Institute of Business & Information Technology

University of the Punjab

Quaid-e-Azam Campus, Lahore

Sheet No. _____

Assignment 01

Fall Term 2020

Complexity of Iterative Functions

Code	IT-466	**Degree**	BBIT
Title	Analysis of Algorithm	**Batch**	F17-IT Specialization
Due Date:	Nov 06, 2020 before 1630hr	**Marks**	45

Instructions:

1. Do not forget to pray before starting to attempt the paper. Trust me it helps.
   Remember! SOMEONE is always with you (Be Relaxed), and HE is also watching you (Be Honest)
2. **Question Paper is SELF EXPLANATORY. Understanding the Question Paper is part of Solution.**
3. Nothing Beyond the Finish Line will be Evaluated. Back Side of Pages is Beyond Finish Line.
4. For Calculations etc. Use the back side of the pages.
5. Error in Question will be advantageous to Student.
6. Read the Questions carefully before attempting.
7. Solve your paper using Black/Blue Pen only.
8. Attempt All Questions in a Precise Fashion.
9. Switch Off your Cellular Phones.
10. Manage Your Time.

GOOD LUCK

Reg. No: _____ **Name:** _____

Class: IT Specialization **Date:** Friday October 30, 2020

Section: _____ **Signature:** _____

Q 01.	Q 02.	Q 03.	Q 04.	Q 05.	Q 06.	Q 07.	Q 08.	Q 09.	Q 10.	Total
										45

Assistant's Signature

Examiner's Signature

Do Not Open until YOU are Advised by the Invigilator.

Question No 01.

Find the Time Complexity of the Following Iterative Algorithms using Frequency Count Method, Show Working.

```
for(i=2 ; i <=n/2 ; ++i){                                    10
    if(n%i==0){
        flag=1;
        break;
    }
}
```

```
for(i=0 ; i <=n/2 ; i++){                                    10
    for(int j=0 ; j <=n/3 ; j++){
        for(int k=0 ; k<=n ; k++){
            c[i,j,k]= a[i,j,k] * b[j,i,k];
        }
    }
}
```

```
for (c = 0; c < m ; c++){                                          10
    for (d = 0; d < q; d++){
        for (k = 0 ; k < p ; k++){
            sum = sum + first[c][k] * second[k][d];
        }
        multiply[c][d] = sum;
        sum = 0;
    }
}
```

```
for ( i = 1; i <=n; i += c) {                                      10
    for (int j = 1; j <=n; j = j * c) {
        Print("IBIT");
    }
}
```

```
while (a >= b){                                                     5
    a = a - b;
    count++;
}
```