



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 × 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.



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. $3 \times 15 = 45$

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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