

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
- different storage locations
 - same storage locations
 - no storage locations
 - 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

- iv) Find out the output for the following program :

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

- v) Find out the output for the following program :

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



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

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

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

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

```
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 :

a) 10 b) 012345678910

c) 123456789101112 d) 1234567891011.

- System Software
- Application Software
- both (a) and (b)
- none of these.

a) < b) <<
c) = d) ==.

a) editor b) interpreter

c) compiler d) operating system.

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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 :

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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

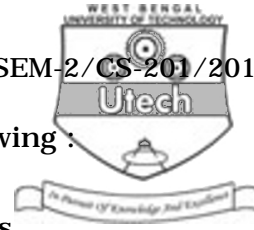
9. a) Write a C program to check whether a string taken as input is palindrome or not.

- 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

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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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