NEW

2015

BCA

1st Semester Examination

C PROGRAMMING LAB

PAPER—1196 (Set–1)

(PRACTICAL)

Full Marks : 100

Time : 3 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers wherever necessary.

Answer any *two* questions : 2×25

1. Write a C program to find first ten perfect number.

2. Write a C program to find the sum of Sin (x) series upto n where n < 10 and

$$\sin(x) = x - x^3/3! + x^5/5! - x^7/7! + \ldots x^n/n!.$$

(Turn Over)

3. Write a C program to convert a Binary number to Hexadecimal.

4. Write a C program to search an element and print its location, in a given list of elements using Binary search (List must be provided by the examiner).

5. Write a C program to sort list of elements using selection sort :

    90 70 18 50 11 02 44 17 20 01

6. Write a C program to reverse a string without using strrev ( ) function.

7. Write a C program to find the first 20 Fibonacci numbers using recursion.

8. Write a C program to find the transpose of a matrix.

9. Write a C program to sort the following string in alphabetical order :

    Inputs : Warsaw, Aden, Montevideo, Brussels, Istanbul, Lahore, Calcutta, Knox, Islamabad, Houston.

(Continued)

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10. Write a C program to find the sum of diagonal elements of a matrix.

11. Write a C program to sort elements of an array using quick sort :

    7   1   9   4   2   6   4   10

12. Write a C program to check whether a number is a "strong number" or not.

Note : "If the sum of factorials of all digits of a number are equal to the number, it is called strong number".

Example : Number – 145

$$1! + 4! + 5! = 145.$$

13. Write a C program to count the number of evens and odd numbers in an array.

14. Write a program to find the roots of a quadratic equation :

$$ax^2 + bx + C = 0, \quad a \neq 0.$$

15. Write a program to count the number of Vowels in a given string. Use it to count the number of vowels in "VIDYASAGAR".

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16. Write a program to print the following sequence triangle :

1

2   2

3   3   3

4   4   4   4

5   5   5   5   5

17. Write a program to check whether a string is palindrome or not, without using **string** reverse functions.

18. Write a program to swap the values of two integens using call by reference method.

> *Viva* —   **15**
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> *PNB* —   **5**
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> *Internal Assessment*   — **30**

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