 marks)

a) n
b) (n+1)
c) n(n-1)
d) n(n+1)

```
int value = 0;
for (int i = 0; i < n; i++)
    for (int j = 0; j < i; j
        value += 1;
    }
}
```

6) What will be the time complexity of the following code? (3 marks)

a) n
b) n^2
c) n+n
d) none of the above

```
void example(int n) {
    for (int i = 0; i < n; i++) {
        cout << i << endl;
    }
    for (int j = 0; j < n * n; j++)
        cout << j << endl;
    }
}
```