ENGINEERING & MANAGEMENT EXAMINATIONS, DECEMBER – 2007

COMPUTER PROGRAMMING WITH C

SEMESTER – 1

Time : 3 Hours]   [Full Marks : 70

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives of the following : $10 \times 1 = 10$

    i) The minimum number of temporary variables needed to swap two variables is

    a)   1   b)   0

    c)   compiler dependent   d)   2.

    ii) Which of the following operators that doesn't associate from left ?

    a)   ? :   b)   & &

    c)   ,   d) | |

    iii) int i, f = 1;

    for (i = 1; i ≤ 5; i ++);

        f = f*i;

        print f ("% d", i);

    results in the printing of

    a)   0   b)   5

    c)   120   d)   6.

    iv) The expression 4 + 6/3*2 – 2 + 7% 3 evaluates to

    a)   3   b)   4

    c)   6   d)   7.

v) Which of the following operators takes only integer operands ?

     a)   +   b)   *

     c)   /   d)   %

vi) C is a .... language.

     a)   procedural   b)   object-oriented

     c)   both (a) & (b)   d)   none of these.

vii) The fopen ( ) function returns .... when the file is not opened.

     a)   " "   b)   1

     c)   NULL   d)   None of these.

viii) Which of the following is not valid variable declaration ?

     a)   int aandb   b)   int a & b

     c)   int print   d)   int _ print

ix) How many times the following loop will execute ?

int x = 2345;

while (x > 0) { x = x / 10; }

     a)   3   b)   Infinite times

     c)   4   d)   5.

x) Output of the following code

     int a = 8, b = 5;

     print f ("% d", a* ++ b + b++); is

     a)   54   b)   55

     c)   46   d)   47.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.   3 × 5 = 15

2. What do you mean by dynamic memory allocation in C ? How can we achieve it ?

3. With an example, discuss the difference between call by value and call by reference.

4. Write a program to print

   1

   0 1

   1 0 1

   0 1 0 1

   1 0 1 0 1

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

6. Why are print f ( ) and scan f ( ) functions called formatted I/O functions ? Explain with an example.

GROUP – C

(Long Answer Type Questions)

Answer any *three* questions.   3 × 15 = 45

7. a) Write a program to display the prime factors of an integer. (The number is input)

    b) Write a program which will print the following pattern (no of line is input)

        1

        121

        12321

        1234321

        123454321

8. Write a program in C to transpose a 3 × 3 matrix. The elements of the matrix should be read from a file.

    Explain the operations of bitwise operators &, | and ^ .   9 + 6 = 15

9. a) What is recursion ? Explain with example.

b) What is pointer ? What are the advantages of pointer ?

c) Write a program that would sort a list of names in alphabetic order.

10. a) What is the difference between fcsanf ( ) and fread ( ) ?

b) What are the different types of operators in C language ?

c) Write a command line C program to copy the contents of one file into another.

11. a) Write a program to find the length of a string taking the string as input from user, without using the 'strlen' function. Write appropriate function for 'strlen' to implement this program.

b) What are the different storage classes available in C ?

c) Write a program that will print the binary equivalent of a given decimal number.

5 + 3 + 7 = 15

END

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