

## ES202-Introduction to Computers and Programming in C (Set A)

Subject Name Time: 01Hr

Maximum marks: 30

Note: Attempt questions as per Instructions Non-Programmable Scientific Calculator allowed.

## SECTION-A (Attempt any two questions, Each of 05 Marks)

Q 1 Perform the following operation

(i)  $101011111 + 110011010$ (ii)  $(1011011.1010)_2 = (?)_{10}$ 

(iii) Subtract 1100001 from 111100001 using 2's complement

(iv)  $(A2B67.136)_{16} = (?)_2$ (v)  $11101110 \times 101$ 

Q 2 What is the use of printf() and scanf() functions? Also explain format specifiers with examples.

Q 3 Describe the key components of the von Neumann architecture, including the Central Processing Unit (CPU), memory, control unit, and input/output devices with block diagram

## Section-B ((Attempt any One question, Each of 10 Marks)

Q 1 (i) What is the output of the following

```
(a) #include <stdio.h>
int main(void)
{
    int i = 10 > 9 > 7 < 8;
    printf("%d", i);
    return 0;
}
```

```
(b) #include <stdio.h>
void main()
{
    int colour = 2;
    switch (colour) {
        case 0:
            printf("Black");
        case 1:
            printf("Red");
        case 2:
            printf("Orange");
        case 3:
            printf("Green");
        default:
            printf("Other");
    }
}
```

```

(c) #include <stdio.h>
int main ()
{
    int c = 5, no = 1000;
    do {
        no /= c;
    } while(c--);

    printf ("%d\n", no);
    return 0;
}

```

```

(d) int main()
{
    int x;
    printf("%d", scanf("%d",&x));
    /* Suppose that input value given
       for above scanf is 15 */
    return 1;
}

```

```

(e) #include <stdio.h>
int main()
{
    int a = - - 4;
    printf("%d", a);
    return (0);
}

```

(ii) Differentiate:

- (a) For loop and while loop
- (b) Primary Memory and Secondary Memory

Q 2 (i) Describe the three conditions of ternary operators in C with suitable example

(ii) Write a program in C to check whether a triangle can be formed with the given values for the angles.

### Section-C (Compulsory, 10 Marks)

Q 1

- (a) WAP in C to swap two numbers using bitwise operators.
- (b) Write a program to print Fibonacci sequence  
0 1 1 2 3 5 8 13..... N terms and prints the sum of sequence.