



Name :

Roll No. :

Invigilator's Signature :

**CS/B.Tech(OLD)/SEM-2/CS-201/2012
2012**

INTRODUCTION TO COMPUTING

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :
 $10 \times 1 = 10$

- i) Members of union use
- a) different storage locations
 - b) same storage locations
 - c) no storage locations
 - d) none of these.
- ii) Find out the output for the following program :

```
main()  
{   int x=7,y=5;  
  x=y++ + x++;  
  y=++y + ++x;  
  printf("%d %d", x,y); }
```

- | | |
|----------|-----------|
| a) 12 14 | b) 12 20 |
| c) 14 21 | d) 12 19. |



iii) ALU is a part of the

- a) memory
- b) CPU
- c) output device
- d) input device.

iv) Find out the output for the following program :

```
main()  
{  
    int i=2;  
    switch(i)  
    {  
        case 1:printf("one")  
        case 2:printf("two")  
        case 3:printf("three")  
        default:printf("error");  
    }  
}
```

- a) one two three error
- b) two three error
- c) two
- d) two three.

v) Find out the output for the following program :

```
main()  
{  
    int x=4;  
    if(x=2)  
        printf("you are right");  
    else  
        printf("you are wrong"); }
```

- a) you are right
- b) your are wrong
- c) compilation error
- d) syntax error.



vi) Find out the output for the following program :

```
main()
{
    int i;
    for(i=0;i<10;i++);
    {printf("%d",i);
    }
```

- | | |
|-------|------------------|
| a) 9 | b) 0123456789 |
| c) 10 | d) 012345678910. |

vii) Find out the output for the following program :

```
main()
{
    int x=2,y=3;
    printf("%d %d");
}
```

- | | |
|----------------------|-------------------|
| a) 2 3 | b) 3 2 |
| c) compilation error | d) none of these. |

viii) Find out the output for the following program :

```
main()
{
    do
    printf("I am in loop");
    while(4<3);
}
```

- | | |
|----------------------|-------------------|
| a) error | b) I am in loop |
| c) compilation error | d) none of these. |



ix) Find out the output for the following program :

```
main()  
{  
    int i;  
    for(i=0;i<11,i++,printf("%d",i));  
}
```

- a) 10 b) 012345678910
c) 123456789101112 d) 1234567891011.
- x) Operating System is a
- a) System Software
b) Application Software
c) both (a) and (b)
d) none of these.
- xi) Which one of the following is a bitwise operator ?
- a) < b) <<
c) = d) ==.
- xii) C programs are converted into machine language with the help of
- a) editor b) interpreter
c) compiler d) operating system.



GROUP - B
(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. Discuss the different storage class in C.
3. What is an algorithm ? Draw a flowchart to find the largest of three numbers.
4. a) i) Convert $(2AB)_{16}$ to decimal.
ii) $(10110.0011)_2$ to octal. 2×1
b) What are 2's complement numbers ? How do you use this system to perform $(51)_{10} - (27)_{10}$ in binary ? 3
5. Write the difference between :
a) Structure and union
b) `malloc()` and `calloc()`
6. Write a recursive C function to calculate the factorial of a number.

GROUP - C
(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

7. Briefly describe the function of different components of a conventional digital computer with a suitable block diagram. 10

Give the UNIX and Dos commands for the following :



8. Write a C program to generate Fibonacci series. 5

Differentiate :

- a) do while and while loop
- b) break and continue statement with example. 5

Explain call by value and call by reference mechanism for passing arguments into a function call in general with example. 4

9. a) Write a C program to check whether a string taken as input is palindrome or not.

- b) Write a C program to print the pattern : 2 × 5

i) *	ii) 0
* *	1 2
* * *	3 4 5
* * * *	6 7 8 9

10. a) i) What is a file ? 1

- ii) What are the different modes of operation in a file ? 2

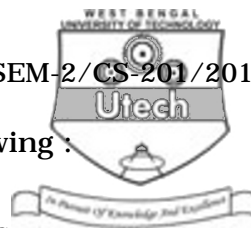
- iii) What is the use of fseek(), rewind() functions in a file ? 2

- b) Write the difference between array of pointers and pointer to an array. 3

- c) How do we define a structure in C ? 2

- d) What is the purpose of the keyword void ? Where is this keyword used ? 3

- e) What kind of information is represented by a pointer variable ? 2



11. Write short notes on any *three* of the following :

- a) Macro expansion and macro templates
- b) Operators in C language
- c) Memory hierarchy
- d) Features of algorithm
- e) Difference between :
 - i) Compiler and interpreter
 - ii) Machine level language and high level language.

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