



Name :

Roll No. :

Invigilator's Signature :

CS/B.TECH/OLD/SEM-2/CS-201/2013

2013

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) ASCII value of *a* is

- | | |
|-------|--------|
| a) 65 | b) 32 |
| c) 97 | d) 48. |

ii) What will be the output of the following program ?

```
main ( )  
{  
    float a = 12.25, b = 13.65;  
    if (a = b)  
        printf ("a and b are equal");  
    else  
        printf ("a and b are not equal");  
}
```

- | | |
|------------------------------------|--|
| a) <i>a</i> and <i>b</i> are equal | b) <i>a</i> and <i>b</i> are not equal |
| c) compiler error | d) none of these. |

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iii) What will be the output of the following program ?

```
main ( )

{   int x = 3, z;

    z = x++ + ++x;

    printf ("x=%d z=%d", x, z);

}
```

- a) $x = 8 \ z = 5$ b) $x = 5 \ z = 6$
- c) $x = 5 \ z = 8$ d) $x = 5 \ z = 7$.
- iv) What is the range of unsigned short int ?
- a) 0 to 65535 b) 0 to 255
- c) - 128 to + 127 d) none of these.
- v) What is the associativity of the operation [++] ?
- a) Right to left b) Left to right
- c) both (a) and (b) d) none of these.
- vi) ALU is a part of a
- a) input device b) output device
- c) memory d) CPU.

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- vii) RAM stands for
- Random Access Memory
 - Read Access Memory
 - Readwrite Access Memory
 - none of these.
- viii) Which one is the special operator ?
- ? :
 - sizeof ()
 - <<
 - ++
- ix) What is the output of the following code ?
- ```
int i = 100;
while (i < 100)
{
 i = i + 1;
 printf ("%d", i);
}
```
- 100
  - No output
  - 101
  - 99.
- x) What is the output of the following code ?
- ```
main ( )
{
    int n1 = 30, n2 = 40;
    n2 = n1;
    n2? (n1, n2)?n1 : n2 : n2 ;
    printf ("%d%d", n1, n2);
}
```
- 30 30
 - 30 60
 - 60 20
 - None of these.

xi) Number of bytes required for long double is

- xii) The union holds

- xiii) The function used to detect the end of file is

- xiv) What will be the output of the following program ?

```
main ( )
{
    struct    employee
    {
        char name [ 25]
        int age;
        float bs;
    }
    struct employee e;
    e.name = "Hacker";
    e.age =25;
    printf ("%s%d", e.name, e.age);
}
```

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xv) What will be the output of the following program ?

```
main ( )
{
    static char str [ ] = "Limericks";
    char * s;
    s = &str[6]-6;
    while (*s)
        printf ("%c", *s++);
}
```

- | | |
|-------------|-------------------|
| a) Limerics | b) Compiler error |
| c) L | d) None of these. |

GROUP – B

(Short Answer Type Questions)

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

2. Explain precedence and associativity of operators with suitable examples.
3. Discuss about basic data types used in C.
4. Distinguish between while and Do-While loop.
5. Write a C program for checking whether a number is prime or not.
6. What is recursion ? Explain with an example.

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GROUP – C

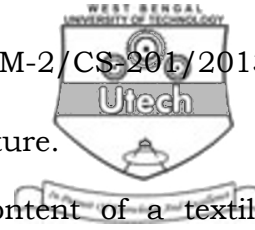
(Long Answer Type Questions)

Answer any *three* of the following.

$$3 \times 15 = 45$$

7. a) What is ternary operator ? Explain with an example.
- b) Explain 'Call by Value' and 'Call by Reference' with example.
- c) Write a C function to swap two integer data and call the function from the main () function. $5 + 5 + 5$
8. a) Write a C program to arrange a set of n numbers in ascending order.
- b) Draw a flow chart to determine the largest of two numbers.
- c) What do you mean by algorithm ? Explain with an example. $5 + 5 + 5$
9. a) Convert :
 - i) $(427)_{10}$ to octal
 - ii) $(110010 \cdot 1011)_2$ to hexadecimal
 - iii) $(12 \cdot 32)_{10}$ to binary
 - iv) $(234)_5$ to $(?)_7$.
- b) Subtract 10111 from 110011 using 2's complement method.
- c) Draw the logic diagram and truth table of NAND and XOR gate. $5 + 5 + 5$

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10. a) Distinguish between Array and Structure.
b) Write a C program to copy the content of a textile 'file1.txt' into another 'file2.txt'.
c) Write a C program to find the GCD of two numbers.

5 + 5 + 5

11. Write short notes on any *three* of the following : 3 × 5

- a) Dynamic memory allocation
b) Pointer
c) Storage Classes in C
d) Macro
e) Two Dimensional Array.

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