

NEPAL COLLEGE OF INFORMATION TECHNOLOGY

ONLINE UT

Program : BE IT (M/D)
Semester : Fall
Subject : Programming in C

Time : 2 hrs.
FM : 70
PM : 40

- ✓ Candidates are requested to give their answer as far as practicable in their own words.
- ✓ The figure in the margin indicates the full marks
- ✓ Attempt **ALL** question

Group A-Very short answer question (10*2=20 marks)

1. What is format specifier?
2. Write a short note on type casting.
3. What is variable initialization and why is it important?
4. What is the difference between the expression "++a" and "a++"?
5. Explain whether this program statement valid? float INT = 10.50;
6. Construct an infinite loop using while?
7. What will be the output of the C program? Explain with necessary steps.

```
#include<stdio.h>
int main()
{
    int i = 5;
    int a = --i + --i + --i;
    printf("%d",a);
    return 0;
}
```

8. Differentiate between break and continue.
9. Explain switch statement with syntax.
10. Perform the following operations:
a) $15 \ll 2$ b) $15 \& 9$

Group B- Short answer question (4*5= 20 marks)

11. WAP to generate the multiplication table of given number within given range. Sample output is shown below:

```
Enter Number:2
Enter Range:5
2*1=2
2*2=4
2*3=6
2*4=8
2*5=10
```

12. WAP to evaluate following Series:

$$1 + \frac{1}{2!} + \frac{1}{3!} + \frac{1}{4!} + \dots \text{ upto } n \text{ terms}$$

13. WAP to find x^n where value of x and n is entered by user.

14. Find and explain with necessary step the output of following Program:

```
void main(){
    int x=20, y=10, z=15, w=10;
    x+= ++w - y++;
    x-= ++z % --y;
    x*= ++w + y++ * y--;
    printf("x=%d y=%d z=%d w=%d", x, y, z, w);
}
```

Group C- Long answer question (3*10= 30 marks)

15. Write flowchart and source code to check whether a given integer is a triangular number or not. *(Any number is a triangular number if the sum of natural number from 1 to any number is exactly equal to that number. For e.g. 1,3,6,10,15 etc. are triangular number as, $1+2=3$, $1+2+3=6$, $1+2+3+4=10$, $1+2+3+4+5=15$).*

16. Write flowchart and source code to find sum of odd and even digits in a given number. Sample output is shown below:

Enter Number: 5634
Sum of Odd digit= 8
Sum of Even digit= 10

17. Writ algorithm and source code to print following Pattern:

A				
1	1			
B	B	B		
2	2	2	2	
C	C	C	C	C