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ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27
B.Sc. COMPUTER SCIENCE : I SEMESTER
MID SEMESTER EXAMINATION: AUGUST 2019
CS 118- COMPUTER SCIENCE

Time- 1 hour

Max Marks-30

This paper contains one printed page

Answer any five questions from the following:

5 x 6 = 30

1. Mention and explain any four types of operators used in C Programming with example.
2. Write a program to check if a number is automorphic or not.
(eg : $6^2=36$ here the last number of 36 ie 6 is equal to the number entered by the user.)

3. Find the output of the following:

A) int a=6,b=5,c=4,Ans;

```
Ans = (a++) + (--b) + (c--) + (--a) - (++b) - (a++) - (c--);  
printf("%d", Ans);
```

B) int x=6,y=5,ans;

```
ans= x&y;  
printf("%d", ans);
```

C) int n=13667;

```
while(n>0)  
{  
    R=n%10;  
    printf("%d",R);  
    n=n/10;  
}
```

4. A) Explain Switch statement with a programming example.
B) Realize OR gate using NAND gate and realize AND gate using NOR gate.

5. Convert the following

a) $110110011_{(2)} = \text{-----}_{(10)}$

b) $324.59_{(10)} = \text{-----}_{(8)}$

c) Perform binary division on the following:

10110100/101

6. Mentioning the steps involved in performing 2's complement binary subtraction of 76 from 32.
7. Prove the De Morgan's theorems using truth table method.