*Name* : ……………………………………………………………

*Roll No.* : …………………………………………………………

*Invigilator's Signature :* ………………………………………

## CS/MCA/SEM-1/MCA-103/2012-13

## 2012

## COMPUTER PROGRAMMING WITH C

*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 the following :

                                                   10 × 1 = 10

   i)   Output of the following code

```
#define N 2 + 3

main()

{ int a;

  a = N*N;

  printf("%d",a);

}
```
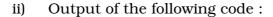
   a)   25                    b)   13

   c)   0                     d)   none of these.

1117                                              [ Turn over

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ii) Output of the following code :

```
main()
{ int a [] = { 0, 1, 2, 3, 4 };
int k, *p;
for(p = a, k = 0; p + k < = a + 4; p++, k++)
   printf("%d",*( p + k ));
}
```

a)  0 1 2 3 4                b)  0 2 4

c)  Compiler error          d)  none of these.

iii) Output of the following code :

```
main()
{ int a [2][3] = { 1, 2, 3,
                   4, 5, 6
                   };
printf("%d",*(* (a + 1 ) + 2));
}
```

a)  6                        b)  2

c)  compiler error          d)  none of these.

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iv) Output of the following code :

```
#include<string.h>
main()
{ int k = strcmp ("abc", "Abc");
printf("%d",k );
}
```

a)   0                          b)   65

c)   – 65                      d)   none of these.

v) Output of the following code :

```
main()
{ printf(5 + "Fascimile");
}
```

a)   Fascimile              b)   Mile

c)   Compiler error       d)   None of these.

vi) Output of the following code :

```
main()
{ char s1[]= "hello";
   char s2[]= "hello";
   if(s1= = s2)
   printf("Equal");
   else
   printf("Unequal");
}
```

a)   Equal                   b)   Unequal

c)   Compiler error       d)   none of these.

1117                          3                          [ Turn over

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vii) Output of the following code :

```
#include<string.h>

main()

{ char s[]= "hello";

   printf("%d", *(s + strlen(s)));

}
```

a)   0                          b)   5

c)   Compiler error          d)   none of these.

viii) Output of the following code :

```
#include<string.h>

main()

{ char ch[5];

   int j;

   for (j=0; j<5; j++ )

      ch[j]=65;

   ch[j]='\0';

   printf("%s", ch);

}
```

a)   AAAA                     b)   AAAAA

c)   Compiler error          d)   none of these.

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ix) Output of the following code :

```
main()

{ int a = 5;

    printf("%d",a-- );

}
```

a) 4                     b) 5

c) 0                     d) none of these.

x) Which of the following is a bitwise operator ?

a) /                     b) +

c) *                     d) &.
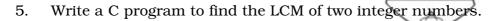
### GROUP – B
### ( Short Answer Type Questions )
Answer any *three* of the following.          3 × 5 = 15

2. What are the basic data types used in C language ? What are the user defined data types ? Explain briefly.

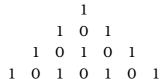3. Compare the purpose of break statement with that of exit().

When do we use continue statement ?                     3 + 2

4. Defferentiate between do-while and while startements with suitable exmaple. Distinguish between i++ and ++i statement.                     3 + 2

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5. Write a C program to find the LCM of two integer numbers.

6. Write a C program to print

```
        1
      1 0 1
    1 0 1 0 1
  1 0 1 0 1 0 1
```

### GROUP – C
### ( Long Answer Type Questions )
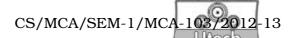Answer any *three* of the following.        3 × 15 = 45

7. Distinguish between Automatic and Static variables. Write two C programs that calculate factorial of a number using recursion and iteration ? Write a function to sort the characters of the string passed to it as argument.    2 + 5 + 8

8. Write a C function to reverse the digits of an integer.

   Write a complete C program for reading an employees file containing

   { emp_number, name, salary, address }. Create an output file containing the names of those employees along with their salary and address whose salary is > 30,000.        5 + 10

9. Write a C function to reverse a string. Write a program in C which prints the smallest divisor of an integer, for example smallest divisor of 77 is 7.        7 + 8

10. What are the different functions used for file handing ?

    Write a C program to create a file contains a series of integer numbers and then reads all numbers of this file and writes all odd numbers to other file called odd and writes all even numbers to a file called.        5 + 10

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

    a)    Structure

    b)    Macro

    c)    Recursion

    d)    Pointer

    e)    Storage classes in C.