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Comp/II/05/09 - V

## 2008-09

Time: 3 hours

Full Marks: 80

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

## Group – A

(Compulsory)

Answer all questions:

 $2 \times 10 = 20$ 

- 1. Select the correct option from the following:
  - (a) Which is the correct way to declare a pointer:
    - (i) int\_ptr x;
- (ii) int \* ptr;
- (iii) \* int ptr;
- (iv) None of these
- (b) If you want to exchange two rows in a two dimensional array, the fastest way is to:
  - (i) Exchange the elements of two rows

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(Turn over)

- (ii) Exchange the addresses of each elements in the two rows
- (iii) Store the addresses of the rows in the array of pointers and exchange the pointer
- (iv) None of these
- (c) A typecast is used to:
  - (i) Define a new data type
  - (ii) Force a value to be of a particular variable type
  - (iii) Rename and old type
  - (iv) None of these
- (d) What will be the output of the following C program?

```
# include < stdio.h >
# define f(x, y) x * y - y * y + 1
# define g(x, y) f(1, 1), f(1, -1)
main()
{
int dif;
dif = f(1, -1) + g(1, -1);
printf("/n the difference is = % d", dif);
}
```

(i) The difference is = 12

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(2)

Contd.

- (ii) The difference is = 1
- (iii) The difference is = -1
- (iv) None of these
- (e) Operator precedence determines which operator?
  - (i) Operates on the largest numbers
  - (ii) Is used first
  - (iii) Is most important
  - (iv) None of these
- (f) If you don't initialize a static array, what will be the elements set to?
  - (i) Zero
  - (ii) An undetermined value
  - (iii) A floating point number
  - (iv) None of these
- (g) What will be the output of the following C program?

```
# include < stdio.h >
main()
{
int * i, *j, a = 1, b = 2, c;
```

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(3)

(Turn over)

```
c = (a = a + b, b = a / b, a = a * b, b = a - b);
        i = &c;
        printf("%d", - (*i));
        (i) 93
        (ii) 92
        (iii) 91
        (iv) 90
    (h) Which is more appropriate for reading in a
        multi word string?
        (i) Gets()
        (ii) Printf()
        (iii) Scanf()
        (iv) Puts()
    (i) Function argument can be:
        (i) A structure member
        (ii) A pointer variable
        (iii) A complete structure
        (iv) All of the above
    (j) The ternary operator (?:) and size of
        operator have:
        (i) Same associativity
                                             Contd.
                        (4)
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```

	(ii) Different associativity	
	(iii) No associativity	
	(iv) None of these	
	Group – B	
	Answer any four questions.	
2.	What do you mean by C Token? Explain each in details using a sampling of CPL. 15	
3.	What is flow chart? Define the symbols used in flow charts. Also discuss the advantages and disadvantages of flow chart.	
4.	Write a program in C to accept any year as input through keyboard and check whether the given year is a leap year or not.  15	
5.	Distinguish between the followings: 15  (a) Arrary Variable and Pointer Variable  (b) Structure and Union	
6.	Write a program in C to transpose of r x c matrix.	
7.	What are pre-processors in C? Explain each of them with suitable examples.	a
EL	-9/1 (5) (Turn over)	

- Write a program in C to calculate the factorial of any given number using recursive function.
- Write a program in C to sort the elements of array in ascending order using Selection Sort Technique.
- 10. Write a program in C to print the below given format:

\* \* \* \* \* \* \* \* \*

\* \* \* \* \* \* \* \*

\* \* \* \* \* \* \*

\* \* \* \* \* \*

\* \* \* \* \*

\* \* \* \*

\* \* \*

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\*

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